FLORIDA SOUTHEAST CONNECTION PROJECT

RESOURCE REPORT 2

Water Use and Quality

September 2014

FLORIDA SOUTHEAST CONNECTION

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☒ Identify all perennial surface waterbodies crossed by the Project and their water quality classification. (§380.12(d)(1)). ♦ Identify by milepost ♦ Indicate if potable water intakes are within 3 miles downstream of the crossing.	Section 2.3.3 and Table 2.3-1
☒ Identify all waterbody crossings that may have contaminated waters or sediments. (§380.12(d)(1)). ♦ Identify by milepost ♦ Include offshore sediments.	Section 2.3.5 and Table 2.3-33
☒ Identify watershed areas, designated surface water protection areas, and sensitive waterbodies crossed by the Project. (§380.12(d)(1)). ♦ Identify by milepost	Section 2.3.1, 2.3.4 and Table 2.3-33
☒ Provide a table (based on NWI maps if delineations have not been done) identifying all wetlands, by MP and length, crossed by the proposed project (including abandoned pipeline), and the total acreage and acreage of each wetland type that would be affected by construction. (§380.12(d)(1 & 4)).	Section 2.4.2,Table 2.4-1 and Table 2.4-2
☒ Discuss construction and restoration methods proposed for crossing wetlands, and compare them to staff's Wetland and Waterbody Construction and Mitigation Procedures. (§380.12(d)(2)).	Section 2.4.4 and Section 2.4.5
☒ Describe the proposed waterbody construction, impact mitigation, and restoration methods to be used to cross surface waters and compare to the staff's Wetland and Waterbody Construction and Mitigation Procedures. (§380.12(d)(2)). ♦ Although the Procedures do not apply offshore, the first part of this requirement does apply. Be sure to include effects of sedimentation, etc. This information is needed on a mile-by-mile basis and will require completion of geophysical and other surveys before filing. (See also Resource Report 3)	Sections 2.3.77 and 2.3.88
☒ Provide original National Wetlands Inventory (NWI) maps or the appropriate state wetland maps, if NWI maps are not available, that show all proposed facilities and include milepost locations for proposed pipeline routes. (§ 380.12(d)(4)).	Appendix 1A, Resource Report 1
☒ Identify all U.S. Environmental Protection Agency (USEPA) or state-designated aquifers crossed. (§ 380.12(d)(9)). ♦ Identify the location of known public and private groundwater supply wells or springs within 150 feet of construction.	Section 2.2.2 and Table 2.2-1

FEDERAL ENERGY REGULATORY COMMISSION COMMENTS ON RESOURCE REPORT 2—WATER USE AND QUALITY	
Comment	**Location in Environmental Report**
☒ Relate in section 2.2.1 the Regional Aquifer systems to the geologic units described in draft RR6.	Section 2.2.1
☒ Include the depth to groundwater in the FSC Project area and provide milepost (MP) ranges where the water table would intersect trenching activities.	Section 2.2.4.1
☒ Section 2.2.1.1 states that the carbonate rock of the Floridian Aquifer System is readily dissolved when exposed at the surface and section 2.2.1.2 notes that the overlying Surficial Aquifer System is generally less than 50 feet thick. Include and/or discuss:	
☒ locations by MP where the proposed pipeline facilities would be installed within the geologic materials that comprise the Surficial Aquifer System or the Floridan Aquifer System;	Section 2.2.1.1 and 2.2.1.2
☒ the estimated thickness of unconsolidated deposits over the Floridan Aquifer System along the proposed route;	Section 2.2.1.1
☒ the methods used to control internal drainage and sediment discharge within the construction work areas if exposed or near surface karst features are discovered during construction; and	Section 2.2.1.1 and 2.2.4.1
☒ whether the two aquifer systems (Surficial and Upper Floridan Aquifers) are separated by confining units that would provide some level of protection from potential spills during construction.	Section 2.2.1.1
☒ Include the MPs where the proposed route crosses the streamflow and recharge zone for the Biscayne Aquifer.	Section 2.2.2.1
☒ Update section 2.2.2.2 and include the results of consultations with the Florida Department of Environmental Protection and Water Management Districts (WMDs) regarding the groundwater classifications of aquifers crossed by the FSC Project and whether any single source aquifers are crossed.	Section 2.2.2.2
☒ Determine and include a discussion of whether the Wellhead Protection Rule would prohibit construction of the FSC Project or require specific construction and maintenance measures (e.g., herbicide use, refueling) within the Source Water Assessment and Protection Program areas identified in table 2.2-1. Provide any specific construction and maintenance measures, if applicable.	Section 2.2.2.4
☒ Regarding water supply wells within 150 feet of construction workspaces, include:	
☒ the measures that FSC would implement to protect these wells;	Section 2.2.2.3

FEDERAL ENERGY REGULATORY COMMISSION COMMENTS ON RESOURCE REPORT 2—WATER USE AND QUALITY	
Comment	**Location in Environmental Report**
☒ how FSC would establish the yield and quality, particularly with respect to turbidity and bacteria, of these wells prior to construction; and	Section 2.2.2.3
☒ the measures that FSC would implement in the event that a well becomes damaged, or the quantity or quality of the well that becomes impacted.	Section 2.2.2.3
☒ Include a description of the FSC Project's potential to create or enlarge sinkholes in karst-sensitive areas, and the measures that FSC would implement to minimize this potential associated with:	
☒ groundwater dewatering into upland areas; and	Section 2.2.4.1
☒ hydrostatic test water discharges into upland areas (describe in section 2.3.7.2).	Section 2.3.8.2
☒ Include in a new subsection the groundwater and surface water sources and volumes of water that would be used for hydrostatic testing and dust control activities. Include hydrostatic test water discharge locations, the volumes of water that would be discharged at each location, and the maximum discharge rate. Describe the specific measures that would be utilized to avoid or minimize erosion and sedimentation during test water discharges.	Section 2.3.8.2
☒ Expand section 2.3.1 to show and/or describe how the four watersheds crossed by the FSC Project correlate to the boundaries and jurisdiction of the Florida WMDs. In addition, clarify if any of the ecosystems of state-wide or national significance within the St. Johns River watershed area would be crossed, and if so, include the approximate MP range crossed.	Section 2.3.1 and 2.3.1.1
☒ Where the open cut method is identified as the proposed waterbody crossing method in table 2.3-1 and in section 2.3.1, clarify whether the wet or dry open cut method would be used based on conditions anticipated at the time of construction.	Section 2.3.7 and Table 2.3-1
☒ Justify why agricultural drainage canals, such as those evident between MPs 114 and 118 on the topographic maps provided in appendix 1B, are not listed as waterbodies in table 2.3-1 considering the Florida surface water classifications provided in section 2.3.2 (e.g., Class IV) and the FERC waterbody definition provided in section 2.3.3. In addition:	Section 2.4 and 2.4.1
☒ describe these features and the construction and restoration methods that would be used to cross these features;	Section 2.4.4.4 and Section 2.4.5.1
☒ clarify if the waterbody setbacks identified in FSC's Procedures and SPC Plan would be implemented; and	Section 2.4.4.1

FEDERAL ENERGY REGULATORY COMMISSION COMMENTS ON RESOURCE REPORT 2—WATER USE AND QUALITY	
Comment	**Location in Environmental Report**
☒ confirm with agricultural or resource agencies, or clarify by Florida rules or regulations, the regulatory classification of these features. If regulated or jurisdictional, ensure the FSC Project would not negatively impact these features.	Section 2.4.1
☒ In section 2.3, clearly state whether or not the FSC Project would cross any Section 10 waterbodies or Section 408 projects regulated by the U.S. Army Corps of Engineers. If applicable, describe the Section 10 or Section 408 programs and the waters/projects that would be affected under these programs. Include a description of the proposed construction and restoration measures that would be implemented for each of these crossings. Identify any designated Section 10 or Section 408 waterbodies/projects in table 2.3-1.	Section 2.3.7.5
☒ Identify any state-designated in-stream construction timing restrictions that differ from the requirements of the FERC Procedures. Include in table 2.3-1 a column that identifies any state required timing restrictions. In addition, provide copies of any correspondence with state agencies regarding timing restrictions.	Section 2.3.7.5
☒ Include in section 2.3 a subsection that identifies the locations of aboveground facilities (MLVs) that would be located in a floodplain(s) and describe the potential impacts of these facilities on the floodplain.	Section 2.3.6
☒ Section 2.3.3 states the FSC Project would cross five groundwater contaminated areas between MPs 12 and 35 in Polk County. Determine whether construction activities including trenching, dewatering, or HDD installation would contact contaminated groundwater in these areas. Discuss any active investigation or field research activities that are underway to define the concentrations of ethylene dibromide (EDB) within the Project area, and what measures would be taken to contain and/or treat contaminated groundwater encountered during construction. Include copies of consultations on this matter with the appropriate regulatory agency.	Section 2.2.3
☒ Include in section 2.3.3 a summary table of the waterbody crossings that includes flow type (i.e., total perennial, intermittent, ephemeral, and pond waterbodies) and the FERC classifications (i.e., total minor, intermediate, and major waterbodies).	Table 2.3-2
☒ Section 2.3.4.4 states that no surface water intakes or water supply watersheds have been identified that would be near the FSC Project facilities to date. Update section 2.3.4.4 to clarify if additional evaluations or consultations are being conducted to determine if surface water intakes or water supply watersheds are located within 3 miles downstream of the FSC Project, and when the evaluations or consultations would be completed.	Section 2.3.4.4

FEDERAL ENERGY REGULATORY COMMISSION COMMENTS ON RESOURCE REPORT 2—WATER USE AND QUALITY	
Comment	**Location in Environmental Report**
☒ Clarify in section 2.3.6.5 how existing flow levels would be used to determine if a wet or dry crossing method would be used, and who would make the final determination.	Section 2.3.7.5
☒ Under the Canal Crossing Method in section 2.3.6.5, include a description of how the trench plugs would be constructed.	Section 2.3.7.5
☒ Section 2.3.7.3 indicates that the SPC Plan specifies routine inspections of tanks and storage areas for spills of hazardous materials; however, no specific inspection measures are identified in the SPC Plan. Reconcile this discrepancy.	SPC Plan has been updated (Appendix 7C, RR7)
☒ Section 2.3.7.5 describes the installation of slope breakers adjacent to stream banks but does not discuss installation of trench breakers. Confirm that trench breakers would be installed in lands near waterbodies.	Section 2.3.7.5
☒ Include in section 2.4.2 a table summarizing the acreage of wetlands (palustrine, scrub-shrub, forested) affected by construction and operation of the Project.	Table 2.4-2
☒ Include in table 2.3-3 additional site-specific justification for the requested deviations from the FERC Procedures to demonstrate that the workspace cannot be modified to comply with the requirements of the Procedures. In addition, describe any additional protective measures that FSC would implement to minimize the impacts on resources affected by these modifications.	Table 2.3.4
☒ Include in section 2.4.2 a discussion of special or significant wetland habitats.	Section 2.4.2
☒ Revise table 2.4-1 to ensure that the construction impact acreages include the operational footprint that would be affected during construction. In addition:	
☒ ensure the operational maintenance impact acreage for scrub-shrub and forested wetlands represent the respective portions of the 10-foot-wide strip and 30-foot-wide strip that would be maintained in accordance with FSC's Procedures;	Table 2.4-1
☒ include in a separate column for the Universal Mitigation Assessment Method (UMAM) score for each wetland; and	Table 2.4-1
☒ include a separate column to denote any state wetland classifications for each wetland, or if none, note that there are none.	Table 2.4-1
☒ Differentiate in section 2.4.2.1 the temporary impact acreages for palustrine emergent and scrub-shrub wetlands.	Section 2.4.2.1

FEDERAL ENERGY REGULATORY COMMISSION COMMENTS ON RESOURCE REPORT 2—WATER USE AND QUALITY	
Comment	**Location in Environmental Report**
☒ If known, include a discussion in section 2.4.5.2 of any wetland mitigation banks that would be used to mitigate for wetland impacts. Verify that identified banks are operated consistent with the Florida UMAM and sufficient for the FSC Project's anticipated bank credit needs.	Section 2.4.5.2
☒ For the HDD construction activities discussed in section 2.3.7.1 and in the HDD Contingency Plan provided in appendix 2A:	
☒ Identify the anticipated volume and source water needed for the construction of each HDD;	Section 2.3.8.1
☒ Describe anticipated disposal methods for drilling mud and cuttings;	Section 2.3.8.1
☒ Identify any additives, other than bentonite, that would likely be added to the drilling mud and verify that these additives would not have an adverse effect on water resources in the event that there is a release of drilling fluid;	Section 2.3.8.1
☒ If the drill would pass through carbonate bedrock, describe in detail the degree of subsurface karst expected and the potential for the substantial loss of drilling fluids;	Section 2.3.8.1
☒ Evaluate whether HDD construction could affect or trigger sinkhole development and, if applicable, describe measures that FSC would implement to avoid or minimize this occurrence; and	Section 2.3.8.1
☒ Reconcile whether or not the Spill Prevention Control and Countermeasures Plan identified in section 4 of the HDD Contingency Plan would be the same or different than the SPC Plan identified in Resource Report 2.	Appendix 2A

ACRONYMS AND ABBREVIATIONS

ATWS	Additional temporary workspace
BMPs	Best management practices
CWA	Clean Water Act
EDB	Ethylene dibromide
EFH	Essential Fish Habitat
EI	Environmental Inspector
ERC	Environmental Regulation Commission
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOH	Florida Department of Health
FERC	Federal Energy Regulatory Commission
FPL	Florida Power and Light Company
FSC	Florida Southeast Connection, LLC
GIS	Geographic Information System
gpd	Gallons per day
HDD	Horizontal directional drill
HUC	Hydrologic Unit Code
mg/l	Milligrams per liter
MP	Milepost
NRI	National Rivers Inventory
NWI	National Wetland Inventory
OFW	Outstanding Florida Waters
OHWM	Ordinary High Water Mark
PEM	Palustrine emergent
PFO	Palustrine forested
Project	Project
PSS	Palustrine scrub-shrub
PWS	Public Water Supply
Sabal Trail	Sabal Trail Transmission Pipeline Project
SDWA	Safe Drinking Water Act
SPC Plan	Spill Prevention and Control Plan
SSA	Sole source aquifer
SWAPP	Source Water Assessment and Protection Program
T&E	Threatened and endangered
TAR	Temporary access road
TMDL	Total Maximum Daily Load
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

2.0 RESOURCE REPORT 2 - WATER USE AND QUALITY

2.1 Introduction

Florida Southeast Connection, LLC ("FSC"), a subsidiary of NextEra Energy, Inc., is seeking a Certificate of Public Convenience and Necessity ("Certificate") from the Federal Energy Regulatory Commission ("FERC") pursuant to Section 7(c) of the Natural Gas Act ("NGA") authorizing the construction and operation of an approximately 126.4 mile natural gas pipeline known as the Florida Southeast Connection Project ("FSC Project"). The FSC Project is designed to meet the increased demand for natural gas by the electric generation, distribution, and end use markets in Florida. The FSC Project will also provide additional natural gas supply diversity through a connection to the new Sabal Trail Transmission Pipeline Project ("Sabal Trail") via a new interconnection hub in central Florida ("Central Florida Hub"). The Sabal Trail Project is the subject of a separate, but related, certificate filing to the FERC.

The FSC Project will increase natural gas transportation capacity and availability to southern Florida by adding a new third pipeline in central and southern Florida. Upon the anticipated in-service date of May 2017, the FSC Project will be capable of providing a minimum of 640 million cubic feet per day ("MMcf/d") of natural gas to a delivery point at an existing gas yard at Florida Power & Light Company's ("FPL") Martin Clean Energy Center in Martin County, Florida.

The proposed FSC Project consists of the construction and operation of approximately 77.1 miles of 36-inch diameter pipeline (MP 0.0 to MP 77.1) and 49.3 miles of 30-inch diameter pipeline (MP 77.1 to MP 126.4) and the construction and operation of the Martin Meter Station. The FSC Project pipeline will start in Osceola County, Florida at the interconnection with Sabal Trail within the Central Florida Hub. The pipeline will traverse Polk, Osceola, Okeechobee, St. Lucie, and Martin Counties, and terminate at the Martin Meter Station. In addition, FSC will install a pig launcher and receiver on the 36-inch diameter segment and on the 30-inch diameter segment of the FSC Project. Resource Report 1 provides a complete summary of the FSC Project facilities (Table 1.2-1) and a location map of the FSC Project facilities (Figure 1.2-1).

This Resource Report 2 describes the existing water resources and water quality in the FSC Project area, evaluates the potential impacts of construction and operation of the proposed FSC Project on those resources, and identifies proposed mitigation measures to avoid or minimize potential impacts on groundwater, surface waterbodies, and wetland resources. The following information was obtained from field surveys, review of available technical literature, and consultation with various federal, state, and local regulatory agencies. A checklist showing the status of the FERC filing requirements for this Resource Report 2 is included in the table of contents.

2.2 Groundwater Resources

2.2.1 Regional Aquifers Crossed by the FSC Project

The FSC Project facilities overlie two principal aquifer systems: the Floridan aquifer system and the surficial aquifer system (Miller, 1990). These two aquifer systems are located within the following surficial geologic units: Beach Ridge and Dune, Cypresshead Formation, Dunes, Holocene Sediments, Reworked Cypresshead Formation, Shell-Bearing Sediments, and Undifferentiated Sediments. The Floridan and surficial aquifer systems are described in further detail below.

2.2.1.1 Floridan Aquifer System

The entire FSC Project area is underlain by the Floridan aquifer system, which serves as the primary source of groundwater in Florida (FDEP, 2007). Miller (1990) provides a comprehensive description of the Floridan aquifer system in the *Groundwater Atlas of the United States – Alabama, Georgia, South Carolina and Florida* ("Groundwater Atlas"), which is summarized below.

The Floridan aquifer system underlies an area of approximately 100,000 square miles in the southeastern United States and includes all of Florida. A thick sequence of carbonate rocks (limestone and dolomite) of tertiary age comprises the Floridan aquifer system. The Avon Park Formation and the Ocala limestone are the thickest and most productive hydrogeologic units within the Floridan aquifer system.

The Florian aquifer system is not exposed at the land surface in the FSC Project area. Based on a review of mapping available (Miller, 1990), the Floridan aquifer system is thinly confined from MP 0 to approximate MP 30, where the confining unit is generally less than 100 feet and may have fissures extending through it in some locations. From approximate MP 30 to the end of the Project at MP 126, the Floridan aquifer system is confined at a depth generally greater than 100 feet deep.

The system is characterized by rocks that vary in permeability. In most places, the Floridan aquifer system is divided into the upper and lower Floridan aquifers, which are separated by a less-permeable confining unit. The altitude and rock type of this confining unit varies throughout the Floridan aquifer system. The confining unit restricts the movement of groundwater between the upper and lower Floridan aquifers.

In addition to the confining unit between the upper and lower Floridan aquifer system, the Floridan system is also separated from the overlying surficial aquifer system (described further in Section 2.2.1.2 below) by an upper confining unit, which is composed primarily of clay (Miller, 1990). In places, some water leaks upward from the underlying Floridan aquifer system through this clayey confining unit into the overlying surficial aquifer system. In other places, where the hydraulic head of the Floridan is lower than the water table of the surficial aquifer, leakage can occur in the opposite direction (Miller 1990). Despite the potential for water leakage in some areas, the presence of the upper confining layer over the Floridan aquifer provides a level of protection from any spills at the land surface during construction.

The carbonate rocks of the Floridan aquifer system are readily dissolved where they are exposed at the land surface (unconfined) or are overlain by only a thin layer of confining material, which results in the development of sinkholes and karst topography in some areas. The large-scale porosity that develops as a result of dissolution of the carbonate rocks in the Floridan aquifer system creates large conduits in some places that store and transmit ground water. These conduits, which include caves, solution channels, and sinkholes, allow tremendous volumes of water to pass quickly through the aquifer with little resistance to flow. Consequently, transmissivity, which is the capacity of an aquifer to transmit water, can be relatively high in the Floridan aquifer system.

The FSC pipeline route traverses karst regions II and III, both of which have an overburden thickness of 30 to 200 feet (Sinclair and Stewart, 1985) (See figure 6.5-2). A majority of the route passes through region II, in which sinkholes are few, shallow, of small diameter, and develop gradually (Sinclair and Stewart, 1985). The northern portion of the FSC pipeline passes through region III in Polk and Osceola Counties, in which sinkholes are most numerous, of varying size, and develop abruptly (Sinclair and Stewart, 1985). As such, the northern portion of the FSC Project which traverses karst region III has a higher probability of sinkhole occurrence than the

southern portion of the FSC Project in karst region II. No sinkholes were identified during field surveys of the FSC Project right-of-way. Special construction measures that will be implemented when working in karst formations have been included in Appendix 6B of Resource Report 6.

The upper Floridan aquifer is highly permeable in most places and yields sufficient water supplies for most purposes. Transmissivity within the upper Floridan aquifer varies widely and is a function of the porosity of the rock. The approximate transmissivity rates in the FSC Project area range from less than 10,000 square-feet/day up to 250,000 square-feet/day (Miller, 1990).

Less is known about the lower Floridan aquifer, since it is found at greater depths; consequently, there is less data available. Similar to the upper Floridan aquifer, transmissivity rates vary widely depending on location and few actual estimates exist (O'Reilly and Spechler, 2002). However, transmissivity values developed from one model developed for a portion of the lower Floridan aquifer ranged from 5,000 to 700,000 ft^2/day (Sepulveda, 2002).

The ability of the Floridan aquifer system to transmit vast quantities of water have made it the primary water source for almost 10 million people and one of the most productive aquifers in the world (Marella and Berndt, 2005; Miller, 1990). The Floridan aquifer system provides water for several large cities, including Orlando, and St. Petersburg, Florida. In addition, the Floridan aquifer system provides water for hundreds of thousands of people in smaller communities and rural areas. In the southern portion of the state, where it is deeper and contains brackish water, the aquifer has been used for the injection of sewage and industrial waste (FDEP, 2007). The Floridan aquifer system is also pumped intensively for industrial and irrigation supplies. In 1985, an average of about 3 billion gallons per day ("gpd") of freshwater was withdrawn from the Floridan aquifer system for all purposes, with agriculture (44%) and industry (28%) constituting the majority of withdrawals. Lesser volumes were withdrawn for public water supply (21%) and domestic and commercial supplies (7%). Since that time, water withdrawals have increased steadily. The most recent available water withdrawal data for 2005 for Florida counties traversed by the FSC Project were reported as follows: Polk, 207 million gpd; Osceola, 135 million gpd; Okeechobee, 37 million gpd; St. Lucie, 43 million gpd; and Martin, nine million gpd (Marella, 2009).

2.2.1.2 Surficial Aquifer System

In addition to the Floridan aquifer system, the FSC Project area is underlain by the surficial aquifer system, which overlies the Floridan aquifer system. The FSC Project will be constructed within the geologic substrate that comprises the surficial aquifer system from MP 0 to MP 126 as this system is present at the surface throughout the entire Project area (Miller, 1990 and FDEP, 2007). In the southeastern United States, the surficial aquifer system includes any otherwise undefined aquifers that are present at the land surface (Miller 1990). The Groundwater Atlas (Miller, 1990) was the primary source of information used to summarize the characteristics of the surficial aquifer in this section.

The surficial aquifer system consists mostly of beds of unconsolidated sand, shelly sand, and shell. Typical aquifer depth is less than 50 feet; however, in Martin and St. Lucie Counties, depths can range from 200 to 400 feet thick. In places, clay beds are sufficiently thick and continuous to divide the system into two or three aquifers; in most areas, however, the surficial aquifer system is undivided. Precipitation enters the surficial aquifer system and generally flows from higher elevations to lower elevations. The groundwater within the surficial aquifer system exits as base flow to streams, discharge to coastal waters and as downward recharge to deeper aquifers (FDEP, 2007). The transmissivity of the surficial aquifer system is extremely variable but rates have been reported to range from 1,000 to 10,000 square-feet/day (Miller, 1990).

Some higher rates ranging from 25,000 to 50,000 square-feet/day have been reported in areas that overlie limestone or shell (Miller, 1990).

In general, the surficial aquifer yields less groundwater than the Floridan aquifer system. However, the surficial aquifer system is still used by a large number of people, principally for domestic, commercial, or small municipal supplies. In 1985, approximately 361 million gpd were withdrawn from the surficial aquifer system for public water supply, domestic and commercial uses (Miller, 1990). By 2005, this withdrawal volume increased to approximately 532 million gpd (Marella, 2009). The surficial aquifer system accounted for 10% of the public water supply groundwater withdrawal and 4% of the commercial-industrial self-supplied groundwater withdrawal in Florida in 2005 (Marella, 2009). The following water withdrawal levels from the surficial aquifer by county were reported in 2005: Polk, 0.1 million gpd; Osceola, 3.3 million gpd; Okeechobee, 9.6 million gpd; St. Lucie, 28.0 million gpd; and Martin, 29.1 million gpd (Marella, 2009).

2.2.2 Sensitive Groundwater Resources

Sensitive groundwater resources include sole source aquifers ("SSAs"), state-designated aquifers that are afforded special protection in each state, public and private water supply wells, springs, and wellhead and aquifer protection areas. Each of these sensitive groundwater resources as they relate to the FSC Project is discussed further below.

2.2.2.1 Sole Source Aquifers

SSA designations were defined by the U.S. Environmental Protection Agency ("USEPA"), pursuant to Section 1424(e) of the Safe Drinking Water Act ("SDWA") of 1974, for an aquifer that provides a sole or principal source (greater than 50 percent) of drinking water for an area, where contamination of the aquifer could create a significant hazard to public health, and where there are no alternative water sources that could reasonably be expected to replace the water supplied by the aquifer (USEPA, 2012).

Although the FSC Project does not overlie a SSA, it is located within the streamflow and recharge source zone of the Biscayne aquifer (USEPA, 2014). The FSC pipeline crosses the streamflow and recharge zone of the Biscayne aquifer between the following MPs: MP 0-3, MP 5-10, MP 16-18, MP 30-96, MP 100-103, MP 108-110, and MP 118-123.

The Biscayne SSA is a surficial aquifer that encompasses approximately 4,000 square miles in southeastern Florida in Monroe, Dade, Broward, and Palm Beach counties (USEPA 2014a). The Biscayne aquifer supplies all municipal water supply systems from south Palm Beach County southward, including the system for the Florida Keys, which is supplied chiefly by pipeline from the mainland. It is a highly permeable wedge-shaped unconfined aquifer that is more than 200 feet thick in coastal Broward County and narrows in depth 35 to 40 miles inland in the Everglades.

2.2.2.2 State-Designated Aquifers

In addition to the USEPA designated SSA program, individual states may enact regulations protecting significant aquifer recharge areas used for public water supplies. The characteristics of state-designated aquifers underlying the proposed FSC Project facilities are described below.

Florida classifies groundwater into five categories (Classes G-1, F-1, G-II, G-III, G-IV) under Chapter 62-520 of the Florida Administrative Code ("FAC"). Classifications are based first on whether the water is potable (drinkable) or non-potable, then on the total of dissolved solids the water contains, and finally on whether the water is located in a confined or unconfined aquifer as defined by FAC 62-520.410(1). Classifications include the following:

1. Class G-I water is potable groundwater in a single source aquifer (where *single source* means that the aquifer is the only reasonably available source of potable water to a significant segment of the population). Class G-I water has a total dissolved solids content of less than 3,000 milligrams per liter ("mg/l") and is specifically reclassified as Class G-I by the Environmental Regulation Commission ("ERC").
2. Class F-I water designation is the same as G-I, but only includes the surficial aquifers (i.e., shallow aquifers that are close to the surface) in northeast Flagler County as described by FAC 62-520.460(1).
3. Class G-II waters are still potable, but have a total dissolved solids content up to 10,000 mg/L.
4. Class G-III waters are non-potable, are located in unconfined aquifers, and either have a total dissolved solids content of 10,000 mg/L or greater or have been declared non-potable by ERC.
5. Class G-IV waters are non-potable, are located in confined aquifers only, and have a total dissolved solids content of 10,000 mg/L or greater. Class G-IV waters receive the least amount of protection.

The Florida Department of Environmental Protection ("FDEP") affords the highest protection to single source aquifers (G-1). Based on consultation with FDEP, the groundwater classification in a given area is typically determined on a project-specific basis during permit review and groundwater classification mapping is not available. In addition, FDEP believes the FSC pipeline may cross areas that primarily have a groundwater classification of G-II (FDEP, 2014).

2.2.2.3 Public and Private Water Supply Wells and Springs

To identify any public and private water supply wells and springs within 150 feet of the FSC Project, FSC reviewed the Florida Department of Health ("FDOH") well survey database from its well surveillance program (FDOH, 2013) and FDEP's 2011, *Spring Locations* Geographic Information Systems ("GIS") shapefile (FDEP, 2011). The FDOH dataset includes information on all privately and publicly owned potable wells investigated as part of the well surveillance program (FDOH, 2013).

All known public and private supply wells within 150 feet of the construction work areas for the FSC Project are listed in Table 2.2-1**.** Based on a review of the GIS *Spring Locations* shapefile (FDEP, 2011) there are no springs within 150 feet of the construction work area of the FSC Project.

Prior to construction, FSC will verify the existence of private water supply wells within 150 feet of the construction areas based on input from landowners and readily available information. The locations of any wells in construction work areas will be identified and marked in the field. FSC will collect pre-construction samples from wells to assess yield, turbidity (e.g. Total Dissolved Solids) and bacteria levels as necessary to establish baseline conditions for these parameters. Wells will be sampled both within the right-of-way and, based on permission from the landowner, outside of the right-of-way. Should a well within the right-of-way become damaged or the quantity or quality of water be reduced following the completion of construction, FSC will either repair the damaged well or provide funding for the well-owner to repair the well. The decision to either repair or provide funding to repair will be made on a case by case basis.

2.2.2.4 Wellhead and Aquifer Protection Areas

Under a 1986 amendment to the SDWA, each state is required to develop and implement a wellhead protection program in order to identify the land and recharge areas contributing to public supply wells and prevent the contamination of drinking water supplies (FDEP, 2013). The SDWA was later updated in 1996 to require the development of a broader-based source water assessment program, which includes the assessment of potential contamination to both groundwater and surface water through a watershed approach.

The Florida wellhead protection program is administered by the FDEP under the Wellhead Protection rule, Chapter 62-521, FAC, and the groundwater protection measures (FDEP, 2013). The Wellhead Protection Rule establishes a 500-foot radius circular wellhead protection area around all wells which serve community and non-transient, non-community public water systems (FDEP, 2013). The rule prohibits certain new installations from locating in wellhead protection areas, and specifies additional performance standards for other new installations and activities. FDEP regulatory programs also implement specific performance, permitting, and monitoring criteria designed to protect groundwater on a statewide basis. FSC reviewed the Wellhead Protection Rule and FSC could find no prohibition on natural gas pipeline construction within a wellhead protection area. In addition, there does not appear to be any specific construction or maintenance measures required for natural gas pipeline construction in wellhead protection areas.

FSC reviewed the Florida Source Water Assessment and Protection Program ("SWAPP") GIS data (FDEP, 2008) to determine whether the FSC Project crosses any designated assessment areas. As described by FDEP (2008), assessment areas were created for each public water supply ("PWS") well to identify potential contamination sources. PWS wells are divided into three categories: 1) noncommunity, 2) community serving populations less than 1,000 persons, and 3) community serving populations greater than or equal to 1,000 persons. Assessment areas for noncommunity wells consist of a 500 foot radius buffer of the well. Assessment areas for community wells serving populations <1,000 persons consist of a 1,000 foot radius buffer of the well. Assessment areas for community wells serving populations >=1,000 persons consist of a 1,000 foot radius buffer of the well, plus a five year groundwater travel time. Based on a review of the SWAPP dataset, the FSC Project facilities are within 150 feet of 20 SWAPP areas, which are presented in Table 2.2-1.

2.2.3 Sources of Potentially Contaminated Groundwater

FSC reviewed the FDEP *Groundwater Contamination Areas* GIS shapefile (FDEP, 2010) to determine whether any of the FSC Project facilities are located within areas with potentially contaminated groundwater. The *Groundwater Contamination Areas* shapefile is a statewide map showing the boundaries of delineated areas of known groundwater contamination. Thirty-eight Florida counties have been delineated primarily for the agricultural pesticide ethylene dibromide ("EDB"), and to a much lesser extent, volatile organic and petroleum contaminants. This GIS shapefile represents approximately 427,897 acres in 38 counties in Florida that have been delineated for groundwater contamination. However, it does not represent all known sources of groundwater contamination for the state. Based on a review of the *Groundwater Contamination Areas* shapefile, FSC facilities cross five groundwater contamination areas between MP 12 and MP 35 in Polk County. The mapped groundwater contamination areas are crossed by the pipeline, temporary easements, additional temporary workspaces, contractor yards and access roads. The pesticide EDB is the contaminant of concern in each of the five groundwater contamination areas.

The state of Florida began testing wells in 1983 and discovered that many were contaminated with EDB. As a result of the well testing program, the Florida state legislature directed FDEP to implement water well construction and water testing standards within areas of known groundwater contamination (FDEP 2013a). Accordingly, the purpose of the mapped groundwater contamination areas is to identify those areas that require groundwater testing before a new well can be permitted and utilized. The groundwater contamination area mapping does not trigger any regulations or special construction procedures that would apply to the construction of the FSC pipeline. Nevertheless, while working in groundwater contamination areas, FSC will test groundwater to determine if EDB is present. If EDB is present, then FSC will limit dewatering to the footprint of the groundwater contamination area and not discharge it to an area outside the footprint unless it is first tested to determine appropriate handling and disposal options.

2.2.4 Groundwater Impacts and Mitigation

The FSC Project is not expected to adversely impact groundwater quality or supply. Construction activities associated with the FSC Project that have the potential to impact groundwater include shallow excavations, Horizontal Directional Drills ("HDDs"), blasting impacts, hydrostatic test discharges, and potential spills or leaks of contaminants from the refueling of construction vehicles or storage of fuel, oil, and other fluids. FSC proposes to implement construction practices designed to reduce and/or mitigate potential impacts on groundwater during construction as detailed in FSC's Plan and Procedures (see Appendix 1F and 1G in Resource Report 1) and FSC's Spill Prevention and Control Plan ("SPC Plan") (See Appendix 11C in Resource Report 7). FSC's contractors will adhere to these general practices related to groundwater protection including:

- Enforcing restrictions on refueling locations and storage of contaminants;
- Installation of permanent trench plugs, where needed, to maintain existing groundwater flow patterns;
- Limited and controlled use of herbicides on the right-of-way only in appropriate circumstances (where other options are impractical or not available) and consistent with applicable laws, rules, and regulations, as well as any enforceable limitations and controls arising from agency consultations; and
- Prohibiting use of herbicides in or within 100 feet of wetlands or waterbodies, except as allowed by the appropriate land management agency or state agency.

Additional information on groundwater impacts and mitigation associated with various aspects of construction is provided in the following sections.

2.2.4.1 Trench Excavation

Groundwater depth varies based on a number of factors including weather, season, humidity and surficial geology. Accordingly, the depth to groundwater varies along the FSC Project route based on these conditions. FSC evaluated and reviewed a number of different sources to determine depth to groundwater and the likelihood that the water table will intercept the excavated trench for pipeline installation. Typical installation depth is anticipated to be approximately 5.5 feet below existing grade. As described in Section 2.2.1.2, the FSC Project will be constructed in the surficial aquifer for its entire length. Typical depths to groundwater in the surficial aquifer are 50 to 400 feet according to the USGS (USGS, 1984). Therefore, in most upland portions of the route, FSC does not anticipate that groundwater will be encountered during trench excavation.

However, FSC expects that the water table will intersect the trench in the numerous wetlands that are crossed, which by definition, are inundated or saturated at or near the ground surface. Accordingly, dewatering is anticipated to be required while trenching at all MPs where the FSC pipeline crosses wetland areas as discussed further in Section 2.4 below.

Geotechnical data collected from a series of soil borings at proposed HDD locations were also reviewed to evaluate depths to groundwater along the FSC pipeline. Data on depth to groundwater was collected at the following locations: MP 12.2, 12.3, 38.1, 38.2, 38.3, 38.4, 59.1, 59.2, 85.1, 85.3, 99.1, 99.2 and 106.1. Water depth and/or saturation in the borehole after 15 minutes ranged from a minimum of 1.0 foot below existing grade to a maximum of 6.8 below existing grade. These results indicate that groundwater exists at these boring locations and portions of the HDD work would take place below the groundwater table.

Dewatering of the pipeline trench, the only activity requiring pumping of groundwater, may be necessary in areas where there is a high water table. However, pipeline construction activities within a particular location are typically completed within several days, and any lowering of localized groundwater is expected to be temporary. To recharge the aquifer and prevent silt laden waters from flowing into streams and wetlands, FSC proposes to discharge all water from trench dewatering activities into well-vegetated upland areas, or into straw bale structures if vegetation is insufficient.

As described in Section 2.2.1.1, the FSC pipeline crosses karst regions II and III. Therefore, groundwater dewatering in karst-sensitive areas will be carried out in accordance with the procedures outlined in FSC's Karst Plan (see Appendix 6B in Resource Report 6). Karst features will be identified in the field and buffer zones of 300 feet will be established around karst features in all work areas. Water from trench dewatering will not be discharged directly into the buffer zone of a karst feature. This water will be discharged down gradient of the karst feature. If site conditions prevent a downgradient discharge, the water will be discharged as far from the karst feature buffer zone as is practicable.

Construction activities will be conducted in accordance with FSC's Plan and Procedures to minimize potential impacts on groundwater in the vicinity of the FSC Project. The use of dewatering structures at stream crossings will minimize groundwater impacts during dewatering operations.

FSC will make all reasonable efforts to discharge trench water in a manner that avoids damage to adjacent agricultural land, crops, and pasture. Damage includes, but is not limited to, the inundation of crops for more than 24 hours, deposition of sediment in ditches, and the deposition of gravel in fields or pastures.

2.2.4.2 Horizontal Directional Drill

The FSC Project proposes to use HDD in nine crossing locations: Johnson Avenue at MP 12; a forested wetland at MP 38; Lake Kissimmee at MP 52; a forested wetland at MP 59; a forested wetland at MP 84; a forested wetland at MP 99; a forested wetland and State Road ("SR") 70 at MP 106; the C-23 Canal near MP 115; and SR 710 and the CSX Railroad at MP 124. See Appendix 1A in Resource Report 1 for locations of HDD crossings and site-specific crossing plans. A contingency plan outlining procedures to be implemented in the case of drill failure or the inadvertent release of drilling fluid is provided in Appendix 2A.

2.2.4.3 Contaminant Spills

Potential spills or leaks of contaminants resulting from the refueling of construction vehicles or storage of fuel, oil, and other fluids during construction, has the potential to affect groundwater. FSC's SPC Plan for construction addresses preventative measures to be used to minimize the

potential impacts of a contaminant spill on groundwater resources (see Appendix 7C of Resource Report 7). Spill reporting will be conducted in accordance with all federal, state, and local regulations.

Any potential contaminants, chemicals, lubricating oils, solvents, or fuels used during construction will be stored in upland areas at least 100 feet from wetlands and waterbodies. All such materials and spills (if any) will be handled in accordance with the SPC Plan. Except where absolutely necessary, or required to otherwise minimize overall impacts on the environment, there will be no refueling or lubricating of vehicles or equipment within 100 feet of a waterbody. Under no circumstances will refuse be discarded in waterbodies, trenches, or along the construction corridor. In accordance with the SPC Plan, FSC will conduct routine inspections of tanks and storage areas to help reduce the potential for spills of contaminants.

2.3 Surface Water Resources

Surface water resources, potential impacts on surface waters as a result of the FSC Project and mitigation measures that FSC will take to minimize or avoid potential impacts are discussed in the following sections. Surface water resources in the FSC Project area were initially identified using desktop sources such as United States Geological Survey ("USGS") topographic maps and GIS hydrology data layers. Surface water boundaries were verified and surveyed during wetland field delineations conducted in 2013 and 2014.

2.3.1 Watersheds

The FSC Project facilities are located within four different Cataloguing Unit watersheds (i.e., 8-digit Hydrologic Unit Code ("HUC") as defined by the USGS. A hydrologic unit can accept surface water directly from upstream drainage areas, and indirectly from associated surface areas such as remnant, non-contributing, and diversions to form a drainage area with single or multiple outlet points (NRCS, 2007). The four watersheds crossed by the FSC facilities include the Kissimmee River, Upper Saint Johns River, Vero Beach, and the Southeast Florida Coast watersheds, which are described briefly below.

2.3.1.1 Kissimmee River Watershed

The FSC pipeline traverses the Kissimmee River watershed (HUC 03090101) from MP 0 to MP 70. The Kissimmee River watershed covers approximately 2,940 square miles in the Central Florida Peninsula and extends approximately 105 miles from Orlando to Lake Okeechobee. The Kissimmee River watershed falls within the jurisdiction of three Water Management Districts ("WMDs"), the South Florida Water Management District ("SFWMD"), the Southwest Florida Water Management District ("SWFWMD"), and Saint John's River Water Management District ("SJWMD"). Approximately 38 miles of the pipeline route are located within the SFWMD, while 27 miles of the pipeline route are located within the SWFWMD within the Kissimmee River watershed. The final five miles from MP 65 to MP 70 are located within the SJWMD.

The watershed is predominantly rural with the majority of the population, and more densely developed areas, situated along the watershed's northern boundary. This urbanized section of the watershed includes a small portion of the city of Orlando and the cities of Kissimmee and St. Cloud. Agricultural lands, wetlands, and upland forests are the dominant land cover in the remainder of the watershed. Citrus and cattle farming are the primary agricultural commodities in the region. Stormwater runoff from urbanized areas, hydrologic modifications, and pollution from agricultural operations may contribute to elevated nutrient concentrations in surface and groundwater within the watershed (FDEP, 2007a).

The Kissimmee River watershed lies at the northern end of the Everglades ecosystem. Historically, water from the Kissimmee River slowly meandered into Lake Okeechobee and

exited unimpeded from the lake southward into the Everglades through small tributaries and broad sheetflow during the rainy season. The river was reconfigured in the 1960s into a 56-mile-long canal (C-38) for flood control. Construction of the C-38 altered the hydrology, water quality, and wetlands in the Kissimmee River watershed (FDEP, 2007a).

2.3.1.2 Upper St. Johns River Watershed

The FSC pipeline traverses the Upper St. Johns River watershed (HUC 03080101) from MP 70 to MP 92. The watershed extends approximately 110 river miles from the headwaters of Fort Drum Creek to its confluence with the Econlockhatchee River (SJRWMD, 2007). The St. Johns River is a low gradient river with an extensive floodplain. Marsh communities within the floodplain provide flood storage capacity within the watershed. The watershed includes 46 blackwater streams and a number of shallow lakes (SJRWMD, 2007). The Upper St. Johns River watershed is located within the SJWMD from MP 70 to MP 87 and the SFWMD from MP 87 to MP 92.

The St. Johns River watershed has been altered extensively over the last 50 years. By the early 1970's, 62 percent of the 100-year floodplain, and 42 percent of the annual floodplain had been diked, drained, and converted to agricultural production (SJRWMD, 2007). In 1983, only 35 percent of the original floodplain remained, and hydrology within the watershed had been severely altered (SJRWMD, 2007). Much of the watershed today is utilized for agriculture, which includes the production of row crops, citrus and cattle.

Despite the impacts associated with development within the watershed, the Upper St. Johns River remains an ecosystem of state-wide and national significance. The upper watershed contains the largest freshwater marsh in the region, which is also one of the largest freshwater marshes in the state (SJRWMD, 2007).

2.3.1.3 Vero Beach Watershed

The FSC pipeline traverses a small portion of the Vero Beach watershed (HUC 03080203) from MP 92 to MP 97. The portion of the Vero Beach watershed crossed by the FSC pipeline is located entirely within the SFWMD. The Vero Beach watershed in the vicinity of the FSC pipeline is primarily agricultural land and wetland based on a review of the Florida state land use/land cover data (Florida Watershed Management Districts, 2011). Soils are predominately medium fine sand and silt based on a review of environmental geology data (FDEP, 2001).

2.3.1.4 Southeast Florida Coast Watershed

The FSC pipeline traverses the Southeast Florida Coast watershed (HUC 03090206) from MP 97 to MP 126. Subwatersheds crossed by the FSC pipeline within the larger Southeast Florida Coast watershed include Cow Creek, Cypress Creek, and the St. Lucie canal. The entire Southeast Florida Coast watershed is located within the SFWMD. The Southeast Florida Coast watershed in vicinity of the FSC pipeline is primarily agricultural land and wetland based on a review of the Florida state land use/land cover data (Florida Watershed Management Districts, 2011). Many of the agricultural lands are former wetlands that were previously drained. Soils within the watershed include a mix of medium fine sand and silt and shelly sand and clay (FDEP, 2001).

2.3.2 Water Quality Classification

The FDEP defines water use classifications based on the most beneficial present and future uses of a waterbody under FAC Chapter 62-302. Water quality classifications are arranged in order of the degree of protection required, with Class I waters having the most stringent water

quality protection and Class V the least. All surface waters of Florida have been classified according to the following designated uses:

- Class I: Potable Water Supplies;
- Class II: Shellfish Propagation or Harvesting;
- Class III: Fish Consumption; Recreation; Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife;
- Class III-Limited: Fish Consumption; Recreation; Propagation and Maintenance of a Limited Population of Fish and Wildlife;
- Class IV: Agricultural Water Supplies; and
- Class V: Navigation, Utility and Industrial Use.

All surface waters in the State of Florida are designated as Class III, to support recreation and fish and wildlife, unless they are specifically listed in FAC 62-302.400(16) or they meet the criteria for Class IV. All waterbodies crossed by the Project are Class III waters, which is more protective than the Class IV designation. See Table 2.3-1 for the water quality classification of waterbodies crossed by the FSC Project facilities.

2.3.3 Waterbodies Crossed by the Project

Surface waterbodies documented along the FSC Project include major rivers, streams, canals and associated tributaries. A waterbody, as defined by the FERC, is "any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes." The U.S. Army Corps of Engineers ("USACE") has jurisdiction over "waters of the U.S., including wetlands", pursuant to Section 404 of the federal CWA. In addition, the USACE regulates canals built by the United States government pursuant to Section 14 of the Rivers and Harbors Act of 1899, which is codified at 33 USC 408. Waterbodies include streams with perennial, intermittent, or ephemeral flow. Perennial streams flow year-round. Typically, intermittent streams will flow continuously during wet seasons, but may be dry for a portion of the year. Ephemeral streams flow only for a short period following major rainfall events. Intermittent and ephemeral streams may be dry at the time of construction, depending on the time of year and rainfall conditions.

The boundary of non-tidal surface waters potentially subject to USACE jurisdiction is defined by the Ordinary High Water Mark ("OHWM"), except where wetlands are present. The OHWM is the line on the shore established by the presence and/or fluctuations of water, and which is indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Intermittent and ephemeral streams with an OHWM, and other surface waters that are dry at the time of crossing, may be jurisdictional as "waters of the U.S." The FERC defines waterbodies as being minor if they are less than or equal to 10 feet wide at the crossing location, intermediate if they are greater than 10 feet wide but less than or equal to 100 feet wide, and major if they are greater than 100 feet wide at the crossing location.

The term "waterbody" as it is used in this Resource Report is inclusive of all "waters of the U.S.," other than wetlands, that are potentially jurisdictional to the USACE, and all waterbodies as defined by the FERC. A list and description of all waterbodies FSC delineated within the FSC Project area are provided in Table 2.3-1 with a summary of crossings provided in Table 2.3-2. The types of waterbodies identified and delineated include man-made ditches/swales, canals,

cattle ponds, lakes, ponds/reservoirs, streams/sloughs, and Lake Kissimmee. The majority of the waterbodies within the Project area are man-made ponds and ditches.

2.3.3.1 Pipeline Facilities

The FSC pipeline will cross a total of 43 waterbodies of varying widths and flow types (ephemeral, intermittent or perennial). Table 2.3-1 contains the list of the waterbodies crossed by the FSC pipeline, including MP, crossing width, state water quality classification, flow type and the proposed crossing method. Fisheries crossed by the Project are discussed in Section 3.2 of Resource Report 3. Waterbodies crossed by the pipeline in each county are described below.

Polk County

The FSC pipeline crosses 15 waterbodies in Polk County, which includes a portion of Lake Kissimmee, ten perennial streams/canals, one intermittent waterbody, and three ponds (see Table 2.3-1). The following named streams are crossed in Polk County: Snell Creek and Weohyakapka Creek. FSC has proposed to use HDD to cross a pond adjacent to Johnson Avenue (MP 12) and Weohyakapka (Walk-in-Water) Creek (MP 38). All remaining waterbodies in Polk County will be crossed using the dry open cut method.

Osceola County

The FSC pipeline crosses nine waterbodies in Osceola County, which include Lake Kissimmee, seven perennial streams/canals and one ephemeral waterbody (see Table 2.3-1). The following named waterbodies are crossed in Osceola County: Lake Kissimmee, Blanket Bay Slough, Cow Log Branch, Cow Log Branch tributaries, and Padgett Branch. The Lake Kissimmee crossing is the most significant crossing along the FSC pipeline with an HDD distance of approximately 5,800 feet. Lake Kissimmee (MP 54) and Blanket Bay Slough (MP 59) will be crossed using HDD construction methods while all other waterbodies in Osceola County will be crossed using dry open cut methods.

Okeechobee County

The FSC pipeline crosses eleven waterbodies in Okeechobee County, which include a lake and seven perennial streams/canals, two intermittent waterbodies, and one pond (see Table 2.3-1). The following named streams are crossed in Okeechobee County: Parker Slough, Sweetwater Branch, Boggy Branch, Fort Drum Creek, Fort Drum Creek tributary, and Cow Creek tributary. Boggy Branch at Indian Hammock Trail (MP 84.3), a pond (MP 84.4), a perennial stream (MP 98.7), and an intermittent stream (MP 98.8) will be crossed using HDD. FSC has proposed to cross the remaining waterbodies in Okeechobee County using the dry open cut method.

St. Lucie County

The FSC pipeline crosses six waterbodies in St. Lucie County, which includes three perennial streams/canals and three intermittent waterbodies (see Table 2.3-1). Cypress Creek is the single named waterbody crossings in St. Lucie County. Twoperennial streams will be crossed via the HDDmethod at MP 105.5, and the 44-foot canal crossing near the C-23 Canal right-of-way at MP 47114.7 will be crossed using HDD construction techniques. The three remaining waterbodies in St. Lucie County will be crossed using dry open-cut techniques.

Martin County

The FSC pipeline crosses three waterbodies in Martin County, none of which are named (see Table 2.3-1). The 42-foot crossing of the canal at MP 125.3 will be crossed using via bore method, while the remaining two waterbodies will be crossed using dry open-cut techniques.

2.3.3.2 Access Roads, and Contractor Yards

Access roads associated with the FSC Project will cross four waterbodies and there are three waterbodies associated with FSC contractor yards (Table 2.3-1). Flow within these waterbodies will not be affected.

2.3.4 Sensitive Surface Waters

Sensitive surface waters include all waterbodies that do not meet state water quality standards or have been designated for intensive water quality management, waterbodies containing federally or state-listed threatened or endangered species or critical habitat, waterbodies that support fisheries of special concern, waterbodies that are crossed near a surface water intake, and any waterbodies afforded national or state status for exceptional quality, and waterbodies listed on the National Rivers Inventory ("NRI"). Other factors that can provide a basis for sensitivity include the location of a waterbody within a protected watershed, steep banks and other characteristics that might contribute to high risk of erosion impacts, and important riparian areas. Table 2.3-3 identifies all sensitive waterbodies crossed by the FSC pipeline and indicates the basis for their sensitivity. Sensitive waterbodies include impaired surface waters and are described in further detail in the sections below.

2.3.4.1 Impaired Surface Waters

As part of state water quality assessments, Section 303(d) of the federal CWA mandates that states must prepare a list of all waters that do not meet the water quality criteria for their designated uses and develop for each a Total Maximum Daily Load ("TMDL"), which establishes the maximum allowable discharge into a waterbody to better control for pollutant levels. Waters that do not meet these water quality criteria are considered impaired surface waters and can be impaired due to fecal coliform, dissolved oxygen levels and contaminated sediments. To determine whether any impaired waterbodies will be affected by the FSC Project, FSC reviewed the most recent comprehensive 303(d) list for Florida to identify any waterbodies crossed by the pipeline that are included in USEPA Categories 4 and 5. This list contains waterbody-parameter combinations that have been verified as impaired based on criteria and assessment methodologies in chapters 62-302 and 62-303, FAC, respectively. Category 4 includes waterbodies where TMDLs have been completed or cannot be completed due to the nature of the contamination, and Category 5 includes waterbodies where TMDLs need to be developed by the state.

Based on a review of the 303(d) list and a review of the online NEPAssist map, the FSC pipeline will cross one impaired waterbody, Fort Drum Creek, which is impaired for fecal coliform, at MP 88 (Table 2.3-3) (USEPA, 2014b).

2.3.4.2 Waters Containing Federally or State-listed Threatened or Endangered Species or Critical Habitat

None of the waterbodies affected by the FSC Project contain, or have the potential to contain, species managed by the National Marine Fisheries Service. In addition, they do not support essential fish habitat ("EFH") as defined under the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265 as amended through January 12, 2007). As the FSC

Project occurs well inland of saltwater or tidal waters, there are no saltwater marine or estuarine fisheries habitats, and no anadromous or diadromous fish runs that occur within the FSC Project area. Furthermore, no state or federally-listed threatened or endangered ("T&E") or candidate species fish species occur within the FSC Project area. See Section 3.2 of Resource Report 3 for additional information on fisheries.

2.3.4.3 Waters that Support Fisheries of Special Concern

Waterbodies contain fisheries of special concern if they have fisheries of important recreational value, support natural coldwater fisheries, are included in special state fishery management regulations, or provide habitat for federally or state-listed threatened or endangered species, or candidate threatened or endangered fish species. Waterbodies that contain EFH, or have significant economic value because of fish stocking programs, commercial fisheries, or tribal harvest, are also considered sensitive because of fisheries of special concern.

As previously discussed, no listed T&E fish species (federal or state) or EFH are known to occur within any of the waters crossed by this project and FDEP has not mandated any time-of-year restrictions for work in waterbodies. No areas identified as significant fisheries habitat are present along the FSC Project with the exception of the Lake Kissimmee, which is a recreational fishery resource. The FSC Project will not have an adverse impact on Lake Kissimmee since the crossing of the lake will be by HDD (see Section 2.3.7.6). All other fishing lakes, rivers, or significant streams are avoided by the FSC Project and its construction methods. On small waterbodies where HDD is not used, impacts will be minimized and temporary. There will be no impacts on fisheries of special concern as a result of the FSC Project.

2.3.4.4 Waters Utilized as Surface Water Supplies and Potable Water Supply Intakes

The FDEP has the primary role of regulating public water systems in Florida. Authority derives from Chapter 403, Part IV, Florida Statutes and by delegation of the federal program from the USEPA. In Florida, assessment areas for community public water supply systems supplied by surface water are determined by using the 72-hour upstream flow, combined with the 100-year floodplain and a 200-foot buffer zone around the intake structures (FDEP, 2004). Based on an assessment of GIS data, no surface water intakes or water supply watersheds have been identified near the FSC Project facilities (FDEP, 2014).

2.3.4.5 National Rivers Inventory

The National Rivers Inventory ("NRI") designates over 3,400 free flowing river segments in the U.S. that possess outstandingly remarkable natural or cultural values, which are considered to be of national significance (NPS, 2007). The NRI is maintained by the National Park Service as a list of river segments that potentially qualify as national wild, scenic or recreational river areas. All federal agencies must seek to avoid or mitigate actions that would adversely affect one or more NRI segments. FSC reviewed the NRI list and determined that the FSC Project area does not include any river segments on the NRI list.

2.3.4.6 State Recognized Outstanding Quality Waters

In Florida, a waterbody can be designated as an Outstanding Florida Water ("OFW") if it is worthy of special protection because of its natural attributes. This special designation is intended to protect and maintain existing ambient quality. OFWs generally include the following surface waters:

- Waters in National Parks, Preserves, Memorials, Wildlife Refuges and Wilderness Areas;

- Waters in the State Park System and Wilderness Areas;
- Waters within areas acquired through donation, trade, or purchased under the Environmentally Endangered Lands Bond Program, Conservation and Recreation Lands Program, Land Acquisition Trust Fund Program, and Save Our Coast Program;
- Rivers designated under the Florida Scenic and Wild Rivers Program, Federal Wild and Scenic Rivers Act of 1968 as amended, and Myakka River Wild and Scenic Designation and Preservation Act;
- Waters within National Seashores, National Marine Sanctuaries, National Estuarine Research Reserves, and certain National Monuments;
- Waters in Aquatic Preserves;
- Waters within the Big Cypress National Preserve;
- Special Waters as listed in paragraph FAC 62-302.700(9)(i); and
- Certain Waters within the Boundaries of the National Forests (FAC 62-302.200 (26)).

Based on a review of the OFW GIS data layer (FDEP, 2006), the FSC Project does not cross any OFWs.

2.3.5 Waterbodies with Contaminated Sediments

The Section 303(d) impaired waterbodies described in Section 2.3.4.1 and Table 2.3-3 provided the basis for identifying waterbody crossings that may have the potential for encountering contaminated sediments. The FSCProject will not cross any waterbodies with sediment contamination. The single impaired waterbody crossed (Fort Drum Creek) is impaired for fecal coliform, which is a concern for water quality and not sediment contamination.

2.3.5.1 Additional Temporary Workspace

In general, additional temporary workspace (“ATWS”) is typically required on both sides of a waterbody crossing for spoil storage. These work areas will be located at least 50 feet away from the waterbody edge, topographic and other site specific conditions permitting. If conditions do not permit a 50-foot setback, FSC will request deviations from FERC’s Wetland and Waterbody Construction and Mitigation Procedures (“FERC Procedures”). Table 2.3-4 identifies the locations where ATWS waterbody setback deviations are requested by FSC.

2.3.6 FEMA Flood Zones

FSC reviewed available federal digital flood data to identify proposed crossings of areas subject to flooding and high volume flows. Flood zones are geographic areas that the Federal Emergency Management Agency (“FEMA”) has defined according to varying levels of flood risk and type of flooding. These zones are depicted on the published Flood Insurance Rate Map or Flood Hazard Boundary Map. Special Flood Hazard Areas represent the area subject to inundation by 1-percent-annual chance flood (FEMA, 2014). Table 2.3-5 identifies FEMA Flood Zones crossed by the FSC Project.

The only aboveground facilities located in floodplain are three mainline valve facilities located at MP 0, MP 4.3 and MP 53.7. The impact of the construction of mainline valves in floodplain is not anticipated to have any significant impact on the floodplain. The volume of floodwaters that would be displaced by the presence of the mainline valve is negligible given the small volume that each mainline valve will occupy within the floodplain.Waterbody Construction Methods

The FSC pipeline segments will cross a total of 43 waterbodies. The waterbody construction procedures described below and the use of FSC's Procedures will minimize impacts.

2.3.6.1 General Procedures

Following surveying and staking, it is necessary to mobilize the required equipment at the waterbody crossing. To facilitate this process where HDD is not proposed, temporary bridges may be constructed across the waterbody during clearing and grading activities for construction equipment. Any temporary bridges will be removed during final restoration.

In general, construction equipment and vehicle refueling and lubricating takes place in upland areas located more than 100 feet from the edge of a waterbody (or wetland), where practicable. In addition, fuels, lubricating oils, petroleum products, and other hazardous materials are not stored within 100 feet of an aquatic resource. However, instances may arise where equipment refueling and lubrication near or in a waterbody are necessary. For example, stationary equipment, such as a hydrostatic test water pump or pumps needed to perform a dam and pump crossing, may need to operate continuously on the bank of a waterbody. The SPC Plan addresses the handling of fuel and other hazardous materials in or within 100 feet of a waterbody, which may be approved with conditions by the Environmental Inspector ("EI") assigned to the FSC Project.

If trench dewatering is necessary in or near a waterbody, the removed trench water will be discharged into an energy dissipation/sediment filtration device, such as a geotextile filter bag or straw bale structure located away from the water's edge to prevent heavily silt-laden water from flowing into the waterbody in accordance with the FSC Plan and Procedures and all applicable permits. Monitoring will be conducted to ensure that all flow from the structure is infiltrating into the underlying soil. See Section 1.7.1.2 of Resource Report 1 for additional waterbody construction-related information.

2.3.6.2 Clearing

Clearing involves the removal of all trees and brush from the construction workspace. Woody vegetation along the permanent easement is cleared to the edge of the waterbody. However, where available, a 50-foot wide herbaceous strip is left on the approach until immediately prior to construction to provide a natural sediment filter. This strip helps minimize the potential for erosion adjacent to the waterbody and sedimentation from cleared upland areas. With the exception of stream buffers and wetlands, stumps are typically removed over the width of the permanent right-of-way. During clearing, temporary erosion control devices (sediment barriers) will be installed and maintained adjacent to the waterbody and within the construction work area as needed to minimize the potential for sediment runoff.

2.3.6.3 Temporary Erosion and Sediment Control

Immediately following initial ground disturbance, sediment barriers will be installed along waterbody boundaries within the right-of-way and along limits of the right-of-way upslope of waterbodies. All sediment barriers will be maintained during construction and repaired as necessary until permanent erosion controls, or restoration of adjacent upland areas, is complete in accordance with FSC's Procedures.

2.3.6.4 Equipment Bridges Across Waterbodies

Where necessary, FSC will install temporary equipment bridges across waterbodies for access along the proposed right-of-way. Equipment bridges will generally be constructed of culverts (or flumes) and clean rock-fill or free-spanning bridges (See Figure 1.7-4 in Resource Report 1).

A culvert or flume bridge involves using flume pipes to convey the flow of water, with the number of flumes needed dependent on the potential flow of water at the time of construction.

Each bridge will typically be designed to accommodate the highest stream flow expected to occur. Bridges will be maintained to prevent soil from entering the waterbody and to prevent restriction of flow, bank erosion, and stream scour during the period of time that the bridge is in use. After the bridges are removed, disturbed areas will typically be restored to existing conditions. See Section 1.7.1.2 of Resource Report 1 for additional information on equipment bridges across waterbodies.

2.3.6.5 Standard Crossing Methods

FSC understands FDEP's turbidity limits in surface waters and will work to minimize turbidity through the use of FSC's Procedures. FSC has requested a variance for the turbidity standard from FDEP and expects to receive this as part of its ERP permit. A dry crossing method (flume, bore, or dam-and-pump) will be used to install Project pipeline facilities at all waterbody crossing locations if there is flowing water at the time of construction. Agricultural ditches will also be crossed by open-cut dry crossing methods (flume, bore, dam-and-pump, or canal crossing methods) as described below. Waterbody crossing plans showing typical cross-sections of the various methods that may be employed are provided in Figures 1.7-6, 1.7-7 and 1.7-8 in Resource Report 1. The proposed waterbody crossing method for each waterbody crossed by the proposed pipeline is provided in Table 2.3-1.

To minimize potential impacts, waterbodies, streams, and rivers will be crossed as quickly and as safely as possible. Adherence to the construction procedures will ensure stream flow will be maintained throughout construction. The FDEP has not established any time-of-year work restrictions for stream crossing work. Stream crossings will be completed using conventional backhoe-type equipment and dry-crossing techniques, which are described in further detail in the following section and in Section 1.7.1.2 of Resource Report 1.

Flume Method

Flumes will be installed with sufficient capacity to transport the maximum flows that could be generated seasonally within the waterbody. The flumes, typically 40 to 60 feet long, will be installed prior to trenching and aligned to prevent impounding of water upstream of the construction area or to cause bank erosion downstream. The flumes will remain in place during pipeline installation, backfilling, and stream bank restoration. See Figure 1.7-4 in Resource Report 1 for typical flume method crossing plan.

Extended reach backhoes or similar equipment working from one or both banks will excavate the trench across the waterbody and under the flume pipes. After the trench is excavated to the proper depth, a prefabricated section of pipe will be positioned and lowered into the trench. The trench then will be backfilled with the excavated material from the stream.

Once the pipeline installation work is complete, the bottom contours of the streambed and the stream banks will be restored to preconstruction contours.

Dam-and-Pump Method

The dam-and-pump method involves installing temporary dams upstream and downstream of the proposed waterbody crossing. After dam installation, appropriately sized pumps will be used to transport the stream flow around the construction work area. Figure 1.7-5 in Resource Report 1 illustrates a typical dam-and-pump waterbody crossing.

Once the water has been successfully diverted, the trench will be excavated, and the pipeline installed. Erosion controls such as silt fences will be used to contain spoil materials and prevent

downstream sedimentation from upland areas. Following the installation of the pipeline, the trench will be backfilled, the dams will be removed, and the waterbody will be restored to its preconstruction contours.

Canal Crossing Method

A specialized canal crossing method will be utilized to cross the numerous canals along the FSC pipeline route. Temporary trench plugs will be installed upstream and downstream of the crossing location and the area of the canal between the trench plugs will be dewatered. Soil, sand bags or foam walls will be used to build the trench plugs that will act as dams within the canal or waterbody. The trench will be excavated using standard trenching techniques and the pipeline will be installed within the trench. After the trench is backfilled, the temporary trench plugs will be removed and water flow will be restored.

2.3.6.6 Horizontal Directional Drill

The FSC Project proposes to use HDD in nine crossing locations: Johnson Avenue at MP 12; Weohyakapka (Walk-in-Water) Creek at MP 38; Lake Kissimmee at MP 54; Blanket Bay Slough at MP 59; Boggy Branch at MP 84; Indian Hammock Trail at MP 85; Cow Creek at MP 99; SR 70 at MP 106; the C-23 Canal right-of-way and CSX railroad near MP 115; and SR 710 and the CSX Railroad at MP 124. The HDD crossings at MP 12 and 115 are proposed due to the complexity of manmade facilities the pipeline will cross. The Lake Kissimmee HDD is proposed to reduce the acreage of wetland impacts, avoid a state-owned parcel, and increase collocation with SR 60. The other HDD crossings are proposed to avoid impacts to sensitive wetland habitats, some in combination with other features like roads and railroads. See Appendix 1A in Resource Report 1 for the HDD crossing plan for Lake Kissimmee. Anticipated hydrostatic test water volumes for the HDD pull sections are provided in Table 2.3-66.

A contingency plan outlining procedures to be implemented in the case of drill failure or the inadvertent release of drilling fluid during use of HDD is provided in Appendix 2A.

2.3.7 Surface Water Impacts and Mitigation

All waterbody impacts are proposed to be temporary in nature and limited to the construction time frame. The FSC Project is not anticipated to result in permanent fill or excavation in any waterbodies. Each waterbody crossing will be restored to its preconstruction contours and stabilized to minimize erosion. There will be temporary impacts on a number of natural streams, manmade ditches, and lakes, with a combined total impact area of approximately 5.7 acres. The Lake Kissimmee crossing will be constructed using HDD, which will minimize any temporary impacts at this location. The other waterbody crossings will be done using dry open-cut methods as depicted in Figures 1.7-5 and 1.7-6 in Resource Report 1, unless not feasible upon which the open cut method would be used in accordance with applicable regulatory approvals (Figure 1.7-3). The applicability of these crossing methods will include agricultural ditches, which are classified as wetlands.

Pipeline construction across rivers and streams, or adjacent to surface waters, can result in temporary and long-term adverse environmental impacts if best management practices (“BMPs”) are not utilized. Project construction may result in removal of riparian and aquatic vegetation, streambed and bank modifications, and sedimentation of waterbodies (from adjacent landscape as well as in-stream disturbance). In-stream trenching may lead to temporary increases in turbidity levels within waters downstream of the crossing. These activities may impact water quality, aquatic habitats, and fishery resources of surface waters, both directly and indirectly in the short-term.

Long-term impacts on water quality can result from alteration of stream banks and removal of riparian vegetation. If not stabilized and re-vegetated properly, soil erosion associated with surface runoff and stream bank sloughing can result in the deposition of large quantities of sediment into the waterbody over the long-term. Prolonged periods of exposure to high levels of suspended solids have been linked to fish egg and fry mortality and degradation of spawning habitat from the infiltration of the sediments in the stream bed. Potential impacts on fisheries resources from sedimentation are discussed further in Section 3.2.4 of Resource Report 3.

Impacts on waterbodies were initially eliminated or reduced to the extent practicable by using the following standards:

- Conducting an alternatives analysis to identify a route that will meet the project objectives while avoiding and minimizing environmental impacts on the maximum extent practicable;
- Avoiding permanent loss of waterbodies, by locating all permanent aboveground facilities in uplands;
- Limiting the corridor and construction right-of-way to previously disturbed areas (e.g., electric transmission line corridors, other pipeline corridors, and road and railroad right-of-ways) as much as practicable;
- Minimizing the width of the construction right-of-way through wetlands and waterbodies to 75-foot-wide compared to the typical 100-foot-wide construction width through uplands, as much as practicable;
- Minimizing impacts on sensitive environmental features by using specialized construction techniques where appropriate;
- Locating additional temporary work space within existing utility/transportation corridors to the maximum extent practicable or in other upland areas;
- Locating ATWS 50 feet back from wetlands and open water, wherever possible; and
- Implementing BMPs and effective soil erosion control measures (e.g., silt fence, straw bales); including routine inspections during construction and until soil stabilization has occurred.

Short-term and long-term construction impacts on waterbodies will be further minimized by utilizing the appropriate waterbody crossing construction procedures and BMPs in the FSC Plan and Procedures. To minimize the potential for sedimentation of waterbodies caused by erosion from the adjacent landscape, trench spoil that is excavated from streambeds and banks will be placed in the ATWS at least 10 feet from the top of the waterbody bank. Erosion control devices, such as silt fences and straw bales, will be placed at the downslope edges of the spoil piles to prevent sediment from entering the waterbody. Dewatering operations will be closely monitored and water will be discharged to appropriate receiving structures. When dewatering near sensitive waterbodies, secondary containment structures will be utilized. Once the pipeline is placed in the trench, the temporarily stored spoil material will be returned to the trench and the stream banks and streambed will be restored as close to their pre-construction contours as feasible. Stream banks and riparian areas will then be re-vegetated in accordance with the FSC Plan and Procedures and any applicable agency requirements.

2.3.7.1 Horizontal Directional Drill

FSC is proposing to use nine HDD's to install specific segments of the pipeline, one of which will cross under surface waters at Lake Kissimmee. The locations of the HDDs, volumes of

hydrostatic test water that will be used at each location and hydrostatic test water sources (if known) are presented in Table 2.3-6.

The use of HDD to cross Lake Kissimmee greatly minimizes the likelihood that construction will lead to impacts on water quality since it avoids direct disturbance of the waterbody and the waterbody sediments. This technique significantly reduces the potential for turbidity within the water column and direct disturbance of aquatic plants and animals that utilize the river substrate for habitat. Nonetheless, HDD does have potential to cause other impacts not associated with typical open-cut crossing methods that are described below.

While the HDD method is a proven technology, there are certain impacts that could occur as a result of the drilling, such as the inadvertent release of drilling fluid. Drilling fluid is composed of a slurry of bentonite clay and water, which is typically mixed with additives. The drilling fluid is classified as non-toxic to the aquatic environment and is a non-hazardous substance. Additional drilling fluid additives may include the following: PAC-LP, xantham gum, PHPA, rod ease, Lubra Star-Plus, sapp/soap sticks. These additives are used as needed to control drilling fluid loss, enhance cutting suspension, lubricate cuttings, lubricate mechanical parts and to soften clays. During HDD operations, drilling fluids can be partially absorbed by fractures within the formation that the drill path penetrates. In the event of a vertical fracture, it is possible that the drilling fluids will follow the fracture to the surface, which would result in an inadvertent fluid release.

If there is an inadvertent release of drilling fluid, the discharged material would be localized to the release area, is non-toxic, and can often be cleaned up. The drilling fluid consists of bentonite clay slurry that is denser than water, which increases the opportunity to capture the material. The drilled spoil would settle in the immediate vicinity of the inadvertent release location. Drilling fluids released would tend to disperse near the bottom of the water column, but because of the fine particle size of the material, there may be temporary increases in turbidity. To address this potential impact, FSC has prepared a Horizontal Directional Drill Contingency Plan to monitor the HDD program for the FSC Project (see Appendix 2A).

Geotechnical study results for the FSC Project provide information on the likelihood that the HDDs will encounter karst topography. Twenty-three (23) geotechnical borings were performed during the design phase of the nine HDD crossings included in the FSC Project. The depth of these 23 geotechnical borings ranges from 75-ft below ground surface to 150-ft below ground surface. The termination depth of all the geotechnical borings were below the maximum pipeline depths of the associated HDDs. The principal findings of the geotechnical investigation indicate that the subsurface conditions mostly consist of cohesion less (sand) with some locations containing layers of cohesive soils (silts and clay). Additionally, shell fragments, shells and cemented shells were recovered at some of the boring locations. No gravel or rock formations were encountered during the field exploration. Therefore FSC does not anticipate encountering any sinkhole development typical to karst formations during the nine HDDs included in the FSC project.

After each HDD is complete, the drilling mud and cuttings from the drilled hole will typically either be provided to private landowners for use in agriculture or hauled to a company approved disposal facility.

2.3.7.2 Hydrostatic Tests and Dust Control

FSC estimates that a maximum of approximately 29,036,000 gallons of water will be needed for hydrostatic testing of the proposed pipeline facilities. Municipal water will be used when feasible and surface water will be used absent a viable municipal water option for dust control. Groundwater is not proposed to be used as a water source. Hydrostatic test water will be

discharged to an upland location at a rate that does not exceed the capacity of the discharge structure to function properly. The sources and volumes of water that will be needed for hydrostatic testing and dust control will be determined when applications for water use permits are filed with each the appropriate Water Management District crossed by the FSC Project. Accordingly, each Water Management District will play a role in determining the source and volume that will be permitted for hydrostatic testing and dust control. FSC is initially intending to use the Lake Kissimmee at MP 53 and the C-23 Canal at MP 115 as the primary source and discharge location of hydrostatic test water. Additional sources and discharge locations of hydrostatic test water will be evaluated as the FSC Project advances. FSC will file the discharge locations with the FERC once complete.

In Project areas that contain karst formations (especially in karst region III in Polk and Osceola Counties) hydrostatic test water from the pipeline will not be discharged directly into the buffer zone of a karst feature (see Appendix 6B in Resource Report 6). This water will be discharged down gradient of the karst feature. If site conditions prevent a down gradient discharge, the water will be discharged as far from the karst feature buffer zone as is practicable with a filtered discharge and sediment and erosion control features detailed in the FSC Project's Plan and Procedures (Appendix 1F and 1G in Resource Report 1). Post-construction monitoring will ensure proper re-vegetation and restoration of these areas.

Environmental impacts from the discharge of hydrostatic test water will be minimized by using the measures prescribed in FSC's Procedures. FSC will:

- Locate hydrostatic test manifolds outside of wetlands and riparian areas, to the extent practicable;
- Comply with all appropriate permit requirements;
- Not discharge directly into state-designated special waters, waterbodies that provide habitat for federally listed T&E species, or waterbodies designated as public watersupplies, unless the relevant federal, state, and local permitting agencies grant written permission;
- Not discharge water directly into surface waters or wetlands. Discharge test water to a well-vegetated and stabilized area, if practical, and maintain at least a 50-foot vegetated buffer from adjacent waterbody/wetland areas. If an adequate buffer is not available, sediment barriers or similar erosion control measures will be installed;
- Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent sedimentation and streambed scour; and
- Obtain a NPDES permit from the FDEP if water is discharged to a water of the United States.

FSC does not anticipate using chemicals for testing or for drying the pipeline following hydrostatic testing. Pumps used for hydrostatic testing located within 100 feet of any surface water will be operated and refueled in accordance with the SPC Plan.

The FSC Project facilities to be hydrostatically tested consist of new, clean pipeline and, therefore, impacts on surface waters are not anticipated. Sampling of discharge water will be conducted in accordance with permit requirements and FSC's Procedures to document water quality at the time of discharge.

2.3.7.3 Contaminating Material Spills

Other potentially deleterious impacts include accidental hazardous material spills resulting from refueling and maintaining construction equipment, fuel storage, or equipment failure in or near a waterbody. These could have immediate effects on aquatic resources and contaminate the waterbody downstream of the release point.

Any hazardous materials, chemicals, lubricating oils, solvents, or fuels used during construction will be stored in upland areas at least 100 feet from wetlands and waterbodies as required by SPC Plan (See Appendix 7C in Resource Report 7). All such materials and spills (if any) will be handled in accordance with the SPC Plan. Except where absolutely necessary, or required to otherwise minimize overall impacts on the environment, there will be no refueling or lubricating of vehicles or equipment within 100 feet of a waterbody. Under no circumstances will refuse be discarded in waterbodies, trenches, or along the construction corridor. In accordance with the SPC Plan, FSC will conduct routine inspections of tanks and storage areas to help reduce the potential for spills of hazardous materials. Specific measures are discussed in the SPC Plan (Appendix 7C of Resource Report 7).

2.3.7.4 Temporary Access Roads

To minimize impacts at waterbody crossings during construction, FSC will implement procedures for access road crossings of waterbodies outlined in FSC's Procedures.

2.3.7.5 Restoration

Completed stream crossings will be stabilized within 24 hours of backfilling. Original stream bed and bank contours will be re-established, and appropriate slope stabilization methodologies will be used to encourage reestablishment of vegetation cover. Where the flume technique is used, stream banks will be stabilized before removing the flume pipes and returning flow to the temporarily isolated channel segment.

Seeding of disturbed right-of-way approaches to stream crossings will be completed immediately after final right-of-way grading in accordance with the FSC's Procedures, weather and soil conditions permitting. Where necessary, slope breakers (i.e., interceptor dikes), will be installed adjacent to stream banks to minimize the potential for erosion. Temporary sediment barriers, such as silt fences or straw bales, will be maintained across the right-of-way until a permanent vegetation cover is established. For certain waterbodies, site-specific restoration and habitat enhancement measures will be implemented.

Within the construction right-of-way, a 25-foot-wide riparian strip adjacent to waterbodies will be allowed to revegetate with native plant species. To facilitate periodic corrosion/leak surveys in forested wetlands, a corridor centered on the pipeline and up to 10 feet wide will be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, in wetlands, trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating will be selectively cut and removed from the permanent right-of-way as needed.

2.3.7.6 Right-of-Way Maintenance

Minor long-term impacts associated with pipeline operations and maintenance will largely be restricted to periodic clearing of vegetation within the permanent right-of-way at waterbody crossings. These maintenance activities will be consistent with the FERC's Procedures, which have been fully integrated into the FSC's Procedures.

2.4 Wetlands

Wetlands are areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Typical wetlands include swamps, marshes, bogs, wet meadows, and similar areas. Wetlands also included many of the agricultural drainage ditches (such as those between MP 114 and MP 118) that occur in the FSC Project area, which were classified as wetlands as opposed to waterbodies. Wetlands along the FSC Project route are waters of the U.S. as defined in Section 404 of the federal CWA and are regulated by the USACE.

FSC delineated wetlands and waterbodies and completed a wetland functional assessment along the FSC Project. Wetlands and waterbodies were delineated and assessed within a 300-foot-wide survey corridor along the length of the 126-mile-long pipeline route, an approximately 120-foot-wide survey corridor centered over all potential access roads, and a number of contractor yards/station sites. The wetland delineation was performed using a combination of desktop review of existing data and maps as well as a field survey. National Wetlands Inventory ("NWI") maps for the Project area are provided in Appendix 1A in Resource Report 1.

2.4.1 Status of On-Site Field Surveys

After reviewing desktop sources, which included NWI maps and Natural Resource Conservation Service soil survey data, FSC conducted field wetland delineations for the linear corridor and additional work areas where survey access was granted by the landowner. The surveys were completed between July 22, 2013, and January 31, 2014, by qualified wetland scientists. Potentially jurisdictional wetlands/waters were identified using the currently accepted methods for the state of Florida and United States (i.e., FDEP regulations; Sections 62-301 and 62-340, FAC, including the *Florida Wetlands Delineation Manual* [1995] and the Routine Onsite Determination Methods as described in the *USACE 1987 Wetlands Delineation Manual* (Environmental Laboratory, 1987), the *2010 Regional Supplement to the USACE Wetlands Delineation Manual: Atlantic and Gulf Coastal Plan Region* [Version 2.0], and the most current vegetative index, respectively). Both state and federal methodologies involve identifying three wetland criteria: a predominance of hydrophytic vegetation, the presence of hydric soil indicators, and evidence of wetland hydrology. Agricultural ditches that met these wetland criteria were classified as wetlands and not waterbodies.

Approximately 142 acres, or nine percent, of the survey corridor area were assessed using a desktop evaluation rather than field survey. This was done for a combination of reasons including denied environmental survey access by the landowner or recent project additions or reroutes. In these locations, the baseline ecological characterization was performed using a combination of a desktop survey (i.e., review of maps and existing permits/literature/reports) and visual inspection from roadside, etc., where possible.

FDEP staff met with the FSC Project team to review the wetland delineation in the field during the week of January 7, 2014. The review covered areas that had been field-delineated and where survey permission/access was available. Minor changes were made to some of the wetland lines. The data presented in this Resource Report include the changes requested and made during the FDEP field review.

2.4.2 Wetlands Crossed by the FSC Project

Wetlands crossed by the FSC pipeline and aboveground facilities are presented in the Alignment Sheets included as Appendix 1A in Resource Report 1. A total of 1,155 wetland

polygons[1] were delineated within the FSC survey corridor. Wetlands encompass approximately 1,071 acres and are distributed throughout the Project area. A variety of wetland types are present, and a complete listing of wetland crossings, including crossing length and total impact on each wetland, is provided in Table 2.4-1. A summary of wetland impacts to various wetland types is presented in Table 2.4-2. The FSC pipeline does not cross any known special or significant wetland habitats.

The majority of wetlands within the FSC Project area are non-forested, freshwater marshes. Other prevalent wetland types include shrub wetlands, mixed wetland hardwoods, mixed hardwood/conifer forested wetlands, and wet prairie. Freshwater marshes are associated with roadside and agricultural swales and conveyances, wet pastures, and transmission line rights-of-way, as well as natural marshes. Wet prairies have developed in wetter agricultural areas. Forested wetlands are associated with stream systems, hydric hammocks, cypress domes, gum swamps, and wet pine flatwoods.

The functional quality of wetlands along the FSC Project route varies significantly. Those wetlands in existing linear corridors (e.g., roadside, transmission line) and agricultural areas tend be lower quality with weedy and invasive species and affected hydrology. The higher quality wetlands are primarily those forested areas associated with stream systems such as Snell Creek, Weohyakapka Creek, Parker Slough, Sweetwater Branch, Fort Drum Creek, Cow Creek, and Cypress Creek.

Wetland types were classified based on the NWI classification system as described in Cowardin *et al*., 1979. This classification is a hierarchical system based primarily on the general classification into marine, estuarine, palustrine (freshwater wetland), riverine (stream), or lacustrine (lake) systems, and the dominant vegetation layer. Three different wetland types, all from the palustrine system, were delineated along the FSC Project route. NWI maps of the FSC Project facilities have been included in Appendix 1A in Resource Report 1.

Forested wetland cover types are dominated by trees and shrubs that have developed a tolerance to a seasonal high water table. In order to be characterized as forested, a wetland must be dominated by trees and shrubs that are at least six meters tall (Cowardin *et al*., 1979). Forested wetlands typically have a mature tree canopy, which depending upon the species and density, can have a broad range of understory and groundcover community components.

The scrub-shrub wetland cover type includes areas that are dominated by saplings and shrubs that typically form a low and compact structure less than 20 feet tall (Cowardin *et al*., 1979).The structure and composition of the vegetation within this cover type may be influenced by the water regime and, where located within existing right-of-ways, by utility maintenance practices. Most of these communities are seasonally flooded and often saturated to the surface. Many of the scrub-shrub wetlands along the pipeline route are often associated with emergent wetlands as part of large complexes.

The palustrine emergent wetland cover type is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin *et al*., 1979). The freshwater emergent wetlands along the route include areas commonly referred to as marshes, wet meadows, and wet prairies. The emergent wetland type exists on its own as well as in conjunction with other wetland types, creating a more heterogeneous wetland system.

[1] Multiple wetland polygons may delineate various sections of the same contiguous wetland system depending on wetland orientation with the survey corridor.

Given the number of wetland crossings (>1,000) associated with the FSC pipeline, individual descriptions of each wetland crossed have not been provided. Instead, a summary of the wetland plant communities that will be crossed by the pipeline has been provided below. The following wetland community descriptions are based on the *Florida Land Use, Cover and Forms Classification System Handbook* (FDOT, 1999).

Palustrine Forested Wetlands ("PFO")

Bay Swamps

Dominant trees within bay swamps include loblolly bay (*Gordonia lasianthus*), sweetbay magnolia (*Magnolia virginiana)*, swamp bay (*Persea palustris*), with slash pine (*Pinus elliottii),* and loblolly pine (*Pinus taeda*) as an associated component. Large gallberry (*Ilex coriacea)*, fetterbush (*Lyonia lucida*), wax myrtle (*Morella cerifera*), and titi (*Cyrilla* sp.) occur in the understory vegetation. This wetland type is not as common as some of the other forested communities, though it is present in scattered locations along the length of the corridor. Effects of the project on this community include temporary vegetation clearing and permanent conversion of forested wetland to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Gum Swamps

The gum swamp forest community is composed of swamp tupelo (*Nyssa biflora*) or water tupelo (*Nyssa aquatica*), or Ogeechee tupelo (*Nyssa ogeche*) which is pure or predominant. Associated species may include bald cypress (*Taxodium distichum*) and a great variety of wet site tolerant hardwood species widely variant in composition. This community type only occurs in one location along the project corridor, near MP 41. Effects of the project on this community include temporary vegetation clearing and permanent conversion of forested wetland to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Bottomland

This community, often referred to as bottomland or stream hardwoods, is usually found on but not restricted to river, creek and lake floodplain or overflow areas. Bottomlands include a wide variety of predominantly hardwood species. The more common components include red maple (*Acer rubrum*), river birch (*Betula nigra*), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), willows (*Salix* sp.), tupelos (*Nyssa* sp.), water hickory (*Carya aquatica*), bays, water ash (*Fraxinus* sp.) and buttonbush (*Cephalanthus occidentalis*). Associated species include cypress (*Taxodium* sp.), slash pine, loblolly pine and spruce pine (*Pinus glabra*). This community type only occurs in one location along the project corridor, near MP 8.7. It is assocated with an unnamed stream system. Effects of the FSC Project on this community include temporary vegetation clearing and permanent conversion of forested wetland to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Mixed Wetland Hardwoods

This category is reserved for those wetland hardwood communities which are composed of a large variety of hardwood species tolerant of hydric conditions, yet exhibit an ill-defined mixture of species. This community is very prevalent along the length of the corridor. Effects of the project on this community include temporary vegetation clearing and permanent conversion of forested wetland to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Willow and Elderberry

Willow occurs in pure stands or else is the dominant species in the willow-elderberry (*Sambucus* sp.) wetland. This community occurs in one location along the project corridor near MP 98.6. Effects of project on this community are limited to temporary clearing during construction. The vegetation community will be allowed to naturally revegetate following construction, so no permanent effects are anticipated.

Exotic Wetlands Hardwoods

The dominant species in this wetland community are exotic species such as Brazilian pepper (*Schinus terebinthifolius*), *Melaleuca* sp., or other exotic species. This community type occurs in in only a few locations along the project corridor, near MP's 102.8 and 123. The FSC ProjectProjectProjectProject will cause some temporary clearing as well as some limited permanent conversion of forested to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Cypress Swamp

Cypress swamps are composed of pond cypress (*Taxodium ascendens*) or bald cypress which occurs either as a pure monoculture or is otherwise dominant. Common associates of pond cypress are swamp tupelo, slash pine and black titi. Common associates of bald cypress are water tupelo, swamp cottonwood (*Populus heterophylla)*, red maple, American elm (*Ulmus americana*) pumpkin ash (*Fraxinus profunda*), Carolina ash (*Fraxinus caroliniana)*, overcup oak (*Quercus lyrata*) and water hickory. Bald cypress may be associated with laurel oak (*Quercus laurifolia*), sweetgum and sweetbay on less moist sites. This community is present along the length of the FSC project corridor. The FSC Project will cause some temporary clearing as well as some limited permanent conversion of forested to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Cypress-Pine-Cabbage Palm

This wetland community includes cypress, pine and/or cabbage palm (*Sabal palmetto*) in combinations in which no species is dominant. This community typically occurs along the edge of moist uplands and wetlands. This community type occurs in one location along the FSC project corridor, near MP 0.5. The FSC Project will cause some temporary clearing as well as some limited permanent conversion of forested to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Wet Pinelands Hydric Pine

This is a forested wetland community with a sparse to moderate canopy of slash pine. The understory is comprised of grasses, wiregrass, forbs, and at times with sparse saw palmetto (*Serenoa repens)*. This community occurs in limited locations along the project corridor, near MP's 10-13, 61.6, and 76.5. The FSC Project will cause some temporary clearing as well as some limited permanent conversion of forested to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Mixed Forested Wetland

Mixed wetland forest communities are forested wetlands in which neither hardwoods nor conifers achieve a 66 percent dominance of the crown canopy composition. This community is very prevalent along the length of the corridor. Effects of the FSC Project on this community include temporary vegetation clearing and permanent conversion of forested wetland to nonforested wetland. These effects will be compensated for by purchasing credits from an approved wetland mitigation bank.

Palustrine Scrub-Shrub Wetlands ("PSS")

Wetlands Shrub

Wetland shrub communities are associated with topographic depressions and poorly drained soil. Associated species include pond cypress, swamp tupelo, willows, and other low scrub with no dominate species. This community type occurs commonly along the length of the project corridor. There will be no permanent impacts on the wetland shrub community as a result of the FSC Project because the shrub vegetation will return following restoration.

Palustrine Emergent Wetland ("PEM")

Freshwater Marsh

Freshwater marshes are characterized by having one or more of the following herbaceous species comprise the majority of the community:

- Sawgrass (*Cladium jamaicensis*)
- Cattail (*Typha domingenis*, *Typha latifolia*, *Typha angustifolia*)
- Arrowhead (*Sagittaria* sp.)
- Maidencane (*Panicum hemitomon*)
- Buttonbush (*Cephalanthus occidentalis*)
- Cordgrass (*Spartina bakeri*)
- Giant Cutgrass (*Zizaniopsis miliacea*)
- Switchgrass (*Panicum virgatum*)
- Bulrush (*Scirpus americanus, Scirpus validus, Scirpus robustus*)
- Needlerush (*Juncus effusus*)
- Common Reed (*Phragmites communnis, Phragmites australis*)
- Arrowroot (*Thalia dealbata,Thalia geniuclata*)

This community is prevalent along the length of the FSC Project route. There will be no permanent impacts on freshwater marsh as a result of the FSC Project because the marsh vegetation will return following restoration.

Wet Prairie

Wet prairie is characterized by a plant community comprised primarily of grassy vegetation on hydric soils. It is usually distinguished from freshwater marsh by having shallower water levels and shorter herbage.

One or more of the following species typically occur in these communities:

- Sawgrass (*Cladium jamaicensis*)
- Maidencane (*Panicum hemitomon*)
- Cordgrasses (*Spartina bakeri, Spartina patens*)
- Spike Rushes (*Eleocharis* sp.)
- Beach Rushes (*Rhynchospora* sp.)

- St. John's Wort (*Hypericum* sp.)
- Spiderlily (*Hymenocallis palmeri*)
- Swamplily (*Crinum Americanum*)
- Yellow-eyed Grass (*Xeric ambigua*)
- Whitetop Sedge (*Dichromena colorata*)

This community type occurs commonly along the length of the project corridor. There will be no permanent impacts on wet prairie as a result of the FSC Project because the prairie vegetation will return following restoration.

Emergent Aquatic Vegetation

This category of wetland plant species includes both floating vegetation and vegetation which is found either partially or completely above the surface of water. Typical native species include water lily (*Nymphaeacea*) and spatterdock (*Nuphar* sp.), as well as nuisance/exotic species including water lettuce (*Pistia stratiotes*), water hyacinth (*Eichhornia* sp.), and duckweed (*Lemna* sp.). This community is primarily associated with drainage features and occurs in several locations along the Project, including near MPs 52-54 and MPs 109-117. There will be no permanent impacts on emergent aquatic vegetation as a result of the FSC Project because the emergent vegetation will return following restoration.

There will be no permanent impacts on emergent aquatic vegetation as a result of the FSC Project because the emergent aquatic vegetation will return following restoration.

2.4.2.1 Pipeline Facilities

Wetland areas delineated along the FSC pipeline are depicted on the alignment sheets located in Appendix 1A of Resource Report 1. The FSC pipeline facilities will impact a total of 942 wetlands. This count includes wetlands crossed within the FSC pipeline right-of-way (405 wetlands), wetlands within the ATWS (190 wetlands), and wetlands within the temporary construction easement (354 wetlands). As summarized in Table 2.4-2, tthe construction of the FSC pipeline will result in a total of 227.72 acres[2] of temporary wetland impacts for pipeline construction (does not include aboveground facilities, access roads, contractor yards or staging areas) and 36.96 acres of permanent wetland impact for the operation of the pipeline. Construction will temporarily impact 114.31 acres of PEM wetlands, 18.96 acres of PSS wetlands and 94.45 acres of PFO wetlands (does not include above ground facilities, access roads, contractor yards or staging), while operation will permanently impact 2.49 acres of PSS wetlands and 34.47 acres of PFO wetlands. Since temporarily disturbed wetlands will be returned to pre-construction conditions, there will be no permanent loss of wetlands. The only permanent wetland impacts associated with the FSC Project will be a conversion of 34.47 acres of forested wetlands to emergent or scrub-shrub wetlands and conversion of 2.49 acres of scrub-shrub wetlands to herbaceous wetlands as a result of vegetation maintenance of the permanent cleared right-of-way.

2.4.2.2 Aboveground Facilities

The proposed aboveground facilities of the FSC Project involve the construction and operation of a meter station and pig receiver at the terminus of the FSC Project at the FPL Martin Clean

[2] Includes impacts from pipeline right-of-way, ATWS and temporary easement in Table 2.4-2.

Energy Center and a pig launcher at the start of the FSC Project. Proposed activities at the FSC Project aboveground facilities will not have any impact on wetlands.

2.4.2.3 Access Roads

The temporary access roads ("TARs") required for the FSC Project will impact 77 wetlands, which include PEM, PSS and PFO wetlands. Project impacts from TARs will temporarily impact a total of 4.49 acres of wetlands, including 33.86 acres of impacts on PEM wetlands, 0.29 acres of impact on PSS wetlands, and 0.34 acres of impact on PFO wetlands. Since hydrologic conditions of wetlands temporarily disturbed as a result of construction will be returned to pre-construction conditions, there will be no permanent loss of wetlands. Accordingly, there will be no permanent impact on wetlands from the construction or operation of TARs.

2.4.2.4 Pipe Yards and Contractor Ware Yards

The FSC Project includes four currently identified pipe yards, contractor ware yards and staging areas located near MP 72, MP 77, MP 125, and MP 127. Generally, yards consist of previously disturbed areas devoid of vegetation and covered in gravel. Approximately 14.60 acres of PEM wetland and 9.28 acres of PFO may be temporarily affected within these yards (Table 2.4-2). Since hydrologic conditions and vegetation within wetlands temporarily disturbed as a result of construction will be returned to pre-construction conditions, there will be no permanent loss of wetlands.

2.4.3 Additional Temporary Workspace

ATWS may be needed adjacent to specific wetlands to facilitate the pipeline crossing. The size of ATWS areas is determined on a site-specific basis. The ATWS area is restricted to the minimum size necessary to safely construct the pipeline with respect to the existing conditions anticipated at the time of construction. Approximately12.17 acres of PEM, 0.93 acres of PSS and 7.77 acres of PFO wetland will be temporarily altered for ATWS (Table 2.4-2).

In addition to the typical construction right-of-way, staging areas may also be used for the assembly and fabrication of the pipe section that will cross wetland areas. These work areas will be located at least 50 feet away from the wetland edge, topographic and other site specific conditions permitting. If conditions do not permit a 50-foot setback, FSC is requesting deviations from the FERC Procedures. Table 2.3-4 identifies the locations where ATWS wetland setback deviations are requested along the FSC pipeline.

2.4.4 Wetland Construction Methods

General wetland construction crossing methods are described in the following sections.

2.4.4.1 General Procedures

Construction across wetlands will be performed in accordance with FSC's Procedures, which have been adopted from the FERC Procedures. These Plan and Procedures will be used unless a variance is approved by the FERC. FSC will minimize the extent and time that construction equipment operates in wetland areas. Prior to ground disturbing activities, wetland boundaries and buffers will be clearly marked in the field and maintained until ground-disturbing activities are complete. A complete description of construction methods can be found in FSC's Procedures, which is included as Appendix 1G in Resource Report 1.

2.4.4.2 Clearing

Clearing involves the removal of all trees and brush from the construction workspace. Vegetation will be cut just above ground level, leaving existing root systems intact. Stumps will not be removed from the wetland with the exception of those that interfere with excavation of the

trench. Treating stumps and root systems in this manner will help stabilize the soil and promote re-sprouting by some species. Debris will be removed from the wetland and stockpiled within an upland area of the right-of-way for disposal.

2.4.4.3 Temporary Erosion and Sediment Control

Sediment barriers will be installed along wetland boundaries within the right-of-way and along limits of the right-of-way upslope of wetlands immediately after initial ground disturbance. All sediment barriers will be maintained during construction and repaired as necessary until permanent erosion controls or restoration of adjacent upland areas is complete in accordance with the FSC Plan and Procedures.

2.4.4.4 Crossing Method

Construction across wetlands will be conducted in accordance with the measures set forth in FSC's Procedures. The wetland crossing methods are depicted and described in Figures 1.7-6, 1.7-7, and 1.7-8 in Resoure Report 1. The applicability of the specific wetland crossing procedure will depend on the hydrologic conditions at the time of the crossing. The FSC Project will have an approximately 100-foot wide construction right-of-way in upland areas and a 75-foot wide construction right-of-way in wetlands areas.

When wetland soils are inundated or saturated to the surface, the pipeline trench will be excavated across the wetland by equipment supported on wooden swamp mats to minimize the disturbance to wetland soils. In wetlands that have firm substrates, and are unsaturated, the top 12 inches of wetland soil over the trench line will be segregated. Trench spoil will be temporarily piled in a ridge along the pipeline trench. Gaps in the spoil pile will be left at appropriate intervals to provide for natural circulation or drainage of water. While the trench is excavated, the pipeline will be assembled in a staging area located in an upland area where practicable. If dry conditions exist within the wetland, the pipe fabrication will occur in the wetland. For inundated or saturated wetland conditions, pipe strings will be fabricated on one bank and either pulled across the excavated trench in the wetland, floated across the wetland, or carried into place and submerged into the trench.

2.4.4.5 Cleanup and Restoration

After the pipeline is lowered into the trench, wide track bulldozers or backhoes supported on swamp mats will be used for backfill, grading, and final cleanup. This method will minimize the amount of equipment and travel in wetland areas.

2.4.5 Wetland Impacts and Mitigation

The majority of the wetland impacts associated with the FSC Project will occur during construction. Construction activities that will impact wetlands include construction-related wetland crossings, and construction of TARs. Long-term right-of-way maintenance activities will have limited impacts on wetlands.

There will be no net loss of wetlands as a result of the FSC Project construction or operation as there are no permanent aboveground facilities proposed in wetlands. Although some permanent cover-type conversions will occur to some forested wetlands, there will be no permanent fill of wetlands during construction of the pipeline. The FSC Project will impact a total of 296.05 acres[3]

[3] Includes pipeline right-of-way, temporary easement, ATWS, access roads, contractor yards and both temporary and permanent impacts

of wetlands. The majority of these impacts will be temporary and will result from typical pipeline construction activities, such as vegetation clearing, temporary excavation of wetland soils, and ground disturbance from construction vehicles. Approximately256.09 acres of PEM, PSS and PFO wetlands will be temporarily affected as a result of project construction (Table 2.4-2). The creation and maintenance of a new right-of-way will lead to the permanent conversion of 34.47 acres of PFO wetlands to a non-forested wetland community (PEM or PSS) and 2.49 acres of PSS wetlands to PEM wetlands (Table 2.4-2).

FSC has assumed that all impacts are considered temporary unless there will be a permanent change in wetland type as described above, (i.e. permanent conversion of forested wetland to non-forested wetland within the permanent corridor). The FSC Project is not anticipated to result in permanent fill or excavation in wetlands. Impacts on PEM and PSS wetland systems are considered temporary as they will be restored to preconstruction condition once the pipeline has been installed. Construction and restoration activities in wetlands and waterbodies will be conducted in compliance with FSC's Procedures.

2.4.5.1 Temporary Construction Impacts and Mitigation

The FSC Project will temporarily impact 256.09 acres of wetlands (Table 2.4-2). The majority of the impacts are to PEM wetlands (approximately 132.77 acres). Approximately 19.25 acres of PSS wetlands will be temporarily impacted during construction. Most of the non-forested wetlands that will be temporarily affected are herbaceous freshwater marshes associated with roadside swales or cattle pastures. Approximately 104.07 acres of forested wetland will be temporarily affected during construction. The majority of these temporary wetland impacts are associated with mixed wetland hardwood systems or mixed forested wetlands.

Temporary wetland impacts associated with construction of the FSC Project facilities include the temporary removal of wetland vegetation, disturbance of wetland soils and temporary disturbance of wetland hydrology. Construction may lead to temporary changes in current wetland functions and values; however, FSC anticipates that affected wetlands will continue to provide numerous ecological functions such as sediment/toxicant retention; nutrient removal/transformation; flood attenuation; groundwater recharge/discharge; and wildlife habitat following construction and restoration.

Construction impacts on wetlands (including agricultural ditches) will be avoided or minimized by employing FSC's Procedures. Temporarily disturbed PEM, PSS and PFO wetlands will be allowed to revert to existing conditions once construction activities have been completed.

After construction is complete, the construction right-of-way will be restored to its preconstruction contours to avoid long-term impacts on wetland hydrology. In non-saturated wetland soils, the upper 12 inches of topsoil will be separated from the subsoil and replaced to the soil surface once the pipe is laid. This will minimize the loss of function provided by hydric soil characteristics such as organic matter accumulation and biogeochemical processes performed by wetland-specific microbial communities, as well as provide a seed source of existing wetland vegetation. The wetland vegetation will reestablish through natural succession once construction and restoration activities are complete. In emergent wetlands, the herbaceous vegetation is expected to regenerate quickly (typically within one growing season). Any agricultural drainage ditch banks that are disturbed will be restored following completion of construction.

Wetland areas delineated along the FSC pipeline are depicted on the alignment sheets located in Appendix 1A of Resource Report 1.

2.4.5.2 Permanent Construction Impacts and Mitigation

The FSC Project will result in a permanent conversion of 34.47 acres of forested wetland to non-forested wetland and 2.49 acres of PSS wetlands to PEM wetlands. These impacts are associated with the maintenance of a permanent right-of-way, which will be maintained by means of mechanical cutting and mowing as part of pipeline operation. A 30 foot wide section of the 50 foot permanent easement will be converted from forested wetland to emergent or scrub shrub wetland, which will not be permitted to revert to a forested wetland community after construction. A 10 foot wide section of the 50 foot permanent easement will converted from scrub-shrub wetland to PEM wetland and maintained as PEM wetland during pipeline operation. Accordingly, there will be no net loss of wetlands, but rather a change of wetland type.

Impacts to wetlands will be mitigated by purchasing credits from existing wetland mitigation banks in Florida. The credits will be purchased from a combination of the Hatchineha, Reedy Creek, and Bluefield Ranch mitigation banks and will be permitted by FDEP and USACE.

2.4.5.3 Contaminating Material Spills

FSC has prepared a SPC Plan to address the handling of construction fuel and other materials. Except in circumstances specified in the SPC Plan, potential impacts on water quality will be avoided while work is being performed in wetlands and other waterbodies by implementing the following measures:

- Construction materials, fuels, *etc.* will not be stored within wetlands or within 100 feet of any stream or wetland system, except under limited, highly controlled circumstances;
- Construction equipment will not be refueled within wetlands or within 100 feet of any stream or wetland system, except under limited, highly-controlled circumstances, and under direct supervision of the EI;
- Construction equipment will not be washed in any wetland or watercourse; and
- Equipment will be well maintained and checked daily for leaks.

2.4.5.4 Temporary Access Roads

To minimize impacts at wetland crossings during construction, FSC will implement procedures for access road crossings of wetlands as outlined in the FSC Procedures.

2.4.5.5 Restoration

Construction and mitigation activities in wetlands will be conducted in accordance with FSC Procedures and the conditions of related permits. Recommended practices include, wherever practical:

- A reduction of construction corridor widths where possible;
- A 50-foot setback from wetlands for ATWS;
- Minimization of riparian clearing to the extent practicable while ensuring safe construction conditions;
- Expedited construction in and around wetlands;
- Confinement of stump removal to the trench-line to minimize soil disturbance (unless safety or access considerations require stump removal elsewhere);
- Return of wetland bottoms and drainage patterns to their original configurations and contours to the extent practicable;

- Permanent stabilization of upland areas near wetlands as soon as practicable after trench backfilling to reduce sediment run-off;
- Segregation of topsoil in unsaturated wetlands to preserve the native seed source (which will facilitate re-growth of herbaceous vegetation once pipeline installation is complete);
- Periodic inspection of the construction corridor during construction (via FSC EIs and 3rd party EI's) Post-construction wetland monitoring to evaluate the progress of wetland revegetation (per requirements of FERC, USACE and FDEP); and
- Documentation of invasive species prior to construction and post-construction monitoring to compare pre- and post-construction occurrences.

In accordance with the FSC Procedures, FSC will conduct post-construction maintenance and monitoring of the right-of-way in affected wetlands to assess the success of restoration and revegetation. Monitoring efforts will include documenting occurrences of exotic invasive species to compare to pre-construction conditions.

2.4.5.6 Right-of-way Maintenance

Minor long-term impacts associated with pipeline operations and maintenance will largely be restricted to periodic clearing of vegetation within the permanent right-of-way at wetland crossings with the exception of those pipeline segments installed using the HDD method. No maintenance is required for the permanent right-of-way within wetlands where the pipeline was installed using the HDD method. These maintenance activities will be consistent with FSC's Procedures.

2.5 References

Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

[FDEP] Florida Department of Environmental Protection. 2001. Environmental Geology. Shapefile metadata available at: http://www.fgdl.org/metadataexplorer/explorer.jsp

[FDEP] Florida Department of Environmental Protection. 2004. Florida's Source Water Assessment and Protection Program Source Water Assessments. Accessed online February 24, 2014 at: http://www.dep.state.fl.us/water/groundwater/docs/SourceWaterAssessments.pdf.

[FDEP] Florida Department of Environmental Protection. 2006. Outstanding Florida Waters. Shapefile metadata available at: http://ca.dep.state.fl.us/www.dep.state.fl.us/metadata.jsp?layer=DEP.OUTSTANDING_FLORIDA_WATERS

[FDEP] Florida Department of Environmental Protection. 2007. Source Water Protection and Assessment Program, Aquifer Descriptions. Access online at: [http://www.dep.state.fl.us/swapp/aquifer.aspasp]

[FDEP] Florida Department of Environmental Protection. 2007a. Kissimmee River Basin, Lakes, Rivers, Streams and Aquifers. Division of Environmental Assessment and Restoration. Bureau of Assessment and Restoration Support, Watershed Monitoring Section. Access online at: [http://www.dep.state.fl.us/water/monitoring/docs/bmr/kissimmee.pdf]

[FDEP] Florida Department of Environmental Protection. 2008. SWAPP Areas. Groundwater Regulatory Section. Shapefile metadata available at: http://ca.dep.state.fl.us/www.dep.state.fl.us/metadataDetails.jsp?layer=DEP.SOURCE_WATER_ASSESSMENT_AREAS

[FDEP] Florida Department of Environmental Protection. 2010. Groundwater Contamination Areas. Groundwater Regulatory Section. Shapefile metadata available at: http://ca.dep.state.fl.us/www.dep.state.fl.us/metadataDetails.jsp?layer=DEP.GROUND_WATER_CONTAMINATION

[FDEP] Florida Department of Environmental Protection. 2011. Springs. FDEP Groundwater Protection Section. Shapefile metadata available at: http://ca.dep.state.fl.us/www.dep.state.fl.us/metadata.jsp?layer=DEP.SPRINGS_2011

[FDEP] Florida Department of Environmental Protection. 2013. Wellhead Protection. Accessed online April 2, 2014 at: http://www.dep.state.fl.us/water/groundwater/wellhead.htm.

[FDEP] Florida Department of Environmental Protection. 2013a. Aquifer Protection Program, Delineation Program. Accessed online August 19, 2014 at: http://www.dep.state.fl.us/water/groundwater/delineate.htm

[FDEP] Florida Department of Environmental Protection. 2014. PWS Surface Water Intakes. Accessed online February 24, 2014 at: http://ca.dep.state.fl.us/mapdirect/?focus=none.

[FDEP] Florida Department of Environmental Protection. 2014. Phone conversation with David James, FDEP, Groundwater Resources.

[FDOH] Florida Department of Health. 2013. Well Surveillance Program Well Data. Accessed online at: http://www.floridahealth.gov/healthy-environments/drinking-water/well-surveys.html

[FDOT] Florida Department of Transportation. 1999. Florida Land Use, Cover and Forms Classification System. Surveying and Mapping Office, Geographic Mapping Section. Third Edition.

[FEMA] – Federal Emergency Management Agency. 2014. FEMA Flood Zone Designations. Accessed online February 25, 2014 at: https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA+Flood+Zone+Designations.https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA+Flood+Zone+Designations.

Florida Watershed Management Districts. 2011. Statewide Land Use Land Cover 2004-2011. Compilation of the land use data from the five Watershed Management Districts. Shapefile metadata available at: http://ca.dep.state.fl.us/www.dep.state.fl.us/metadata.jsp?layer=BASE.STATEWIDE_LANDUSE_2004_2011

Marella, R.L. and Berndt, M.P. 2005. Water withdrawals and trends from the Floridan aquifer system in the southeastern United States, 1950-2000: U.S. Geological Survey Circular 1278, 20 p.

Marella, R.L. 2009. Water withdrawals, use, and trends in Florida, 2005: U.S. Geological Survey Scientific Investigations Report 2009-5125, 49 p.

Miller, James A. 1990. U.S. Geological Survey Ground Water Atlas of the United Alabama, Georgia, Florida, South Carolina, HA 730-G. Accessed online February 20, 2014 at: http://pubs.usgs.gov/ha/ha730/ch_g/index.html.

[NRCS] Natural Resources Conservation Service. 2007. Watersheds, Hydrologic Units, Hydrologic Unit Codes, Watershed Approach, and Rapid Watershed Assessments. Accessed online January 31, 2014 at: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1042207.pdf.

[NPS] National Park Service. 2007. Nationwide Rivers Inventory. Available online at: [http://www.nps.gov/ncrc/programs/rtca/nri/].

O'Reilly, A.M. and Spechler, R. M. 2002. Hydrogeology and Water Quality Characteristics of the Lower Floridan Aquifer in East-Central Florida. U.S. Geological Survey Water Resources Investigations Report 02-4193, 60 p.

[SJRWMD] Saint Johns River Watershed Management District. 2007. Upper Saint Johns River Basin, Surface Water Improvement and Management Plan. Available online at: [http://www.sjrwmd.com/SWIMplans/2007_USJRB_SWIM_Plan.pdf].

Sepúlveda, Nicasio. 2002. Simulation of ground-water flow in the intermediate and Floridan aquifer systems in peninsular Florida: U.S. Geological Survey Water-Resources Investigation Report 02-4009, 130 p.

Sinclair, William C. and Stewart, J.W. 1985. Sinkhole Type, Development and Distribution in Florida. Map Series 110. United States Geological Survey in cooperation with the Florida Department of Environmental Regulation, Bureau of Water Resources Management, and Florida Department of Natural Resources, Bureau of Geology.

[USACE] U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0),* ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[USEPA] U.S. Environmental Protection Agency. 2012. Sole Source Aquifer Protection Program. Accessed online on January 14, 2014 at: http://water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/solesourceaquifer.cfm.

[USEPA] U.S. Environmental Protection Agency. 2014. Designated Sole Source Aquifers in EPA Region IV. Accessed online on January 14, 2014 at: http://www.epa.gov/safewater/sourcewater/pubs/reg4.pdf.

[USEPA] U.S. Environmental Protection Agency. 2014a. Sole Source Aquifers in the Southeast. Accessed online on April 2, 2014 at: http://pbadupws.nrc.gov/docs/ML1128/ML112800418.pdf

[USEPA] U.S. Environmental Protection Agency. 2014b. NEPAssist Map. Accessed online on February 18, 2014 at: http://nepassisttool.epa.gov/nepassist/entry.aspx.

[USGS] – United States Geological Survey. 1985. National Water Summary 1984. USGS Water Supply Paper 2275. United States Government Printing Office, Washington, D.C.

TABLES

FLORIDA SOUTHEAST CONNECTION

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
Pipeline ROW						
	POLK	Well	1.7	12	0	POTABLE
	POLK	Well	18.8	10	0	POTABLE
	POLK	Well	30	5	0	POTABLE
	POLK	Well	0.9	45	20	POTABLE
	POLK	Well	1	23	0	POTABLE
	POLK	Well	12.8	43	18	POTABLE
	POLK	Well	16.3	109	84	POTABLE
	POLK	Well	18.7	87	62	POTABLE
	POLK	Well	20	47	22	POTABLE
	POLK	Well	21.6	141	116	POTABLE
	POLK	Well	21.7	140	115	POTABLE
	POLK	Well	21.9	117	92	POTABLE
	POLK	Well	22	108	83	POTABLE
	POLK	Well	23.1	152	127	NON-POTABLE
	POLK	Well	23.1	152	127	NON-POTABLE
	POLK	Well	23.1	152	127	POTABLE
	POLK	Well	23.2	78	53	NON-POTABLE
	POLK	Well	23.2	71	46	NON-POTABLE
	POLK	Well	23.3	75	50	POTABLE
	POLK	Well	23.3	88	63	NON-POTABLE
	POLK	Well	23.3	95	70	POTABLE

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
	POLK	Well	23.3	169	144	POTABLE
	POLK	Well	23.4	169	144	NON-POTABLE
	POLK	Well	23.8	70	45	POTABLE
	POLK	Well	26.9	159	134	POTABLE
	POLK	Well	29.8	168	143	POTABLE
	POLK	Well	30.3	40	15	POTABLE
	POLK	Well	30.6	175	141	POTABLE
	POLK	Well	33.1	118	94	POTABLE
	POLK	Well	33.8	130	105	POTABLE
	POLK	Well	33.9	84	60	POTABLE
	POLK	Well	34.1	142	117	POTABLE
	POLK	Well	51.4	91	66	NON-POTABLE
	POLK	Well	51.4	58	33	POTABLE
	OSCEOLA	Well	72	57	32	POTABLE
	POLK	Well	32.4	73	48	POTABLE
	OSCEOLA	Well	72.2	88	64	POTABLE
	OSCEOLA	Well	72.7	109	84	POTABLE
	OKEECHOBEE	Well	84.2	146	121	POTABLE
	OKEECHOBEE	Well	86.4	83	58	POTABLE
	OKEECHOBEE	Well	87	34	9	POTABLE
	POLK	WHPA	0.8	116	91	POTABLE
	POLK	WHPA	1.8	0	0	POTABLE

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
	POLK	WHPA	3.7	0	0	POTABLE
	POLK	WHPA	4.7	0	0	POTABLE
	POLK	WHPA	4.7	0	0	POTABLE
	POLK	WHPA	12.1	9	0	POTABLE
	POLK	WHPA	18.3	95	70	POTABLE
	POLK	WHPA	33.6	0	0	POTABLE
	POLK	WHPA	33.9	0	0	POTABLE
	POLK	WHPA	34	0	0	POTABLE
	POLK	WHPA	35.1	0	0	POTABLE
	POLK	WHPA	41.8	0	0	POTABLE
	OSCEOLA	WHPA	72.7	0	0	POTABLE
	OKEECHOBEE	WHPA	84.7	0	0	POTABLE
	OKEECHOBEE	WHPA	86	0	0	POTABLE
Access Road						
	POLK	Well	1.1	225	146	POTABLE
	POLK	Well	4.3	176	130	POTABLE
	POLK	Well	12	343	147	POTABLE
	POLK	Well	12	358	137	POTABLE
	POLK	Well	12	709	77	POTABLE
	POLK	Well	12.3	479	56	POTABLE
	POLK	Well	15	81	1	POTABLE
	POLK	Well	16.4	181	100	POTABLE

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
	POLK	Well	16.7	1237	110	POTABLE
	POLK	Well	17.5	216	116	POTABLE
	POLK	Well	17.5	174	74	POTABLE
	POLK	Well	18.8	151	94	POTABLE
	POLK	Well	18.8	99	42	POTABLE
	POLK	Well	18.9	37	0	POTABLE
	POLK	Well	19	214	91	POTABLE
	POLK	Well	19	732	123	NON-POTABLE
	POLK	Well	19	545	95	NON-POTABLE
	POLK	Well	19	214	91	POTABLE
	POLK	Well	19	613	0	NON-POTABLE
	POLK	Well	19	536	75	POTABLE
	POLK	Well	19	726	104	POTABLE
	POLK	Well	19.6	326	119	POTABLE
	POLK	Well	19.9	1094	102	NON-POTABLE
	POLK	Well	24.8	10334	55	POTABLE
	POLK	Well	24.8	10769	142	POTABLE
	POLK	Well	25.7	11970	77	POTABLE
	POLK	Well	25.7	13030	140	POTABLE
	POLK	Well	33.6	94	15	POTABLE
	OSCEOLA	Well	72.7	237	125	POTABLE
	POLK	Well	28.3	7541	20	POTABLE

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
	POLK	Well	28.3	9285	15	POTABLE
	POLK	WHPA	12	394	0	POTABLE
	POLK	WHPA	25.7	11713	0	POTABLE
	POLK	WHPA	33.1	239	120	POTABLE
	ST. LUCIE	WHPA	108.9	468	96	POTABLE
	MARTIN	WHPA	118.7	1702	0	POTABLE
Contractor/Pipe Storage Yards						
	POLK	Well	4.4	7262	0	POTABLE
	POLK	Well	4.4	7886	112	POTABLE
	POLK	WHPA	4.4	7398	127	POTABLE
	POLK	WHPA	4.4	6767	0	POTABLE
	OSCEOLA	WHPA	72.9	492	0	POTABLE
	OSCEOLA	WHPA	72.9	321	0	POTABLE
Temporary Easement						
	POLK	Well	1.5	179	104	POTABLE
	POLK	Well	3.8	29	0	POTABLE
	POLK	Well	16.3	141	79	POTABLE
	POLK	Well	16.3	173	98	POTABLE
	POLK	Well	17	143	90	POTABLE
	POLK	Well	17.3	174	99	POTABLE
	POLK	Well	22	186	111	POTABLE
	POLK	Well	22.3	136	61	POTABLE

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
	POLK	Well	22.3	170	95	POTABLE
	POLK	Well	26.8	28	0	POTABLE
	POLK	Well	26.8	28	0	POTABLE
	POLK	Well	30.3	86	49	POTABLE
	POLK	Well	35.3	39	0	POTABLE
	POLK	Well	35.3	218	141	POTABLE
	POLK	Well	35.3	32	0	NON-POTABLE
	POLK	Well	35.3	39	0	POTABLE
	OKEECHOBEE	Well	84.8	185	110	POTABLE
	OKEECHOBEE	Well	85	63	0	POTABLE
	POLK	Well	1.7	59	21	POTABLE
Additional Temporary Workspace						
	POLK	Well	79	79	38	POTABLE
	POLK	Well	38	38	8	POTABLE
	POLK	Well	148	148	81	POTABLE
	POLK	Well	49	49	0	POTABLE
	POLK	Well	136	136	61	POTABLE
	POLK	Well	142	142	56	POTABLE
	POLK	Well	196	196	96	POTABLE
	POLK	Well	89	89	0	POTABLE
	POLK	Well	110	110	29	POTABLE
	POLK	Well	201	201	96	POTABLE

Table 2.2-1

Public and Private Water Supply Wells and Springs and Locally Zoned Aquifer Protection Areas within 150 Feet of the Construction Work Area for the Florida Southeast Connection Project

Facility	County	Supply Type (well, spring, WHPA)	Milepost a/	Approximate Distance from Pipeline Centerline (feet)	Approximate Distance from Construction Work Area (feet)	Drinking Water Status
	POLK	Well	124	124	0	POTABLE
	POLK	Well	218	218	113	POTABLE
	POLK	Well	248	248	123	POTABLE
	POLK	Well	252	252	106	POTABLE
	POLK	Well	418	418	124	POTABLE
	POLK	Well	347	347	92	POTABLE
	OKEECHOBEE	Well	26	26	0	POTABLE
	OKEECHOBEE	Well	151	151	28	POTABLE
	POLK	WHPA	1.5	256	114	POTABLE
	OSCEOLA	WHPA	53.6	241	144	POTABLE

Source: FDOH well survey database, FDEP Spring data and SWAPP (Source Water Assessment and Protection Program)

a/ Approximate MP along the proposed pipeline rounded to the nearest tenth.

FLORIDA SOUTHEAST CONNECTION

Table 2.3-1

Waterbodies Crossed by the Florida Southeast Connection Project Facilities

Facility, Waterbody ID	Waterbody Name	MP	County	Crossing Width (Feet)	Flow Type	FERC Classification	Fishery Type	State Water Quality Classification	Proposed Crossing Method
Pipeline Facilities									
WB-01		0.1	Osceola	21	Ephemeral	Intermediate	Warmwater	III	DRY OPEN CUT
WB-03		3.8	Polk	51	Pond	Intermediate	Warmwater	III	DRY OPEN CUT
WB-06		8.6	Polk	16	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-07		9.7	Polk	12	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-08		10.2	Polk	24	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-10	Snell Creek	10.4	Polk	22	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-11		12	Polk	84	Pond	Intermediate	Warmwater	III	HDD
WB-13		12.5	Polk	21	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-23		36.9	Polk	12	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-25	Weohyakapka Creek	38.6	Polk	122	Perennial	Intermediate	Warmwater	III	HDD
WB-30A		42.4	Polk	25	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-33		48.2	Polk	7	Pond	Minor	Warmwater	III	DRY OPEN CUT
WB-33A		50.1	Polk	35	Intermittent	Intermediate	Warmwater	III	DRY OPEN CUT
WB-34		51	Polk	25	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-35A	Lake Kissimmee	53.2	Polk	1444	Perennial	Major	Warmwater	III	HDD
WB-35D	Lake Kissimmee	53.4	Osceola	677	Perennial	Major	Warmwater	III	HDD
WB-37B		54.2	Osceola	12	Perennial	Minor	Warmwater	III	DRY OPEN CUT
WB-37C		55.4	Osceola	13	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-41		71.1	Osceola	37	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-46		72.7	Osceola	34	Perennial	Major	Warmwater	III	DRY OPEN CUT
WB-47		73.8	Osceola	55	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT

FLORIDA SOUTHEAST CONNECTION

Table 2.3-1

Waterbodies Crossed by the Florida Southeast Connection Project Facilities

Facility, Waterbody ID	Waterbody Name	MP	County	Crossing Width (Feet)	Flow Type	FERC Classification	Fishery Type	State Water Quality Classification	Proposed Crossing Method
WB-48	Cow Log Branch	75.5	Osceola	37	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-49	Padgett Branch	76.9	Osceola	15	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-52		79.4	Okeechobee	30	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-53		81.7	Okeechobee	32	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-55		82.7	Okeechobee	43	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-56	Boggy Branch	84.3	Okeechobee	20	Perennial	Intermediate	Warmwater	III	HDD
WB-57		84.4	Okeechobee	84	Pond	Intermediate	Warmwater	III	HDD
WB-58		87	Okeechobee	71	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-59		87.4	Okeechobee	9	Perennial	Minor	Warmwater	III	DRY OPEN CUT
WB-62		95	Okeechobee	14	Intermittent	Intermediate	Warmwater	III	DRY OPEN CUT
WB-63b		98.7	Okeechobee	60	Perennial	Intermediate	Warmwater	III	HDD
WB-63c		98.8	Okeechobee	12	Intermittent	Intermediate	Warmwater	III	HDD
WB-66		101.9	Okeechobee	56	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-68		102.6	St. Lucie	4	Intermittent	Minor	Warmwater	III	DRY OPEN CUT
WB-69b		105.5	St. Lucie	17	Perennial	Intermediate	Warmwater	III	HDD
WB-70		105.5	St. Lucie	24	Perennial	Intermediate	Warmwater	III	HDD
WB-74A		108.6	St. Lucie	2	Intermittent	Minor	Warmwater	III	DRY OPEN CUT
WB-77		112.2	St. Lucie	13	Intermittent	Intermediate	Warmwater	III	DRY OPEN CUT
WB-78A		114.7	St. Lucie	44	Perennial	Intermediate	Warmwater	III	HDD
WB-80A		118.2	Martin	20	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-81		121	Martin	42	Perennial	Intermediate	Warmwater	III	DRY OPEN CUT
WB-88		125.3	Martin	42	Perennial	Intermediate	Warmwater	III	BORE

Table 2.3-1

Waterbodies Crossed by the Florida Southeast Connection Project Facilities

Facility, Waterbody ID	Waterbody Name	MP	County	Crossing Width (Feet)	Flow Type	FERC Classification	Fishery Type	State Water Quality Classification	Proposed Crossing Method
Access Roads									
WB-08		10.2	Polk	35	Perennial	Minor	Warmwater	III	TBD
WB-12		12	Polk	12	Perennial	Minor	Warmwater	III	TBD
WB-27		40.4	Polk	15	Pond	Minor	Warmwater	III	TBD
WB-206-A1		42.4	Polk	25	Perennial	Minor	Warmwater	III	TBD
Contractor Yards									
WB-50		77.1	Osceola	NA	Perennial	Minor	Warmwater	III	NA
WB-50A		77.1	Osceola	NA	Pond	Minor	Warmwater	III	NA
WB-51		77.1	Osceola	NA	Perennial	Minor	Warmwater	III	NA
WB-654-A1		124.7	Martin	NA	Perennial	Minor	Warmwater	III	NA

Source: UPI Waterbody Crossing Report, Revision A (3/5/14); UPI Document# 21040-511-RPT-00010
Note: Contractor yards do not involve waterbody crossings.

FLORIDA SOUTHEAST CONNECTION

Table 2.3-2

Summary of Waterbodies Crossed by the Florida Southeast Connection Project - Pipeline Segments by Flow Type

State	Flow Type					FERC Classifications			
	Perennial Waterbody Crossing	Intermittent Waterbody Crossing	Ephemeral Waterbody Crossings	Palustrine Open Water a/	Total b/	Minor	Intermediate	Major	Total b/
Florida	32	6	1	4	**43**	5	35	3	**43**
PROJECT TOTAL	**32**	**6**	**1**	**4**	**43**	**5**	**35**	**3**	**43**

a/ Palustrine Open Water is an open body of water (i.e., pond or lake).
b/ Waterbodies in the workspace but not crossed by the pipeline are not counted in this table as crossings. Waterbodies impacted by access roads are not counted in this table as crossings.

Table 2.3-3

Sensitive Surface Waters Crossed by the FSC Project

Facility	Milepost a/	County	Waterbody Name	Basis for Sensitivity	Proposed Crossing Method
Pipeline ROW					
	88	Okeechobee	Fort Drum Creek	303(d) List; impaired for fecal coliform	Open Cut

Source: Florida Section 303(d) Verified List of Impaired Waters 2014, USEPA NEPAssist Map and Florida Outstanding Water GIS data.

a/ Nearest Milepost

FLORIDA SOUTHEAST CONNECTION

Table 2.3-4 Requested Deviations from the Procedures				
Station	**Milepost**	**Tracts**	**Deviation Request**	**Justification**
2+80	0.05	102.0 or 102.3	Deviation for ATWS within 50' setback from waterbody	Required for boring road
4+10	0.11	103	ATWS in wetland	Required for boring road
22+53 to 25+71	0.44 to 0.48	1005.1	ATWS in wetland	Required for boring foreign pipelines and railroad
30+82	0.59	1006.5	50' temporary easement in waterbody	Required for boring foreign pipelines
36+24	0.69	1010	ATWS in wetland	Required for boring road
49+83	0.93	1017 & 1019	ATWS in wetland	Constraint due to future structures to the north (by others)
53+55	1.01	1025, 1030	ATWS in wetland	Additional temporary work space needed it to change over construction ROW to other side of ROW, needed for road crossing and bend
97+47 to 102+90	1.81 to 1.95	1075.12, 1075.13, 1075.15 1075.122, 1075.123, 1075.124	ATWS in wetland	Required for road crossing and tie-ins
149+46 to 151+15	2.80 to 2.87	1075.26, 1075.28	ATWS in wetland	Required for boring
177+90 to 180+55	3.38 to 3.42	1075.35, 1075.36	ATWS in wetland	Required for boring
199+49	3.78	1075.42	50' temporary easement in waterbody	Required for boring
214+39	4.06	1075.47	ATWS within 50' of wetlands	Required for boring
219+86 to 221+70	4.17 to 4.20	1075.45	ATWS in wetland	Required for boring
299+15 to 300+95	5.68 to 5.70	1075.62, 1075.77	ATWS in wetland	Required for tie-in
537+78 to 540+20	10.19 to 10.23	1099	ATWS in wetland	Required for boring
562+12	10.64	1101	ATWS in wetland	Extra space for a turnaround
608+40 to 609+97	11.53 to 11.55	1105	ATWS in wetland	Required for HDD boring
613+15	11.62	1105	ATWS in wetland	Required for HDD boring
638+31	12.10	1117	ATWS in wetland	Required for HDD boring
643+15 to 645+48	12.18 to 12.23	1117, 1122	ATWS in wetland	Extra space for a turnaround
660+35 to 661+35	12.51 to 12.53	1129, 1131	ATWS in wetland	Extra space for a turnaround
663+84 to 665+10	12.56 to 12.60	1129, 1132	ATWS in wetland	Required for boring
988+00	18.71	1203	ATWS within 50' of wetland	Required for tie-in

Table 2.3-4

Requested Deviations from the Procedures

Station	Milepost	Tracts	Deviation Request	Justification
1044+02	19.77	1215	ATWS in wetland	Required for tie-in
1592+54 to 1593+85	30.17 to 30.19	1322.09	ATWS in wetland	Required for boring
1921+50	36.40	1377, 1378, 1379	ATWS within 50' of a wetland	Required for boring
1972+38 to 1980+60	37.36 to 37.51	1383, 1386, 1387, 1388, 1389, 1389.1, 1389.2	110' ROW because of DOT fence restriction (piece inside fence will not be used)	Required due to roadway fence placement
1992+99 to 1994+15	37.75 to 37.77	1393	ATWS within 50' of a wetland	Extra space for a turnaround
2009+82 to 2024+95	38.07 to 38.35	1406, 1407, 1408	ATWS in a wetland and 110' ROW because of FDOT fence restriction	Required due to roadway fence placement
2044+09 to 2046+50	38.72 to 38.76	1410	ATWS in wetland	Extra work space needed for HDD
2101+21	39.79	1425	ATWS within 50 feet of wetland	Required for boring
2110+74 to 2124+42	39.98 to 40.25	1437.1, 1431, 1433, 1434	110' ROW because of DOT fence restriction (piece inside fence will not be used)	Required due to roadway fence placement
2166+68 to 2167+77	41.05 to 41.07	1445	ATWS in wetland	Required for boring
2199+60	41.65	1452.3	ATWS within 50 feet of wetland	Extra space for a turnaround
2235+20 to 2238+90	42.35 to 42.40	1469.2, 1469.3, 1470.1	ATWS in wetland	Needed for stream crossing and spoil placement
2467+38	46.75	1481	ATWS in wetland	Needed to cross ditch
2620+67 to 2641+35	49.65 to 50.04	1484.25	125' wide ROW	Agricultural soil separation
2643+78	50.08	1484.25	Deviation for ATWS within 50' setback from waterbody	Extra workspace for spoil placement
2646+31 to 2666+16	50.12 to 50.51	1484.25	125' Wide ROW	Agricultural soil separation
2672+32 to 2685+26	50.63 to 50.88	1484.25	125' Wide ROW	Agricultural soil separation
2691+15	50.99	1484.26	ATWS in wetland	Needed to cross waterbody
2696+96	51.09	1489.26	ATWS within 50' of waterbody	Needed to cross wetland
2698+33 to 2704+80	51.12 to 51.24	1489.26	125' Wide ROW	Agricultural soil separation
2707+02 to 2716+10	51.29 to 51.46	1484.26	125' Wide ROW	Agricultural soil separation
2717+25 to 2726+15	51.48 to 51.65	1484.26	125' Wide ROW	Agricultural soil separation
2726+15 to 2776+90	51.65 to 52.61	1484.26, 1489, 1490	ATWS in wetland, 125' wide ROW	Needed for Kissimmee River HDD pullback, agricultural soil separation
2836+35 to 2840+45	53.75 to 53.81	2003	ATWS in wetland	Required for boring

Table 2.3-4

Requested Deviations from the Procedures

Station	Milepost	Tracts	Deviation Request	Justification
2954+44 to 3078+15	55.97 to 58.32	2004, 2019.1, 2020.1	110' ROW because of DOT fence restriction (piece inside fence will not be used)	Required due to roadway fence placement
3094+85 to 3096+85	58.63 to 58.67	2023.2	ATWS within 50 ft of a wetland	Required for boring and 85' ROW HDD
3261+66 to 3300+26	61.89 to 62.52	2026.1, 2027.1, 2027.2	100 foot ROW across area of small drainage ditches	Storage of spoils for ditch crossing
3293+48 to 3496+15	62.40 to 66.24	2027.2, 2027.1, 2027.11, 2028.1, 2029.1, 2031.1, 2032.1	Extra ATWS (width varies)	Required due to roadway fence placement
3300+89 to 3313+52	62.53 to 62.78	2027.1, 2027.2	100 foot ROW across area of small drainage ditches	Storage of spoils for ditch crossing
3335+75 to 3341+76	63.20 to 63.25	2028.1	ATWS in wetland	Required to cross wetland
3452+93 to 3467+99	65.42 to 65.70	2031.1, 2032.1	ATWS on wetland	Required for ditch crossings
3523+18	66.75	2033.1	Spoil placement within 50 ft of ditch	Storage of spoils
3523+85	66.76	2033.1	Spoil placement within 50 ft of ditch	Storage of spoils
3541+68	67.10	2033.1	Spoil placement within 50 ft of ditch	Storage of spoils
3542+44	67.11	2033.1	Spoil placement within 50 ft of ditch	Storage of spoils
3561+18	67.47	2035.1	Spoil placement within 50 ft of ditch	Storage of spoils
3561+88	67.48	2035.1	Spoil placement within 50 ft of ditch	Storage of spoils
3565+05 to 3687+43	67.54 to 69.86	2035.1, 2037.1, 2039.1	Extra ATWS (width varies)	Required due to roadway fence placement
3585+90 to 3644+35	67.93 to 69.06	2035.1, 2037.1	100 foot ROW across area of small drainage ditches	Storage of spoils for ditch crossing
3593+26 to 3593+70	68.07 to 68.09	2035.1	ATWS within 50' of wetland	Required for road crossing
3698+16 to 3799+25	70.07 to 71.98	2039.1, 2041.1, 2042.1, 2045.1	Extra ATWS (width varies)	Required due to roadway fence placement
3809+00 to 3837+92	72.17 to 72.71	2045.1, 2045.2, 2048.1	Extra ATWS (width varies)	Required due to roadway fence placement
3818+90	72.35	2045.1	ATWS in water body	Required for canal plug
3828+41	72.53	2045.1	ATWS in water body	Required for canal plug
3836+90	72.69	2048.1	ATWS in water body	Required for canal plug
3844+96	72.85	2048	ATWS is wetland	Required for tie-in
3893+20 to 3894+59	73.76 to 73.79	2048.1	ATWS in wetland	Required for waterbody crossing
3895+24	73.80	2048.1	ATWS within 50' of wetland	Required for waterbody crossing

Table 2.3-4

Requested Deviations from the Procedures

Station	Milepost	Tracts	Deviation Request	Justification
3895+54 to 4084+60	73.81 to 77.39	2048.1, 2048.2, 2050, 2050.1, 2050.2, 3001	Extra ATWS (width varies)	Required due to roadway fence placement
3987+70	75.55	2050.1	ATWS within 50' of water body	Required for waterbody crossing
3988+48	75.57	2050.1	ATWS within 50' of water body	Required for waterbody crossing
4058+30 to 4060+75	76.89 to 76.91	2050.2	ATWS in wetland	Required for waterbody crossing
4193+71	79.45	3003	ATWS within 50' of water body	Required for waterbody crossing
4194+52 to 4195+82	79.47 to 79.49	3003	ATWS in wetland	Required for waterbody crossing
4201+05 to 4208+80	79.59 to 79.74	3005	Extra ATWS (width varies)	Required due to roadway fence placement
4238+02 to 4278+54	80.3 to 81.06	3006, 3007, 3008	Extra ATWS (width varies)	Required due to roadway fence placement
4309+25 to 4310+37	81.65 to 81.67	3008.1	ATWS in wetland	Required to allow for water body crossing
4310+92 to 4312+40	81.68 to 81.70	3008.1	ATWS in wetland	Required to allow for water body crossing
4312+40 to 4317+20	81.70 to 81.79	3008.1	Extra ATWS (width varies)	Required due to roadway fence placement
4330+83 to 4332+15	82.05 to 82.06	3010	ATWS in wetland	Required for boring
4363+38 to 4364+82	82.67 to 82.69	3014	ATWS in wetland	Required for water body crossing
4365+32 to 4366+83	82.70 to 82.73	3014	ATWS in wetland	Required for water body crossing
4442+46 to 4443+61	84.15 to 84.18	TBD	ATWS in wetland	Required for boring road
4447+87 to 4449+95	84.27 to 84.31	3021	ATWS in wetland	Required for HDD
4461+41 to 4463+46	84.53 to 84.56	3023	ATWS in wetland	Required for HDD
4519+81 to 4522+05	85.63 to 85.67	3031	ATWS in wetland	Required for tie-in/bend of pipeline
4591+36 to 4592+96	86.99 to 87.01	3046	ATWS in wetland	Required for water body crossing
4593+88 to 4595+37	87.03 to 87.06	3046	ATWS in wetland	Required for water body crossing
4602+92 to 4604+30	87.20 to 87.23	3046	ATWS in wetland	Required for road crossing
4789+37	90.74	3061	ATWS in wetland	Required for tie-in/bend of pipeline
4828+69 to 4831+47	91.48 to 91.52	3062.1	ATWS in wetland	Required for tie-in/bend of pipeline
4949+75 to 4952+09	93.77 to 93.83	3065	ATWS in wetland	Required for tie-in/bend of pipeline
4973+33 to 4975+04	94.23 to 94.27	3065	ATWS in wetland	Required for tie-in/bend of pipeline

Table 2.3-4

Requested Deviations from the Procedures

Station	Milepost	Tracts	Deviation Request	Justification
4994+55 to 4996+43	94.63 to 94.66	3067	ATWS in wetland	Required for tie-in/bend of pipeline
5200+91 to 5203+74	98.54 to 98.59	3072	ATWS in wetland	Required for HDD
5222+79	98.95	3072	ATWS within 50 feet of wetland	Required for road crossing
5283+32 to 5286+65	100.10 to 100.16	3074	ATWS in wetland	Required for road bore and tie-in/bend of pipeline
5286+98 to 5288+31	100.17 to 100.21	3073, 3073.1	ATWS in wetland	Required for road bore and tie-in/bend of pipeline
5381+21	101.93	3077	ATWS within 50 feet of wetland	Required for waterbody crossing
5380+78 to 5381+87	101.94 to 102.00	3077	ATWS in wetland	Required for waterbody crossing
5389+98 to 5392+33	102.12 to 102.16	3077, 4001	ATWS in wetland	Required for tie-in/bend of pipeline
5550+08 to 5554+04	105.15 to 105.22	4007	ATWS in wetland	Required for HDD
5593+66 to 5596+29	105.98 to 106.03	4007.1	ATWS in wetland	Required for waterbody crossing
5643+36	106.92	4008	ATWS in wetland	Required for tie-in/bend of pipeline
5669+22 to 5670+42	107.41 to 107.42	4008.4, 4009	ATWS in wetland	Required for tie-in/bend of pipeline
5678+79 to 5679+12	107.59 to 107.60	4010.01	ATWS within 50 feet of wetland	Required for waterbody crossing
5685+94	107.70	4012.01	ATWS in wetland	Required for boring
5695+12 to 5695+63	107.89 to 107.92	4012.01, 4012.02	ATWS in wetland	Required for waterbody crossing
5722+50	108.43	4014.01	ATWS in a wetland within 50 feet of wetland	Required for wetland crossing
5723+92	108.45	4014.01	ATWS in a wetland within 50 feet of ditch	Required for water body crossing
5750+45 to 5753+38	108.95 to 109.00	4015	ATWS in wetland	Required for tie-in/bend of pipeline
5755+50 to 5756+00	109.04 to 109.05	4015	ATWS in wetland	Required for road crossing
5764+70 to 5766+13	109.24 to 109.25	4017	ATWS in wetland	Required for road crossing
5833+43 to 5835+74	110.52 to 10.56	4021.5	ATWS in wetland	Required for tie-in/bend of pipeline
5842+72	110.70	4022.5	ATWS in wetland	Required for vehicle turn around
5852+87	110.80	4021.5	ATWS in wetland	Required for vehicle turn around
5925+48	112.26	4021.5	ATWS within 50 feet of waterbody	Required for water body crossing
5926+33	112.27	4021.5	ATWS within 50 feet of waterbody	Required for water body crossing

Table 2.3-4

Requested Deviations from the Procedures

Station	Milepost	Tracts	Deviation Request	Justification
5935+20	112.45	4021.5	ATWS within 50 feet of wetland	Required for wetland crossing
5938+12	112.50	4021.5	ATWS in wetland	Required for wetland crossing
5942+61	112.59	4021.6	ATWS within 50 feet of wetland	Required for wetland crossing
5959+75 to 5961+72	112.91 to 112.95		ATWS within 50 feet of a water body	Required for water body crossing
5964+76 to 6040+99	113.01 to 114.00	4021	Additional 50 feet extra work space to create plug and HDD stringing workspace	Required for water body crossing and HDD pull back
6029+58	114.24	4021	Additional 50 feet extra work space to create plug and temporarily drain canals	Required for water body crossing and HDD pull back
6069+30 to 6070+26	114.99 to 115.00	5001	ATWS within 50 feet of waterbody	Required for ditch crossing
61015+86 to 6204+24	115.87 to 117.55	5001	Additional 50 feet extra work space to create plug and temporarily drain across canals.	Required for water body crossing
6267+36	118.74	5006	ATWS in Wetland	Required for vehicle turnaround
6268+72 to 6271+22	118.77 to 118.82	5010.2	ATWS in wetland	Required for boring
6273+57 to 6275+10	118.86 to 118.88	5010.2	ATWS in wetland	Required for tie-in/bend of pipeline
6275+87 to 6277+38	118.90 to 118.93	5010.2	ATWS in wetland	Required for tie-in/bend of pipeline
6319+90	119.74	5010.4, 5015	ATWS in wetland	Required for road crossing and vehicle turnaround
6333+35 to 6336+91	119.99 to 120.06	5015	ATWS in wetland	Required for wetland crossing
6339+25 to 6343+80	120.10 to 120.19	5015	ATWS in wetland	Required for wetland crossing
6348+10	120.27	5016.3	ATWS in Wetland	Required for road and ditch crossing
6388+40 to 6389+82	121.03 to 121.06	5022.1	ATWS in Wetland	Required for waterbody crossing
6390+26 to 6392+26	121.07 to 121.11	5022.1	ATWS in Wetland	Required for water body crossing
6477+87 to 6478+40	122.73 to 122.74	5025	ATWS in Wetland	Required for road crossing
6478+85 to 6479+36	122.75 to 122.76	5026	ATWS in Wetland	Required for road crossing
6479+36 to 6528+37	122.98 to 123.48	5026	ATWS in Wetland	Required for HDD
6559+41	124.28	5028.31	ATWS in Wetland	Required for HDD

Table 2.3-4

Requested Deviations from the Procedures

Station	Milepost	Tracts	Deviation Request	Justification
6616+99	125.32	5051, 5054	ATWS in Wetland	Required for water body and road crossing
6617+00 to 6618+90	125.38 to 125.39	5051, 5054	ATWS in Wetland	Required for road crossing
6619+97 to 6621+06	125.42 to 125.44	5051, 5054	ATWS in Wetland	Required for tie-in/bend of pipeline

Notes:
1. Where ATWS must be located within 50 feet of a waterway, FSC will maintain a 10 foot buffer from that waterway to minimize environmental impacts.
2. In some areas a small portion of FSC's ROW is divided by an existing DOT security fence and the area on roadway side of this fence will not be used or impacted in any way as FSC will not remove this fence for safety reasons. Thus, although FSC will lease a small portion of this area on the other side of the fence, we have not counted this area toward the 75' maximum ROW width in wetlands and associated requests for deviations.
3. Details on ATWS requirements and requested deviations subject to change pending on the refinement of the FSC Project. Final deviation requests will be provided in the Environmental Report accompanying the Certificate Application in August 2014.

Table 2.3-5

FEMA Flood Hazard Zones Crossed by the FSC Project Pipeline

State, Facility	County	Milepost Begin a/	Milepost End a/	FEMA Flood Zone
Florida				
Mainline				
	OSCEOLA	0	0.1	A
	OSCEOLA	0.4	0.5	0.2 PCT ANNUAL CHANCE FLOOD HAZARD
	POLK	0.6	0.8	A
	POLK	1.1	1.5	A
	POLK	1.5	1.9	A
	POLK	1.9	2.3	AE
	POLK	2.4	2.8	AE
	POLK	2.9	3	A
	POLK	3.4	3.6	AE
	POLK	3.8	4.3	A
	POLK	4.6	4.6	A
	POLK	4.8	4.8	A
	POLK	5.1	5.2	A
	POLK	5.3	6.1	A
	POLK	5.7	5.8	A
	POLK	5.8	5.9	AE
	POLK	6.3	6.9	AE
	POLK	7.2	10	A
	POLK	10.1	10.5	AE
	POLK	10.4	10.8	A
	POLK	10.9	10.9	A
	POLK	11.1	11.4	A
	POLK	11.5	11.6	A
	POLK	11.7	11.8	A
	POLK	16	16.1	A
	POLK	16.4	16.5	A
	POLK	18.1	19.5	A
	POLK	26.2	26.3	A
	POLK	26.8	26.8	A
	POLK	28.4	28.5	A
	POLK	30.1	30.2	A
	POLK	32.3	32.4	A
	POLK	34.4	34.5	A

Table 2.3-5

FEMA Flood Hazard Zones Crossed by the FSC Project Pipeline

State, Facility	County	Milepost Begin a/	Milepost End a/	FEMA Flood Zone
	POLK	36.1	36.2	A
	POLK	36.2	36.3	A
	POLK	36.4	36.4	A
	POLK	36.9	37	A
	POLK	37.1	37.2	A
	POLK	38.5	38.8	A
	POLK	39.3	39.3	A
	POLK	39.4	39.5	A
	POLK	39.6	39.9	A
	POLK	40.2	40.2	A
	POLK	40.3	40.5	A
	POLK	40.7	40.9	A
	POLK	41.1	41.2	A
	POLK	41.2	41.3	A
	POLK	41.4	41.5	A
	POLK	41.8	41.9	A
	POLK	42.2	42.5	A
	POLK	42.6	42.7	A
	POLK	43.6	43.6	A
	POLK	46.8	47	A
	POLK	47.6	47.7	A
	POLK	48.1	48.2	A
	POLK	48.4	48.5	A
	POLK	49	49.2	A
	POLK	50.5	50.6	A
	POLK	51.6	52.9	AE
	OSCEOLA	52.9	53.8	AE
	OSCEOLA	58.4	59.5	A
	OSCEOLA	60.6	61.6	A
	OSCEOLA	66.8	68.1	A
	OSCEOLA	69	69.5	A
	OSCEOLA	70.4	70.7	A
	OSCEOLA	71.2	71.2	A
	OSCEOLA	72.9	73	A
	OSCEOLA	73.2	73.3	A
	OSCEOLA	73.7	73.8	A

Table 2.3-5

FEMA Flood Hazard Zones Crossed by the FSC Project Pipeline

State, Facility	County	Milepost Begin a/	Milepost End a/	FEMA Flood Zone
	OSCEOLA	75.5	75.6	A
	OSCEOLA	76.8	76.9	A
	OKEECHOBEE	78.5	78.7	A
	OKEECHOBEE	78.8	78.9	A
	OKEECHOBEE	79.4	79.9	A
	OKEECHOBEE	80	81.5	A
	OKEECHOBEE	81.7	81.8	A
	OKEECHOBEE	82.5	86.1	A
	OKEECHOBEE	83.7	84.2	A
	OKEECHOBEE	84.3	84.5	A
	OKEECHOBEE	85.3	85.7	A
	OKEECHOBEE	86.8	87.2	A
	OKEECHOBEE	87.3	87.5	A
	OKEECHOBEE	88.9	89.2	A
	OKEECHOBEE	90.5	90.7	A
	OKEECHOBEE	91.2	91.3	A
	OKEECHOBEE	92.3	94.2	A
	OKEECHOBEE	98.6	98.9	A

Table 2.3-6

Hydrostatic Test Volumes for HDD Pull Sections Along the FSC Pipeline

HDD	Milepost	Maximum Estimated Volume (gallons)	Water Source
Johnson Avenue	12	74,300	
Weohyakapka Creek	38	77,866	
Lake Kissimmee	54	290,265	Kissimmee River
Blanket Bay Slough	59	80,244	
Boggy Branch/Indian Hammock Trail	84	44,767	
Forested Wetland	99	51,655	
Forested Wetland	106	43,046	
C-23 Canal	115	78,515	C-23 Canal
SW Warfield Boulevard (SR 710)	124	125,349	Pond adjacent to Warfield Boulevard

Source: UPI Document #21040-506-RPT-00043, Revision B, 7/9/2014, FSC Hydrostatic Test Volumes for HDD Pull Sections, Prepared by UPI for FSC Project.

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
Pipeline ROW														
	0.1	Osceola	W-005	PEM	13	0.02						0.20	641	IV
	0.2	Osceola	W-006	PEM	0	0.03						0.33	641	I,II
	0.5	Osceola	W-007	PFO	172			0.19			0.12	0.53	624	I,II, IV
	0.5	Osceola	W-008	PSS	130		0.10			0.03		0.47	631	I,II, IV
	0.5	Polk	W-009	PEM	0	0.01						0.20	641	IV
	0.7	Polk	W-010	PFO	181			0.19			0.12	0.50	630	I,II
	0.7	Polk	W-011	PEM	0	0.01						0.47	641	I,II
	0.7	Polk	W-011A	PEM	13	0.02						0.47	641	IV
	0.9	Polk	W-014	PFO	79			0.10			0.06	0.53	617	I, II
	1.0	Polk	W-016	PEM	0	0.00						0.53	641	I, II
	1.1	Polk	W-019	PEM	69	0.06						0.00	641	I, II
	1.2	Polk	W-021	PEM	150	0.24						0.47	641	I, II
	1.2	Polk	W-022	PSS	299		0.28			0.07		0.20	631	I, II
	1.3	Polk	W-023	PEM	18	0.03						0.40	641	I, II
	1.4	Polk	W-024A	PEM	241	0.27						0.30	641	I,II
	1.4	Polk	W-024B	PFO	110			0.12			0.08	0.50	617	I,II
	1.6	Polk	W-028	PFO	177			0.15			0.10	0.47	630	I,II
	1.9	Polk	W-031	PFO	12			0.01			0.01	0.50	617	IV
	1.9	Polk	W-032	PFO	1,870			2.20			1.29	0.63	617	I, II, IV
	2.4	Polk	W-033	PFO	379			0.43			0.26	0.63	617	I, II
	2.6	Polk	W-034	PFO	1,405			1.51			0.96	0.63	617	I, II
	2.8	Polk	W-034A	PFO	22			0.05			0.02	0.53	617	I, II, IV
	3.4	Polk	W-035	PEM	230	0.24						0.70	641	I, II, IV
	3.4	Polk	W-036	PEM	389	0.45						0.70	641	I, II, IV
	3.5	Polk	W-037	PFO	657			0.75			0.45	0.70	617	I, II
	3.8	Polk	W-038	PEM	211	0.24						0.30	641	I, II
	3.9	Polk	W-039	PFO	313			0.38			0.23	0.60	617	I, II
	4.0	Polk	W-040	PFO	424			0.48			0.29	0.57	621	I, II
	4.2	Polk	W-042	PFO	680			0.78			0.47	0.57	621	I, II
	4.6	Polk	W-045	PEM	565	0.64						0.53	641	I, II
	4.7	Polk	W-046	PEM	186	0.21						0.53	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	4.9	Polk	W-047	PEM	258	0.32						0.53	641	I, II
	5.3	Polk	W-049	PEM	81	0.07						0.53	641	I, II
	5.4	Polk	W-050	PEM	59	0.07						0.53	641	I, II
	5.4	Polk	W-051	PEM	156	0.18						0.53	641	I, II
	5.5	Polk	W-053	PEM	349	0.40						0.53	641	I, II
	5.7	Polk	W-054	PEM	789	0.90						0.53	641	I, II
	5.9	Polk	W-055	PFO	242			0.29			0.17	0.53	617	I, II
	6.0	Polk	W-056	PEM	15	0.04						0.53	641	I, II
	6.3	Polk	W-058	PFO	1,029			0.73			0.47	0.60	617	I, II
	6.4	Polk	W-059	PEM	118	0.58						0.53	641	I, II
	6.5	Polk	W-060	PEM	1,032	0.97						0.47	641	I, II
	6.8	Polk	W-062	PEM	130	0.15						0.43	641	I, II
	7.3	Polk	W-065	PFO	493			0.55			0.34	0.73	611	I, II
	7.3	Polk	W-066	PEM	0	0.02						0.50	641	I, II
	7.4	Polk	W-067	PFO	1,849			2.04			1.26	0.73	611	I, II
	7.7	Polk	W-068	PEM	0	0.01						0.50	641	I, II
	7.8	Polk	W-069	PFO	900			1.03			0.62	0.73	611	I, II
	7.9	Polk	W-070	PEM	0	0.01						0.50	641	I, II
	8.2	Polk	W-071	PFO	1,184			0.95			0.69	0.67	617	I, II
	8.3	Polk	W-072	PEM	0	0.42						0.67	641	I, II
	8.6	Polk	W-073	PFO	166			0.18			0.11	0.67	615	I, II
	8.6	Polk	W-075	PFO	39			0.05			0.03	0.67	615	I, II
	9.1	Polk	W-076	PFO	0			1.50			1.06	0.40	617	I, II
	9.2	Polk	W-077	PEM	1,806	0.57						0.80	641	I, II
	9.5	Polk	W-078	PFO	487			0.52			0.34	0.80	617	I, II
	9.5	Polk	W-079	PEM	0	0.04						0.40	641	I, II
	9.7	Polk	W-082	PFO	2,702			2.58			1.77	0.77	617	I, II
	9.9	Polk	W-083	PEM	0	0.53						0.70	641	I, II
	10.3	Polk	W-084	PFO	849			0.71			0.51	0.70	617	I, II
	10.3	Polk	W-085	PEM	0	0.26						0.70	641	I, II
	10.4	Polk	W-086	PFO	0			1.02			0.74	0.70	617	I, II
	10.4	Polk	W-087	PEM	1,207	0.36						0.70	641	I, II
	10.7	Polk	W-088	PFO	668			0.76			0.46	0.63	617	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	10.8	Polk	W-088A	PEM	0	0.01						0.53	641	I, II
	10.7	Polk	W-089	PEM	0	0.00						0.57	641	I, II
	10.9	Polk	W-090	PEM	88	0.07						0.43	641	I, II
	10.9	Polk	W-091	PEM	17	0.06						0.43	641	I, II
	11.1	Polk	W-093	PEM	0	0.00						0.63	641	I, II
	11.2	Polk	W-094	PFO	1,405			1.07			0.72	0.63	617	I, II
	12.2	Polk	W-097	PFO	194			0.21			0.13	0.80	611	I, II
	12.2	Polk	W-098	PEM	10	0.02						0.57	641	I, II
	12.2	Polk	W-099	PEM	67	0.08						0.47	643	I, II
	12.3	Polk	W-100	PEM	92	0.13						0.37	641	I, II
	12.3	Polk	W-101	PFO	302			0.33			0.21	0.50	617	I, II
	12.4	Polk	W-101A	PFO	516			0.51			0.34	0.57	617	I, II
	12.4	Polk	W-102	PEM	0	0.04						0.57	641	I, II
	12.5	Polk	W-104	PEM	0	0.03						0.57	641	I, II
	12.5	Polk	W-105	PEM	0	0.05						0.57	641	I, II
	12.5	Polk	W-106	PFO	161			0.13			0.09	0.57	617	I, II
	12.6	Polk	W-108	PFO	129			0.15			0.09	0.33	617	I, II, IV
	13.2	Polk	W-112	PSS	46		0.05			0.01		0.20	631	I, II
	13.4	Polk	W-113	PSS	28		0.04			0.01		0.20	631	I, II
	16.0	Polk	W-114	PEM	207	0.23						0.30	641	I, II
	17.8	Polk	W-116	PEM	0	0.02						0.40	641	I, II
	18.5	Polk	W-119	PEM	443	0.53						0.40	641	I, II
	18.7	Polk	W-120	PEM	46	0.03						0.57	641	I, II
	19.7	Polk	W-121A	PEM	3,377	1.20						0.60	643	I, II
	19.0	Polk	W-122	PFO	943			3.74			2.29	0.40	630	I, II
	26.2	Polk	W-132	PEM	0	0.00						0.47	641	I, II
	28.5	Polk	W-133	PEM	441	0.47						0.80	641	I, II
	30.2	Polk	W-137-A1	PSS	0		0.01					0.10	631	I, II
	30.8	Polk	W-137-A2	PEM	155	0.13						0.20	641	I, II
	35.4	Polk	W-145	PEM	0	0.00						0.27	641	IV
	35.4	Polk	W-146	PEM	0	0.00						0.27	641	IV
	35.8	Polk	W-149	PFO	86			0.11			0.06	0.47	630	I, II
	35.8	Polk	W-150	PEM	29	0.03						0.37	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	35.8	Polk	W-151	PEM	198	0.19						0.37	641	I, II
	36.1	Polk	W-154	PEM	0	0.01						0.27	641	I, II
	36.1	Polk	W-155	PFO	464			0.53			0.32	0.70	630	I, II
	36.3	Polk	W-156	PEM	0	0.02						0.67	641	I, II
	36.4	Polk	W-157	PEM	10	0.01						0.27	641	I, II, IV
	36.4	Polk	W-158	PEM	26	0.03						0.30	641	I, II, IV
	36.7	Polk	W-159	PEM	14	0.08						0.23	641	I, II
	36.8	Polk	W-161	PEM	530	0.54						0.23	643	I, II
	36.8	Polk	W-162	PEM	97	0.17						0.60	641	I, II
	36.8	Polk	W-163	PFO	189			0.16			0.10	0.60	630	I, II
	36.9	Polk	W-164	PFO	145			0.17			0.10	0.60	630	I, II
	37.0	Polk	W-165	PFO	541			0.62			0.37	0.60	630	I, II
	37.1	Polk	W-167	PEM	280	0.32						0.50	641	I, II
	37.1	Polk	W-168	PSS	71		0.08			0.02		0.50	631	I, II
	37.2	Polk	W-169	PFO	80			0.08			0.05	0.57	617	I, II
	37.7	Polk	W-172	PEM	126	0.14						0.27	643	I, II
	38.0	Polk	W-175	PEM	23	0.03						0.33	641	I, II
	38.1	Polk	W-177	PEM	182	0.18						0.40	641	I, II
	38.5	Polk	W-181	PFO				0.00			0.00	0.73	617	V
	38.5	Polk	W-182	PEM		0.00			0.00			0.20	641	V
	38.6	Polk	W-184	PFO				0.00			0.00	0.43	617	V
	38.6	Polk	W-185	PFO				0.00			0.00	0.73	617	V
	38.7	Polk	W-186	PEM	265	0.26						0.33	643	I, II, V
	39.4	Polk	W-190	PEM	0	0.00						0.30	641	I, II
	39.8	Polk	W-193	PEM	319	0.41						0.23	641	I, II
	40.3	Polk	W-196	PEM	413	0.40						0.33	641	I, II
	40.7	Polk	W-198	PEM	25	0.03						0.53	641	I, II
	40.8	Polk	W-199	PFO	280			0.32			0.19	0.63	613	I, II
	40.9	Polk	W-200	PSS	119		0.11			0.03		0.43	631	I, II
	41.2	Polk	W-202	PEM	772	0.89						0.30	641	I, II
	41.5	Polk	W-203	PSS	384		0.44			0.09		0.67	631	I, II
	41.7	Polk	W-204	PSS	1,744		1.99			0.40		0.37	631	I, II
	41.9	Polk	W-205	PEM	70	0.09						0.53	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	42.3	Polk	W-207	PSS	303		0.35			0.07		0.60	631	I, II
	42.4	Polk	W-207-A	PSS	315		0.36			0.07		0.60	631	I, II
	42.6	Polk	W-208	PEM	47	0.06						0.33	643	I, II
	42.6	Polk	W-209	PEM	40	0.05						0.30	643	I, II
	42.7	Polk	W-210	PEM	389	0.44						0.30	641	I, II
	43.6	Polk	W-218	PSS	0		0.01					0.57	631	I, II
	45.4	Polk	W-222	PEM	12	0.01						0.47	641	I, II
	46.6	Polk	W-223	PEM	0	0.00						0.47	641	I, II
	46.7	Polk	W-223A	PEM	0	0.02						0.43	641	I, II
	46.8	Polk	W-224	PEM	0	0.00						0.20	641	I, II
	46.9	Polk	W-225	PEM	755	0.86						0.80	641	I, II
	47.0	Polk	W-227	PEM	47	0.02						0.47	641	I, II
	47.6	Polk	W-228	PEM	137	0.25						0.47	641	I, II
	47.7	Polk	W-229	PSS	243		0.30			0.06		0.77	631	I, II
	47.8	Polk	W-230	PEM	18	0.08						0.47	641	I, II
	48.1	Polk	W-231	PFO	72			0.05			0.03	0.70	617	I, II
	48.5	Polk	W-232	PEM	394	0.46						0.50	641	I, II
	49.1	Polk	W-234	PEM	742	0.85						0.50	641	I, II
	49.5	Polk	W-237	PSS	409		0.46			0.09		0.50	631	I, II
	49.6	Polk	W-238	PEM	8	0.01						0.33	641	I, II
	50.3	Polk	W-241A	PEM	0	0.01						0.30	641	I, II
	50.6	Polk	W-242	PEM	1,067	1.31						0.30	641	I, II
	50.9	Polk	W-247	PEM	614	0.55						0.30	641	I, II
	51.4	Polk	W-249	PEM	9	0.01						0.20	641	IV
	51.5	Polk	W-250	PEM	9	0.01						0.20	641	IV
	52.6	Polk	W-251	PEM	257	0.00						0.30	644	I, II
	52.3	Polk	W-251A	PEM	20	0.40						0.30	641	I, II
	51.7	Polk	W-252	PEM	348	0.28						0.50	641	I, II
	51.9	Polk	W-253	PEM	58	0.02						0.50	641	I, II
	52.6	Polk	W-251B	PEM	0	0.00			0.00			0.00	644	V
	52.9	Polk	W-251C	PEM	0	0.00			0.00			0.00	644	V
	53.1	Osceola	W-251E	PEM	0	0.00			0.00			0.00	641	V
	53.2	Osceola	W-251F	PEM	0	0.00			0.00			0.00	641	V

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Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	53.3	Osceola	W-251G	PEM	0	0.00			0.00			0.00	641	V
	53.5	Osceola	W-251D	PEM	0	0.00			0.00			0.50	641	V
	54.2	Osceola	W-266	PSS	28		0.06					0.17	631	I, II
	53.8	Osceola	W-266J	PEM	10	0.01						0.17	641	IV
	53.7	Osceola	W-266K	PEM	0	0.03						0.20	641	IV
	56.6	Osceola	W-282	PEM	0	0.01						0.53	641	I, II
	56.6	Osceola	W-282A	PEM	0	0.11						0.53	641	I, II
	57.2	Osceola	W-285A	PEM	559	0.64						0.20	641	I, II
	57.5	Osceola	W-285B	PEM	510	0.58						0.20	641	I, II
	58.4	Osceola	W-290A	PFO	0			0.00			0.00	0.70	617	V
	58.7	Osceola	W-291A	PEM	840	0.85						0.20	641	I, II, V
	60.3	Osceola	W-295A	PEM	1,017	1.17						0.33	641	I, II
	60.8	Osceola	W-301A	PEM	328	0.38						0.40	641	I, II
	62.4	Osceola	W-309	PEM	329	0.00						0.40	641	I, II
	62.1	Osceola	W-310	PSS	0		0.30			0.08		0.40	631	I, II
	63.0	Osceola	W-312	PEM	0	0.12						0.20	641	I, II
	63.2	Osceola	W-312A	PEM	82	0.62						0.20	641	I, II
	63.0	Osceola	W-312B	PEM	540	0.07						0.20	641	I, II
	63.6	Osceola	W-315	PEM	602	0.66						0.20	641	I, II
	63.7	Osceola	W-316	PEM	0	0.02						0.20	641	I, II
	64.0	Osceola	W-316A	PEM	439	0.46						0.43	641	I, II
	64.0	Osceola	W-317	PSS	0		0.03					0.40	631	I, II
	64.1	Osceola	W-317A	PEM	0	0.11						0.20	641	I, II
	64.3	Osceola	W-317B	PEM	300	0.31						0.57	641	I, II
	64.9	Osceola	W-319	PEM	0	0.19						0.40	641	I, II
	64.9	Osceola	W-320	PSS	584		0.59			0.13		0.40	631	I, II
	65.3	Osceola	W-321	PEM	963	1.25						0.20	641	I, II
	65.3	Osceola	W-322	PEM	406	0.44						0.47	643	I, II
	65.4	Osceola	W-325	PEM	0	0.00						0.27	641	I, II
	65.4	Osceola	W-326	PEM	0	0.00						0.27	641	I, II
	65.5	Osceola	W-328	PEM	0	0.00						0.27	641	I, II
	65.7	Osceola	W-330	PEM	0	0.02						0.17	652	I, II
	65.7	Osceola	W-331	PEM	0	0.00						0.27	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	65.7	Osceola	W-332	PEM	0	0.00						0.27	641	I, II
	65.7	Osceola	W-333	PEM	0	0.00						0.37	641	I, II
	65.8	Osceola	W-334	PEM	945	1.28						0.47	641	I, II
	65.8	Osceola	W-335	PSS	351		0.29			0.08		0.47	631	I, II
	66.0	Osceola	W-336	PEM	1,015	1.11						0.47	643	I, II
	66.2	Osceola	W-338	PSS	0		0.13					0.47	631	I, II
	66.4	Osceola	W-339	PEM	438	0.54						0.47	641	I, II
	66.6	Osceola	W-340	PEM	398	0.46						0.40	643	I, II
	66.7	Osceola	W-341	PEM	29	0.03						0.30	641	I, II
	66.9	Osceola	W-342	PEM	586	0.67						0.17	641	I, II
	67.0	Osceola	W-343	PEM	32	0.04						0.27	641	I, II
	67.0	Osceola	W-344	PEM	59	0.07						0.27	641	I, II
	67.7	Osceola	W-347	PEM	1,238	1.29						0.47	641	I, II
	67.7	Osceola	W-348	PEM	82	0.41						0.47	641	I, II
	67.8	Osceola	W-349	PEM	150	0.31						0.47	643	I, II
	68.0	Osceola	W-350	PEM	0	0.37						0.27	641	I, II
	68.3	Osceola	W-351	PEM	14	0.27						0.27	641	I, II
	69.2	Osceola	W-352	PEM	0	3.29						0.27	641	I, II
	68.4	Osceola	W-353	PEM	0	0.25						0.27	641	I, II
	68.8	Osceola	W-354	PEM	0	0.11						0.27	641	I, II
	69.0	Osceola	W-355	PEM	1,940	0.63						0.17	641	I, II
	70.1	Osceola	W-358	PEM	1,200	1.39						0.17	641	I, II
	70.4	Osceola	W-359	PEM	1,861	2.13						0.47	641	I, II
	70.9	Osceola	W-360	PEM	532	0.56						0.47	643	I, II
	71.3	Osceola	W-361	PEM	604	0.58						0.50	643	I, II
	72.9	Osceola	W-365	PFO	416			0.42			0.28	0.43	617	I, II
	72.9	Osceola	W-366	PEM	66	0.16						0.43	641	I, II
	73.0	Osceola	W-367	PFO	0			0.06			0.02	0.43	630	I, II
	73.1	Osceola	W-368	PEM	493	0.52						0.43	641	I, II
	73.7	Osceola	W-370	PEM	0	0.04						0.50	641	I, II
	73.7	Osceola	W-371	PFO	782			0.90			0.55	0.67	617	I, II
	73.8	Osceola	W-372	PFO	155			0.15			0.10	0.67	617	I, II
	74.1	Osceola	W-373	PEM	170	0.12						0.37	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	74.7	Osceola	W-375	PEM	43	0.03						0.37	641	I, II
	75.2	Osceola	W-380	PEM	36	0.02						0.57	641	I, II
	76.4	Osceola	W-388	PFO	972			0.91			0.58	0.67	625	I, II
	76.6	Osceola	W-389	PSS	433		0.40			0.09		0.67	631	I, II
	76.8	Osceola	W-391	PEM	919	0.52						0.67	641	I, II
	76.9	Osceola	W-392	PFO	0			0.01				0.67	617	I, II
	76.9	Osceola	W-393	PFO	0			0.08			0.03	0.67	617	I, II
	76.9	Osceola	W-394	PFO	0							0.67	617	I, II
	76.9	Osceola	W-395	PEM	344	0.21						0.67	641	I, II
	76.9	Osceola	W-396	PFO	0			0.10			0.04	0.67	617	I, II
	78.5	Okeechobee	W-404	PEM	701	0.80						0.37	641	I, II
	79.4	Okeechobee	W-406	PEM	50	0.05						0.53	641	I, II
	79.5	Okeechobee	W-407	PEM	31	0.00						0.53	641	I, II
	79.4	Okeechobee	W-408	PEM	0	0.05						0.53	641	I, II
	79.6	Okeechobee	W-410	PEM	223	0.21						0.57	641	I, II
	79.7	Okeechobee	W-411	PEM	671	0.56						0.40	641	I, II
	79.7	Okeechobee	W-412	PSS	0		0.17					0.40	631	I, II
	79.7	Okeechobee	W-413	PSS	0		0.04					0.40	613	I, II
	79.9	Okeechobee	W-414	PEM	12	0.01						0.40	641	I, II
	79.9	Okeechobee	W-415	PEM	25	0.02						0.00	641	I, II
	80.3	Okeechobee	W-417	PEM	0	0.15						0.00	641	I, II
	80.2	Okeechobee	W-418	PEM	131	0.02						0.40	641	I, II
	80.5	Okeechobee	W-419	PSS	783		0.90			0.18		0.40	631	I, II
	80.8	Okeechobee	W-420	PEM	533	0.61						0.40	641	I, II
	81.4	Okeechobee	W-421	PEM	0	0.01						0.40	641	I, II
	81.4	Okeechobee	W-423	PFO	245			0.27			0.17	0.40	617	I, II
	81.6	Okeechobee	W-424	PFO	188			0.21			0.13	0.40	617	I, II
	81.7	Okeechobee	W-425	PFO	1,344			1.55			0.93	0.50	630	I, II
	81.9	Okeechobee	W-426	PSS	125		0.14			0.03		0.50	631	I, II
	82.0	Okeechobee	W-427	PEM	585	0.67						0.50	641	I, II, IV
	82.2	Okeechobee	W-429	PSS	189		0.21			0.04		0.33	631	I, II
	82.2	Okeechobee	W-430	PFO	62			0.07			0.04	0.33	617	I, II
	82.6	Okeechobee	W-432	PFO	513			0.59			0.35	0.57	617	I, II, IV

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	82.7	Okeechobee	W-433	PFO	441			0.50			0.30	0.57	617	I, II, IV
	82.8	Okeechobee	W-434	PEM	0	0.00						0.50	641	I, II
	83.1	Okeechobee	W-436	PEM	0	0.11						0.50	641	I, II
	83.5	Okeechobee	W-438	PEM	413	0.47						0.47	641	I, II
	83.9	Okeechobee	W-441	PEM	0	0.13						0.20	641	I, II
	84.0	Okeechobee	W-442	PFO	869			1.02			0.61	0.67	617	IV
	84.2	Okeechobee	W-444	PEM	21	0.02						0.20	641	IV
	84.3	Okeechobee	W-446	PFO	0			0.00			0.00	0.67	617	V
	84.3	Okeechobee	W-447	PFO	0			0.00			0.00	0.67	617	V
	84.4	Okeechobee	W-448	PFO	0			0.00			0.00	0.37	630	V
	85.4	Okeechobee	W-454	PFO	1,802			2.07			1.24	0.63	617	I, II
	86.9	Okeechobee	W-455	PFO	694			0.78			0.47	0.67	617	I, II
	87.0	Okeechobee	W-456	PFO	364			0.37			0.23	0.67	617	I, II
	87.2	Okeechobee	W-458	PEM	0	0.11						0.30	641	I, II
	87.4	Okeechobee	W-459	PFO	82			0.10			0.06	0.53	630	I, II, IV
	87.4	Okeechobee	W-460	PFO	11			0.02			0.01	0.53	630	I, II, IV
	88.9	Okeechobee	W-463	PEM	0	0.00						0.20	641	I, II
	89.2	Okeechobee	W-464A	PEM	1,296	0.53						0.57	641	I, II
	89.0	Okeechobee	W-464B	PFO	373			1.35			0.85	0.10	617	I, II
	90.6	Okeechobee	W-465	PFO	0			0.20			0.02	0.37	630	I, II
	90.6	Okeechobee	W-466	PFO	0			0.33			0.13	0.33	630	I, II
	91.5	Okeechobee	W-471	PEM	21	0.02						0.23	641	I, II
	92.6	Okeechobee	W-473	PEM	108	0.11						0.23	641	I, II
	93.5	Okeechobee	W-480A	PFO	2,073			2.39			1.43	0.73	617	I, II
	93.9	Okeechobee	W-480B	PFO	909			1.11			0.64	0.47	617	I, II
	94.6	Okeechobee	W-482	PEM	11	0.02						0.33	641	I, II
	95.1	Okeechobee	W-484	PEM	12	0.01						0.20	641	I, II
	96.1	Okeechobee	W-488	PEM	27	0.02						0.30	641	I, II
	96.1	Okeechobee	W-489	PEM	0	0.00						0.30	641	I, II
	96.1	Okeechobee	W-490	PFO	0			0.02			0.00	0.63	611	I, II
	97.2	Okeechobee	W-493	PEM	9	0.01						0.27	641	I, II
	98.5	Okeechobee	W-495	PEM	306	0.26						0.50	643	I, II, V
	98.6	Okeechobee	W-496A	PFO	0			0.00			0.00	0.70	617	V

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Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	98.6	Okeechobee	W-496B	PFO	0			0.00			0.00	0.70	617	V
	98.7	Okeechobee	W-496D	PFO	0			0.00			0.00	0.70	617	V
	98.7	Okeechobee	W-496E	PFO	0			0.00			0.00	0.70	617	V
	98.7	Okeechobee	W-496F	PFO	0			0.00			0.00	0.70	617	V
	98.8	Okeechobee	W-496G	PFO	0			0.00			0.00	0.70	617	V
	98.9	Okeechobee	W-497	PEM	10	0.01						0.37	641	I, II
	99.9	Okeechobee	W-499	PEM	1,152	1.33						0.57	643	I, II
	100.1	Okeechobee	W-500	PFO	0							0.53	630	I, II
	100.1	Okeechobee	W-501	PEM	338	0.39						0.57	641	I, II, IV
	100.1	Okeechobee	W-502	PEM	29	0.03						0.50	641	I, II
	100.4	Okeechobee	W-504	PEM	30	0.03						0.50	641	I, II
	100.9	Okeechobee	W-505	PEM	242	0.30						0.47	641	I, II
	101.7	Okeechobee	W-507	PFO	136			0.15			0.09	0.73	630	I, II
	101.8	Okeechobee	W-508A	PFO	261			0.30			0.18	0.70	630	I, II
	102.0	St. Lucie	W-508B	PFO	364			0.45			0.26	0.70	630	I, II
	102.1	St. Lucie	W-509	PEM	378	0.38						0.70	641	I, II
	102.2	St. Lucie	W-510	PSS	1,711		1.96			0.39		0.70	631	I, II
	102.3	St. Lucie	W-513	PEM	587	0.66						0.70	641	I, II
	102.6	St. Lucie	W-514	PFO	511			0.58			0.35	0.70	630	I, II
	102.7	St. Lucie	W-515	PSS	1,208		1.36			0.28		0.70	631	I, II
	102.7	St. Lucie	W-516	PFO	28			0.07			0.03	0.70	630	I, II
	102.9	St. Lucie	W-518	PEM	442	0.51						0.63	641	I, II
	103.0	St. Lucie	W-519	PFO	213			0.25			0.15	0.63	630	I, II
	103.0	St. Lucie	W-520A	PFO	89			0.10			0.06	0.63	617	I, II
	103.0	St. Lucie	W-520B	PFO	39			0.05			0.03	0.63	617	I, II
	103.2	St. Lucie	W-521	PFO	45			0.05			0.03	0.70	617	I, II
	103.3	St. Lucie	W-523	PFO	249			0.28			0.17	0.70	611	I, II
	103.4	St. Lucie	W-524	PFO	332			0.38			0.23	0.70	611	I, II
	103.5	St. Lucie	W-525	PFO	222			0.25			0.15	0.70	611	I, II
	103.9	St. Lucie	W-526	PEM	1,986	2.27						0.53	641	I, II
	104.3	St. Lucie	W-527	PEM	0	0.00						0.53	641	I, II
	104.4	St. Lucie	W-528	PSS	749		0.84			0.17		0.63	631	I, II
	104.6	St. Lucie	W-529	PEM	677	0.80						0.63	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	105.2	St. Lucie	W-531A	PEM	0	0.03						0.63	643	I, II
	105.2	St. Lucie	W-531B	PFO	393			0.45			0.27	0.63	617	I, II
	105.4	St. Lucie	W-532A	PFO	0			0.00			0.00	0.80	617	V
	105.5	St. Lucie	W-532E	PFO	0			0.00			0.00	0.80	617	V
	106.0	St. Lucie	W-534	PEM	1,013	1.15						0.00	641	I, II
	106.9	St. Lucie	W-535A	PFO	2,416			2.78			1.67	0.00	617	I, II
	107.6	St. Lucie	W-536D	PEM	25	0.03						0.20	641	I, II
	107.9	St. Lucie	W-540A	PFO	22			0.02			0.01	0.40	617	I, II
	108.4	St. Lucie	W-544A	PFO	33			0.03			0.02	0.40	617	I, II
	108.8	St. Lucie	W-546A	PFO	55			0.07			0.04	0.40	621	I, II
	108.9	St. Lucie	W-548A	PFO	220			0.25			0.15	0.43	621	I, II
	109.0	St. Lucie	W-548C	PEM	3	0.00						0.20	641	I, II
	109.0	St. Lucie	W-548D	PEM	2	0.00						0.20	641	I, II
	109.2	St. Lucie	W-549A	PEM	25	0.03						0.20	641	I, II
	109.3	St. Lucie	W-550	PSS	38		0.05			0.01		0.20	631	I, II
	109.5	St. Lucie	W-551	PFO	99			0.11			0.07	0.33	630	I, II
	109.6	St. Lucie	W-552	PEM	37	0.04						0.20	641	I, II
	109.9	St. Lucie	W-553	PFO	0			0.04			0.01	0.33	630	I, II
	110.0	St. Lucie	W-554	PEM	23	0.03						0.27	641	I, II
	110.1	St. Lucie	W-555	PFO	98			0.08			0.05	0.33	630	I, II
	110.3	St. Lucie	W-556	PEM	20	0.02						0.20	641	I, II
	110.5	St. Lucie	W-557	PFO	803			0.92			0.55	0.43	630	I, II
	110.7	St. Lucie	W-559	PEM	1,713	1.85						0.43	641	I, II
	111.3	St. Lucie	W-560	PSS	519		0.40			0.02		0.43	631	I, II
	111.2	St. Lucie	W-561	PEM	91	0.53						0.43	641	I, II
	112.9	St. Lucie	W-562	PEM	415	0.24						0.30	641	I, II
	112.0	St. Lucie	W-563	PFO	29			0.48			0.29	0.20	617	I, II
	112.4	St. Lucie	W-565	PFO	75			0.03			0.02	0.20	621	I, II
	112.5	St. Lucie	W-566	PEM	22	0.08						0.20	641	I, II
	112.6	St. Lucie	W-567	PEM	0	0.03						0.30	641	I, II
	112.8	St. Lucie	W-568	PFO	211						0.00	0.20	617	I, II
	112.9	St. Lucie	W-571	PEM	35	0.04						0.20	641	I, II, IV
	113.0	St. Lucie	W-572	PEM	26	0.02						0.20	641	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	113.1	St. Lucie	W-573	PEM	38	0.03						0.20	641	I, II
	113.3	St. Lucie	W-574	PEM	27	0.03						0.20	641	I, II
	113.4	St. Lucie	W-575	PEM	24	0.02						0.20	641	I, II
	113.5	St. Lucie	W-576	PEM	26	0.03						0.20	641	I, II
	113.6	St. Lucie	W-577	PEM	37	0.03						0.20	641	I, II
	113.8	St. Lucie	W-578	PEM	30	0.03						0.20	641	I, II
	114.0	St. Lucie	W-579	PEM	30	0.03						0.20	641	I, II
	114.2	St. Lucie	W-580	PEM	26	0.03						0.20	641	I, II
	114.6	St. Lucie	W-582	PEM	0	0.00			0.00			0.53	641	V
	114.7	St. Lucie	W-583	PSS	0		0.00			0.00		0.27	631	V
	114.7	Martin	W-585	PEM	0	0.00			0.00			0.20	641	V
	115.0	Martin	W-587	PEM	59	0.07						0.20	641	I, II, IV
	115.8	Martin	W-589	PEM	19	0.02						0.20	641	I, II
	116.0	Martin	W-590	PEM	18	0.02						0.20	641	I, II
	116.1	Martin	W-591	PEM	24	0.03						0.20	641	I, II
	116.2	Martin	W-592	PEM	21	0.02						0.20	641	I, II
	116.3	Martin	W-593	PEM	23	0.03						0.20	641	I, II
	116.5	Martin	W-594	PEM	24	0.03						0.20	641	I, II
	116.6	Martin	W-595	PEM	23	0.03						0.20	641	I, II
	116.7	Martin	W-596	PEM	23	0.03						0.20	641	I, II
	116.9	Martin	W-597	PEM	21	0.02						0.20	641	I, II
	117.0	Martin	W-598	PEM	19	0.02						0.20	641	I, II
	117.1	Martin	W-599	PEM	31	0.04						0.20	641	I, II
	117.2	Martin	W-600	PEM	13	0.02						0.20	641	I, II
	117.4	Martin	W-601	PEM	20	0.02						0.20	641	I, II
	117.5	Martin	W-602	PEM	30	0.03						0.20	641	I, II
	117.7	Martin	W-603	PEM	56	0.13						0.40	641	I, II
	117.6	Martin	W-604	PEM	135	0.06						0.40	641	I, II
	117.8	Martin	W-605	PFO	0			0.07			0.02	0.33	617	I, II
	118.6	Martin	W-608	PEM	18	0.02						0.13	641	I, II
	118.7	Martin	W-609	PEM	15	0.01						0.10	641	IV
	118.7	Martin	W-610	PEM	14	0.02						0.20	641	IV
	118.8	Martin	W-611	PFO	1,172			1.36			0.81	0.37	630	I, II

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	119.1	Martin	W-612	PFO	6			0.07			0.03	0.37	630	I, II
	119.3	Martin	W-613	PEM	86	0.10						0.37	641	I, II
	119.7	Martin	W-615	PEM	17	0.02						0.30	641	I, II
	119.8	Martin	W-616	PEM	2,123	2.42						0.30	641	I, II
	120.7	Martin	W-617	PEM	794	0.93						0.30	641	I, II
	121.0	Martin	W-621a	PEM	181	0.19						0.40	641	I, II
	121.0	Martin	W-621b	PEM	177	0.20						0.40	641	I, II
	121.3	Martin	W-622	PEM	487	0.56						0.30	641	I, II
	121.8	Martin	W-624	PEM	624	0.74						0.27	641	I, II
	122.1	Martin	W-624A	PEM	100	0.11						0.27	641	I, II
	122.1	Martin	W-626	PEM	231	0.24						0.27	641	I, II
	122.2	Martin	W-627	PEM	8	0.01						0.30	641	I, II
	122.6	Martin	W-629	PFO	1,310			1.50			0.90	0.37	617	I, II
	122.7	Martin	W-630	PFO	0			0.02			0.00	0.43	619	I, II
	122.8	Martin	W-631	PEM	1,387	1.48						0.43	641	I, II
	122.9	Martin	W-633	PFO	186			0.28			0.14	0.43	617	I, II
	123.0	Martin	W-634	PFO	33			0.04			0.02	0.43	619	I, II
	123.1	Martin	W-635	PFO	45			0.58			0.34	0.43	617	I, II
	123.0	Martin	W-636	PEM	487	0.04						0.43	641	I, II
	123.1	Martin	W-637	PEM	289	0.34						0.43	641	I, II
	123.4	Martin	W-638	PSS	67		0.08			0.02		0.20	631	I, II
	123.6	Martin	W-639	PSS	280		0.03					0.20	631	V
	124.1	Martin	W-645	PEM	0	0.00			0.00			0.20	641	V
	124.2	Martin	W-646	PFO	0			0.00			0.00	0.20	630	V
	124.2	Martin	W-647	PFO	0			0.00			0.00	0.20	630	V
	124.2	Martin	W-648	PEM	30	0.03						0.20	641	V
	124.4	Martin	W-653	PSS	20		0.02			0.00		0.27	631	I, II
	125.3	Martin	W-654	PSS	27		0.12			0.01		0.20	631	I, II
	124.9	Martin	W-654a	PSS	52		0.03			0.01		0.20	631	I, II
	125.3	Martin	W-656	PEM	21	0.02						0.13	641	I, II
	125.4	Martin	W-659	PEM	30	0.03						0.20	641	I, II
	126.1	Martin	W-661	PEM	324	0.36						0.33	641	I, II
Pipeline ROW Subtotal					**120,085**	**70.99**	**12.73**	**56.10**	**0.00**	**2.49**	**34.47**			

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
ATWS														
	0.1	Osceola	W-006	PEM	**0**	0.00						0.33	641	N/A
	0.5	Osceola	W-007	PFO	**0**			0.22				0.53	624	N/A
	0.7	Polk	W-010	PFO	**0**			0.23				0.50	630	N/A
	0.7	Polk	W-011A	PEM	**0**	0.01						0.47	641	N/A
	0.9	Polk	W-014	PFO	**0**			0.32				0.53	617	N/A
	1.0	Polk	W-016	PEM	**0**	0.06						0.53	641	N/A
	1.8	Polk	W-031	PFO	**0**			0.43				0.50	617	N/A
	1.9	Polk	W-032	PFO	**0**			0.15				0.63	617	N/A
	2.8	Polk	W-034	PFO	**0**			0.15				0.63	617	N/A
	2.8	Polk	W-034A	PFO	**0**			0.59				0.53	617	N/A
	3.4	Polk	W-035	PEM	**0**	0.11						0.70	641	N/A
	3.4	Polk	W-036	PEM	**0**	0.12						0.70	641	N/A
	4.2	Polk	W-042	PFO	**0**			0.10				0.57	621	N/A
	5.7	Polk	W-054	PEM	**0**	0.14						0.53	641	N/A
	10.2	Polk	W-082	PFO	**0**			0.06				0.77	617	N/A
	10.2	Polk	W-084	PFO	**0**			0.05				0.70	617	N/A
	10.6	Polk	W-088	PFO	**0**			0.00				0.63	617	N/A
	10.6	Polk	W-089	PEM	**0**	0.02						0.53	641	N/A
	11.5	Polk	W-094A	PFO	**0**			0.06				0.63	617	N/A
	11.6	Polk	W-095	PEM	**0**	0.01						0.60	641	N/A
	12.1	Polk	W-096	PEM	**0**	0.07						0.57	641	N/A
	12.2	Polk	W-097	PFO	**0**			0.17				0.80	611	N/A
	12.2	Polk	W-099	PEM	**0**	0.15						0.47	643	N/A
	12.5	Polk	W-105	PEM	**0**	0.06						0.57	641	N/A
	12.6	Polk	W-108	PFO	**0**			0.13				0.33	617	N/A
	19.8	Polk	W-121A	PEM	**0**	0.07						0.40	643	N/A
	30.2	Polk	W-137-A1	PSS	**0**		0.07					0.10	631	N/A
	38.1	Polk	W-177	PEM	**0**	0.12						0.40	641	N/A
	38.7	Polk	W-186	PEM	**0**	0.51						0.33	643	N/A
	41.0	Polk	W-201	PEM	**0**	0.05						0.10	641	N/A
	42.4	Polk	W-207	PSS	**0**		0.16					0.60	641	N/A
	42.4	Polk	W-207-A	PSS	**0**		0.16					0.60	631	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	46.7	Polk	W-223A	PEM	**0**	0.09						0.43	641	N/A
	51.1	Polk	W-242	PEM	**0**	0.14						0.30	641	N/A
	51.0	Polk	W-247	PEM	**0**	0.02						0.30	641	N/A
	52.3	Polk	W-251A	PEM	**0**	0.38						0.50	641	N/A
	51.7	Polk	W-252	PEM	**0**	0.28						0.30	641	N/A
	51.9	Polk	W-253	PEM	**0**	0.10						0.30	641	N/A
	52.4	Polk	W-254	PEM	**0**	0.19						0.50	641	N/A
	53.8	Osceola	W-266J	PEM	**0**	0.05						0.17	641	N/A
	53.7	Osceola	W-266K	PEM	**0**	0.04						0.17	641	N/A
	56.6	Osceola	W-282A	PEM	**0**	0.09						0.53	641	N/A
	57.2	Osceola	W-285A	PEM	**0**	0.10						0.20	641	N/A
	57.5	Osceola	W-285B	PEM	**0**	0.07						0.20	641	N/A
	58.6	Osceola	W-291A	PEM	**0**	0.46						0.20	641	N/A
	62.1	Osceola	W-309	PEM	**0**	0.34						0.40	641	N/A
	63.2	Osceola	W-312A	PEM	**0**	0.32						0.20	641	N/A
	63.0	Osceola	W-312B	PEM	**0**	0.02						0.20	641	N/A
	62.6	Osceola	W-313	PEM	**0**	0.06						0.20	641	N/A
	63.6	Osceola	W-315	PEM	**0**	0.09						0.20	641	N/A
	64.0	Osceola	W-316A	PEM	**0**	0.06						0.43	641	N/A
	64.3	Osceola	W-317B	PEM	**0**	0.05						0.57	641	N/A
	64.9	Osceola	W-320	PSS	**0**		0.15					0.40	631	N/A
	65.3	Osceola	W-322	PEM	**0**	0.13						0.47	643	N/A
	65.4	Osceola	W-325	PEM	**0**	0.01						0.27	641	N/A
	65.4	Osceola	W-326	PEM	**0**	0.01						0.27	641	N/A
	65.5	Osceola	W-327	PEM	**0**	0.01						0.27	641	N/A
	65.5	Osceola	W-328	PEM	**0**	0.02						0.27	641	N/A
	65.6	Osceola	W-329	PEM	**0**	0.01						0.27	641	N/A
	65.7	Osceola	W-331	PEM	**0**	0.01						0.27	641	N/A
	65.7	Osceola	W-332	PEM	**0**	0.00						0.27	641	N/A
	65.7	Osceola	W-333	PEM	**0**	0.01						0.37	641	N/A
	65.9	Osceola	W-334	PEM	**0**	0.19						0.47	641	N/A
	65.8	Osceola	W-335	PSS	**0**		0.06					0.47	631	N/A
	66.0	Osceola	W-336	PEM	**0**	0.03						0.47	643	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	67.7	Osceola	W-348	PEM	**0**	0.23						0.47	641	N/A
	67.8	Osceola	W-349	PEM	**0**	0.14						0.47	643	N/A
	68.0	Osceola	W-350	PEM	**0**	0.07						0.27	641	N/A
	68.2	Osceola	W-351	PEM	**0**	0.02						0.27	641	N/A
	69.4	Osceola	W-352	PEM	**0**	0.90						0.17	641	N/A
	68.6	Osceola	W-353	PEM	**0**	0.03						0.27	641	N/A
	68.8	Osceola	W-354	PEM	**0**	0.02						0.27	641	N/A
	68.9	Osceola	W-355	PEM	**0**	0.07						0.27	641	N/A
	69.8	Osceola	W-357	PEM	**0**	0.00						0.37	641	N/A
	70.2	Osceola	W-358	PEM	**0**	0.07						0.17	641	N/A
	70.7	Osceola	W-359	PEM	**0**	0.23						0.47	641	N/A
	71.3	Osceola	W-361	PEM	**0**	0.01						0.50	643	N/A
	71.7	Osceola	W-362	PEM	**0**	0.00						0.63	641	N/A
	72.8	Osceola	W-365	PFO	**0**			0.01				0.43	617	N/A
	72.8	Osceola	W-366	PEM	**0**	0.02						0.43	641	N/A
	73.7	Osceola	W-371	PFO	**0**			0.17				0.67	617	N/A
	74.1	Osceola	W-373	PEM	**0**	0.02						0.37	641	N/A
	74.7	Osceola	W-375	PEM	**0**	0.00						0.37	641	N/A
	75.2	Osceola	W-380	PEM	**0**	0.00						0.57	641	N/A
	76.4	Osceola	W-388	PFO	**0**			0.09				0.67	625	N/A
	76.8	Osceola	W-391	PEM	**0**	0.00						0.67	641	N/A
	76.9	Osceola	W-392	PFO	**0**			0.15				0.67	617	N/A
	76.9	Osceola	W-394	PFO	**0**			0.09				0.67	617	N/A
	79.4	Okeechobee	W-407	PEM	**0**	0.12						0.53	641	N/A
	79.6	Okeechobee	W-410	PEM	**0**	0.01						0.57	641	N/A
	79.6	Okeechobee	W-411	PEM	**0**	0.02						0.40	641	N/A
	79.7	Okeechobee	W-412	PSS	**0**		0.05					0.40	631	N/A
	80.5	Okeechobee	W-419	PSS	**0**		0.17					0.40	631	N/A
	80.8	Okeechobee	W-420	PEM	**0**	0.12						0.40	641	N/A
	81.6	Okeechobee	W-424	PFO	**0**			0.09				0.40	617	N/A
	81.7	Okeechobee	W-425	PFO	**0**			0.28				0.50	630	N/A
	82.0	Okeechobee	W-427	PEM	**0**	0.13						0.50	641	N/A
	82.7	Okeechobee	W-432	PFO	**0**			0.17				0.57	617	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	82.7	Okeechobee	W-433	PFO	**0**			0.17				0.57	617	N/A
	84.1	Okeechobee	W-442	PFO	**0**			0.02				0.67	617	N/A
	84.2	Okeechobee	W-444	PEM	**0**	0.02						0.20	641	N/A
	84.3	Okeechobee	W-445	PEM	**0**	0.00						0.30	641	N/A
	84.5	Okeechobee	W-449	PEM	**0**	0.01						0.20	641	N/A
	85.6	Okeechobee	W-454	PFO	**0**			0.21				0.63	617	N/A
	87.0	Okeechobee	W-455	PFO	**0**			0.17				0.67	617	N/A
	87.0	Okeechobee	W-456	PFO	**0**			0.17				0.67	617	N/A
	87.2	Okeechobee	W-457	PEM	**0**	0.16						0.27	641	N/A
	90.7	Okeechobee	W-465	PFO	**0**			0.00				0.37	630	N/A
	90.7	Okeechobee	W-466	PFO	**0**			0.01				0.33	630	N/A
	91.5	Okeechobee	W-471	PEM	**0**	0.05						0.23	641	N/A
	91.5	Okeechobee	W-472	PEM	**0**	0.01						0.23	641	N/A
	93.8	Okeechobee	W-480A	PFO	**0**			0.21				0.73	617	N/A
	94.2	Okeechobee	W-480B	PFO	**0**			0.22				0.47	617	N/A
	94.6	Okeechobee	W-482	PEM	**0**	0.00						0.33	641	N/A
	98.6	Okeechobee	W-494-A7	PFO	**0**			0.00				0.67	617	N/A
	98.5	Okeechobee	W-494-A8	PEM	**0**	0.00						0.50	643	N/A
	98.5	Okeechobee	W-495	PEM	**0**	0.27						0.50	643	N/A
	98.6	Okeechobee	W-496A	PFO	**0**			0.00				0.70	617	N/A
	98.9	Okeechobee	W-497	PEM	**0**	0.00						0.37	641	N/A
	100.1	Okeechobee	W-499	PEM	**0**	0.02						0.57	643	N/A
	100.1	Okeechobee	W-501	PEM	**0**	0.20						0.57	641	N/A
	100.1	Okeechobee	W-502	PEM	**0**	0.11						0.50	641	N/A
	100.4	Okeechobee	W-504	PEM	**0**	0.00						0.47	641	N/A
	101.9	Okeechobee	W-508B	PFO	**0**			0.14				0.70	630	N/A
	102.1	St. Lucie	W-509	PEM	**0**	0.34						0.70	641	N/A
	105.2	St. Lucie	W-531B	PFO	**0**			0.19				0.63	617	N/A
	106.0	St. Lucie	W-534	PEM	**0**	0.23						0.00	641	N/A
	106.9	St. Lucie	W-535A	PFO	**0**			0.33				0.00	617	N/A
	107.7	St. Lucie	W-537A	PEM	**0**	0.00						0.20	641	N/A
	107.9	St. Lucie	W-539A	PEM	**0**	0.01						0.20	641	N/A
	107.9	St. Lucie	W-540A	PFO	**0**			0.05				0.40	617	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	108.8	St. Lucie	W-546A	PFO	**0**			0.00				0.40	621	N/A
	108.9	St. Lucie	W-548A	PFO	**0**			0.41				0.43	621	N/A
	109.0	St. Lucie	W-548C	PEM	**0**	0.00						0.20	641	N/A
	109.2	St. Lucie	W-549A	PEM	**0**	0.07						0.20	641	N/A
	110.5	St. Lucie	W-557	PFO	**0**			0.33				0.43	630	N/A
	110.7	St. Lucie	W-559	PEM	**0**	0.06						0.43	641	N/A
	112.9	St. Lucie	W-562	PEM	**0**	0.16						0.20	641	N/A
	112.5	St. Lucie	W-565	PFO	**0**			0.00				0.20	621	N/A
	112.9	St. Lucie	W-568	PFO	**0**			0.00				0.30	617	N/A
	112.9	St. Lucie	W-568A	PFO	**0**			0.07				0.30	617	N/A
	113.0	St. Lucie	W-572	PEM	**0**	0.03						0.20	641	N/A
	113.1	St. Lucie	W-573	PEM	**0**	0.04						0.20	641	N/A
	113.3	St. Lucie	W-574	PEM	**0**	0.03						0.20	641	N/A
	113.4	St. Lucie	W-575	PEM	**0**	0.03						0.20	641	N/A
	113.5	St. Lucie	W-576	PEM	**0**	0.03						0.20	641	N/A
	113.7	St. Lucie	W-577	PEM	**0**	0.04						0.20	641	N/A
	113.8	St. Lucie	W-578	PEM	**0**	0.04						0.20	641	N/A
	114.0	St. Lucie	W-579	PEM	**0**	0.04						0.20	641	N/A
	114.2	St. Lucie	W-580	PEM	**0**	0.03						0.20	641	N/A
	114.9	Martin	W-585	PEM	**0**	0.00						0.20	641	N/A
	115.0	Martin	W-587	PEM	**0**	0.13						0.20	641	N/A
	115.0	Martin	W-587-A01	PEM	**0**	0.07						0.20	641	N/A
	115.0	Martin	W-587-A02	PEM	**0**	0.00						0.20	641	N/A
	115.8	Martin	W-589	PEM	**0**	0.04						0.20	641	N/A
	116.0	Martin	W-590	PEM	**0**	0.05						0.20	641	N/A
	116.1	Martin	W-591	PEM	**0**	0.06						0.20	641	N/A
	116.2	Martin	W-592	PEM	**0**	0.06						0.20	641	N/A
	116.3	Martin	W-593	PEM	**0**	0.06						0.20	641	N/A
	116.5	Martin	W-594	PEM	**0**	0.07						0.20	641	N/A
	116.6	Martin	W-595	PEM	**0**	0.06						0.20	641	N/A
	116.7	Martin	W-596	PEM	**0**	0.06						0.20	641	N/A
	116.9	Martin	W-597	PEM	**0**	0.06						0.20	641	N/A
	117.0	Martin	W-598	PEM	**0**	0.05						0.20	641	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
	117.1	Martin	W-599	PEM	**0**	0.07						0.20	641	N/A
	117.2	Martin	W-600	PEM	**0**	0.03						0.20	641	N/A
	117.4	Martin	W-601	PEM	**0**	0.04						0.20	641	N/A
	117.5	Martin	W-602	PEM	**0**	0.05						0.20	641	N/A
	117.5	Martin	W-603	PEM	**0**	0.00						0.40	641	N/A
	118.7	Martin	W-609-A5	PEM	**0**	0.00						0.27	641	N/A
	118.7	Martin	W-609-A6	PEM	**0**	0.00						0.27	641	N/A
	118.7	Martin	W-609-A7	PEM	**0**	0.01						0.17	641	N/A
	118.9	Martin	W-611	PFO	**0**			0.74				0.37	630	N/A
	119.7	Martin	W-615	PEM	**0**	0.03						0.30	641	N/A
	120.0	Martin	W-616	PEM	**0**	0.92						0.30	641	N/A
	120.2	Martin	W-617	PEM	**0**	0.04						0.30	641	N/A
	121.0	Martin	W-621a	PEM	**0**	0.18						0.40	641	N/A
	121.0	Martin	W-621b	PEM	**0**	0.22						0.40	641	N/A
	122.7	Martin	W-629	PFO	**0**			0.03				0.37	617	N/A
	122.7	Martin	W-630	PFO	**0**			0.00				0.43	619	N/A
	123.0	Martin	W-631	PEM	**0**	0.35						0.43	641	N/A
	123.0	Martin	W-634	PFO	**0**			0.05				0.43	619	N/A
	123.1	Martin	W-635	PFO	**0**			0.54				0.43	617	N/A
	123.0	Martin	W-636	PEM	**0**	0.04						0.43	641	N/A
	123.1	Martin	W-637	PEM	**0**	0.13						0.43	641	N/A
	123.4	Martin	W-638	PSS	**0**		0.04					0.20	631	N/A
	124.2	Martin	W-648	PEM	**0**	0.07						0.20	641	N/A
	125.3	Martin	W-654	PSS	**0**		0.07					0.20	641	N/A
	125.3	Martin	W-656	PEM	**0**	0.05						0.13	641	N/A
	125.4	Martin	W-659	PEM	**0**	0.03						0.20	641	N/A
ATWS Subtotal					**0**	**12.17**	**0.93**	**7.77**	**0.00**	**0.00**	**0.00**			
Temporary Easement														
-	0.1	Osceola	W-005	PEM	0	0.01						0.20	641	N/A
-	0.5	Osceola	W-007	PFO	0			0.18				0.53	624	N/A
-	0.7	Polk	W-010	PFO	0			0.00				0.50	630	N/A
-	0.7	Polk	W-011	PEM	0	0.06						0.47	641	N/A
-	0.9	Polk	W-014	PFO	0			0.08				0.53	617	N/A

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Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	1.0	Polk	W-016	PEM	0	0.06						0.53	641	N/A
_	1.1	Polk	W-019	PEM	0	0.07						0.00	641	N/A
_	1.2	Polk	W-021	PEM	0	0.19						0.47	641	N/A
_	1.2	Polk	W-022	PSS	0		0.06					0.20	631	N/A
_	1.3	Polk	W-023	PEM	0	0.02						0.40	641	N/A
_	1.4	Polk	W-024A	PEM	0	0.04						0.30	641	N/A
_	1.4	Polk	W-024B	PFO	0			0.08				0.50	617	N/A
_	1.6	Polk	W-028	PFO	0			0.14				0.47	630	N/A
_	1.8	Polk	W-031	PFO	0			0.04				0.50	617	N/A
_	2.2	Polk	W-032	PFO	0			1.09				0.63	617	N/A
_	2.4	Polk	W-033	PFO	0			0.29				0.63	617	N/A
_	2.6	Polk	W-034	PFO	0			0.82				0.63	617	N/A
_	2.8	Polk	W-034A	PFO	0			0.13				0.53	617	N/A
_	3.4	Polk	W-035	PEM	0	0.19						0.70	641	N/A
_	3.4	Polk	W-036	PEM	0	0.23						0.70	641	N/A
_	3.5	Polk	W-037	PFO	0			0.36				0.70	617	N/A
_	3.8	Polk	W-038	PEM	0	0.14						0.30	641	N/A
_	3.9	Polk	W-039	PFO	0			0.18				0.60	617	N/A
_	4.0	Polk	W-040	PFO	0			0.24				0.57	621	N/A
_	4.2	Polk	W-042	PFO	0			0.40				0.57	621	N/A
_	4.5	Polk	W-044	PEM	0	0.00						0.30	641	N/A
_	4.6	Polk	W-045	PEM	0	0.32						0.53	641	N/A
_	4.8	Polk	W-046	PEM	0	0.16						0.53	641	N/A
_	4.9	Polk	W-047	PEM	0	0.24						0.53	641	N/A
_	5.3	Polk	W-049	PEM	0	0.06						0.53	641	N/A
_	5.4	Polk	W-050	PEM	0	0.01						0.53	641	N/A
_	5.4	Polk	W-051	PEM	0	0.06						0.53	641	N/A
_	5.5	Polk	W-053	PEM	0	0.21						0.53	641	N/A
_	5.7	Polk	W-054	PEM	0	0.45						0.53	641	N/A
_	5.9	Polk	W-055	PFO	0			0.14				0.53	617	N/A
_	6.0	Polk	W-056	PEM	0	0.09						0.53	641	N/A
_	6.3	Polk	W-058	PFO	0			0.66				0.60	617	N/A
_	6.5	Polk	W-060	PEM	0	0.58						0.47	641	N/A

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Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	6.8	Polk	W-062	PEM	0	0.07						0.43	641	N/A
_	7.3	Polk	W-065	PFO	0			0.27				0.73	611	N/A
_	7.4	Polk	W-067	PFO	0			1.08				0.73	611	N/A
_	7.8	Polk	W-069	PFO	0			0.55				0.73	611	N/A
_	8.2	Polk	W-071	PFO	0			0.61				0.67	617	N/A
_	8.6	Polk	W-073	PFO	0			0.12				0.67	615	N/A
_	8.6	Polk	W-075	PFO	0			0.02				0.67	615	N/A
_	9.4	Polk	W-076	PFO	0			1.05				0.80	617	N/A
_	9.5	Polk	W-078	PFO	0			0.30				0.80	617	N/A
_	10.1	Polk	W-082	PFO	0			1.55				0.77	617	N/A
_	10.3	Polk	W-084	PFO	0			0.50				0.70	617	N/A
_	10.4	Polk	W-086	PFO	0			0.69				0.70	617	N/A
_	10.7	Polk	W-088	PFO	0			0.38				0.63	617	N/A
_	10.8	Polk	W-088A	PEM	0	0.03						0.57	641	N/A
_	10.9	Polk	W-090	PEM	0	0.05						0.43	641	N/A
_	11.2	Polk	W-094	PFO	0			0.86				0.63	617	N/A
_	11.5	Polk	W-094A	PFO	0			0.01				0.63	617	N/A
_	12.2	Polk	W-097	PFO	0			0.14				0.80	611	N/A
_	12.2	Polk	W-099	PEM	0	0.06						0.47	643	N/A
_	12.3	Polk	W-100	PEM	0	0.00						0.37	641	N/A
_	12.3	Polk	W-101	PFO	0			0.21				0.50	617	N/A
_	12.4	Polk	W-101A	PFO	0			0.31				0.57	617	N/A
_	12.5	Polk	W-106	PFO	0			0.09				0.57	617	N/A
_	12.6	Polk	W-108	PFO	0			0.11				0.33	617	N/A
_	12.8	Polk	W-109	PEM	0	0.00						0.40	641	N/A
_	13.2	Polk	W-112	PSS	0		0.03					0.20	631	N/A
_	13.4	Polk	W-113	PSS	0		0.02					0.20	631	N/A
_	16.0	Polk	W-114	PEM	0	0.11						0.30	641	N/A
_	18.5	Polk	W-119	PEM	0	0.17						0.40	641	N/A
_	19.7	Polk	W-121A	PEM	0	0.43						0.40	643	N/A
_	19.6	Polk	W-122	PFO	0			2.06				0.60	630	N/A
_	26.2	Polk	W-132	PEM	0	0.04						0.47	641	N/A
_	28.5	Polk	W-133	PEM	0	0.01						0.80	641	N/A

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Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	30.2	Polk	W-137-A1	PSS	0		0.06					0.10	631	N/A
_	30.8	Polk	W-137-A2	PEM	0	0.09						0.20	641	N/A
_	35.8	Polk	W-149	PFO	0			0.17				0.47	630	N/A
_	35.8	Polk	W-150	PEM	0	0.04						0.37	641	N/A
_	35.8	Polk	W-151	PEM	0	0.00						0.37	641	N/A
_	36.1	Polk	W-155	PFO	0			0.31				0.70	630	N/A
_	36.3	Polk	W-156	PEM	0	0.08						0.67	641	N/A
_	36.4	Polk	W-157	PEM	0	0.00						0.27	641	N/A
_	36.4	Polk	W-158	PEM	0	0.02						0.30	641	N/A
_	36.7	Polk	W-159	PEM	0	0.00						0.23	641	N/A
_	36.8	Polk	W-161	PEM	0	0.30						0.23	643	N/A
_	36.8	Polk	W-162	PEM	0	0.08						0.60	641	N/A
_	36.8	Polk	W-163	PFO	0			0.10				0.60	630	N/A
_	36.9	Polk	W-164	PFO	0			0.06				0.60	630	N/A
_	37.0	Polk	W-165	PFO	0			0.31				0.60	630	N/A
_	37.1	Polk	W-167	PEM	0	0.17						0.60	641	N/A
_	37.2	Polk	W-168	PSS	0		0.02					0.50	641	N/A
_	37.2	Polk	W-169	PFO	0			0.04				0.57	641	N/A
_	37.7	Polk	W-172	PEM	0	0.10						0.27	643	N/A
_	37.8	Polk	W-173A	PEM	0	0.00						0.37	641	N/A
_	38.0	Polk	W-175	PEM	0	0.01						0.33	641	N/A
_	38.1	Polk	W-177	PEM	0	0.12						0.40	641	N/A
_	38.8	Polk	W-186	PEM	0	0.01						0.33	643	N/A
_	39.8	Polk	W-193	PEM	0	0.16						0.23	641	N/A
_	40.3	Polk	W-196	PEM	0	0.19						0.33	641	N/A
_	40.7	Polk	W-198	PEM	0	0.01						0.53	641	N/A
_	40.8	Polk	W-199	PFO	0			0.16				0.63	613	N/A
_	40.9	Polk	W-200	PSS	0		0.12					0.43	631	N/A
_	41.2	Polk	W-202	PEM	0	0.44						0.30	641	N/A
_	41.5	Polk	W-203	PSS	0		0.20					0.67	631	N/A
_	41.7	Polk	W-204	PSS	0		0.89					0.37	631	N/A
_	41.9	Polk	W-205	PEM	0	0.12						0.53	641	N/A
_	42.3	Polk	W-207	PSS	0		0.18					0.60	631	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	42.4	Polk	W-207-A	PSS	0		0.17					0.60	631	N/A
_	42.6	Polk	W-208	PEM	0	0.00						0.33	643	N/A
_	42.6	Polk	W-209	PEM	0	0.02						0.30	643	N/A
_	42.7	Polk	W-210	PEM	0	0.18						0.30	641	N/A
_	43.6	Polk	W-218	PSS	0		0.12					0.57	631	N/A
_	45.4	Polk	W-222	PEM	0	0.01						0.47	641	N/A
_	46.6	Polk	W-223	PEM	0	0.01						0.47	641	N/A
_	46.7	Polk	W-223A	PEM	0	0.12						0.43	641	N/A
_	46.8	Polk	W-224	PEM	0	0.01						0.20	641	N/A
_	46.9	Polk	W-225	PEM	0	0.41						0.80	641	N/A
_	47.6	Polk	W-228	PEM	0	0.05						0.47	641	N/A
_	47.7	Polk	W-229	PSS	0		0.15					0.77	631	N/A
_	47.8	Polk	W-230	PEM	0	0.01						0.47	641	N/A
_	48.1	Polk	W-231	PFO	0			0.06				0.70	617	N/A
_	48.5	Polk	W-232	PEM	0	0.23						0.50	641	N/A
_	49.0	Polk	W-233	PEM	0	0.01						0.50	641	N/A
_	49.1	Polk	W-234	PEM	0	0.42						0.50	641	N/A
_	49.5	Polk	W-237	PSS	0		0.20					0.50	631	N/A
_	49.6	Polk	W-238	PEM	0	0.00						0.33	641	N/A
_	50.0	Polk	W-241	PEM	0	0.00						0.30	641	N/A
_	50.6	Polk	W-242	PEM	0	0.56						0.30	641	N/A
_	50.9	Polk	W-247	PEM	0	0.32						0.30	641	N/A
_	51.4	Polk	W-249	PEM	0	0.01						0.20	641	N/A
_	51.5	Polk	W-250	PEM	0	0.01						0.20	641	N/A
_	52.3	Polk	W-251A	PEM	0	0.18						0.50	641	N/A
_	51.7	Polk	W-252	PEM	0	0.18						0.30	641	N/A
_	51.9	Polk	W-253	PEM	0	0.01						0.30	641	N/A
_	53.8	Osceola	W-266J	PEM	0	0.01						0.17	641	N/A
_	53.7	Osceola	W-266K	PEM	0	0.02						0.17	641	N/A
_	55.4	Osceola	W-273	PEM	0	0.01						0.40	641	N/A
_	56.6	Osceola	W-282A	PEM	0	0.24						0.53	641	N/A
_	57.2	Osceola	W-285A	PEM	0	0.32						0.20	641	N/A
_	57.5	Osceola	W-285B	PEM	0	0.25						0.20	641	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	58.7	Osceola	W-291A	PEM	0	0.26						0.20	641	N/A
_	60.4	Osceola	W-295A	PEM	0	0.57						0.33	641	N/A
_	60.8	Osceola	W-301A	PEM	0	0.19						0.40	641	N/A
_	62.0	Osceola	W-309	PEM	0	1.09						0.40	641	N/A
_	63.2	Osceola	W-312A	PEM	0	0.33						0.20	641	N/A
_	63.0	Osceola	W-312B	PEM	0	0.07						0.20	641	N/A
_	62.6	Osceola	W-313	PEM	0	0.30						0.20	641	N/A
_	63.6	Osceola	W-315	PEM	0	0.34						0.20	641	N/A
_	64.0	Osceola	W-316A	PEM	0	0.23						0.43	641	N/A
_	64.3	Osceola	W-317B	PEM	0	0.17						0.57	641	N/A
_	64.9	Osceola	W-320	PSS	0		0.33					0.40	631	N/A
_	65.3	Osceola	W-322	PEM	0	0.30						0.47	643	N/A
_	65.4	Osceola	W-325	PEM	0	0.01						0.27	641	N/A
_	65.4	Osceola	W-326	PEM	0	0.01						0.27	641	N/A
_	65.5	Osceola	W-327	PEM	0	0.00						0.27	641	N/A
_	65.5	Osceola	W-328	PEM	0	0.01						0.27	641	N/A
_	65.6	Osceola	W-329	PEM	0	0.00						0.27	641	N/A
_	65.7	Osceola	W-330	PEM	0	0.01						0.17	652	N/A
_	65.7	Osceola	W-331	PEM	0	0.01						0.27	641	N/A
_	65.7	Osceola	W-332	PEM	0	0.01						0.27	641	N/A
_	65.7	Osceola	W-333	PEM	0	0.01						0.37	641	N/A
_	65.9	Osceola	W-334	PEM	0	0.42						0.47	641	N/A
_	65.8	Osceola	W-335	PSS	0		0.15					0.47	631	N/A
_	66.0	Osceola	W-336	PEM	0	0.10						0.47	643	N/A
_	66.4	Osceola	W-339	PEM	0	0.26						0.47	641	N/A
_	66.6	Osceola	W-340	PEM	0	0.23						0.40	643	N/A
_	66.7	Osceola	W-341	PEM	0	0.01						0.30	641	N/A
_	66.8	Osceola	W-342	PEM	0	0.36						0.17	641	N/A
_	66.9	Osceola	W-343	PEM	0	0.01						0.27	641	N/A
_	67.1	Osceola	W-344	PEM	0	0.02						0.27	641	N/A
_	67.2	Osceola	W-345	PEM	0	0.00						0.27	641	N/A
_	67.7	Osceola	W-348	PEM	0	0.40						0.47	641	N/A
_	67.8	Osceola	W-349	PEM	0	0.26						0.47	643	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	68.0	Osceola	W-350	PEM	0	0.07						0.27	641	N/A
_	68.2	Osceola	W-351	PEM	0	0.02						0.27	641	N/A
_	69.5	Osceola	W-352	PEM	0	1.06						0.17	641	N/A
_	68.7	Osceola	W-353	PEM	0	0.04						0.27	641	N/A
_	68.8	Osceola	W-354	PEM	0	0.01						0.27	641	N/A
_	69.1	Osceola	W-355	PEM	0	0.16						0.27	641	N/A
_	70.2	Osceola	W-358	PEM	0	0.29						0.17	641	N/A
_	70.4	Osceola	W-359	PEM	0	0.96						0.47	641	N/A
_	70.9	Osceola	W-360	PEM	0	0.00						0.47	643	N/A
_	71.4	Osceola	W-361	PEM	0	0.04						0.50	643	N/A
_	71.7	Osceola	W-362	PEM	0	0.00						0.63	641	N/A
_	72.9	Osceola	W-365	PFO	0			0.24				0.43	617	N/A
_	72.8	Osceola	W-366	PEM	0	0.02						0.43	641	N/A
_	73.1	Osceola	W-367	PFO	0			0.18				0.43	630	N/A
_	73.1	Osceola	W-368	PEM	0	0.02						0.43	641	N/A
_	73.7	Osceola	W-371	PFO	0			0.36				0.67	617	N/A
_	73.8	Osceola	W-372	PFO	0			0.00				0.67	617	N/A
_	74.1	Osceola	W-373	PEM	0	0.04						0.37	641	N/A
_	74.7	Osceola	W-375	PEM	0	0.01						0.37	641	N/A
_	75.2	Osceola	W-380	PEM	0	0.01						0.57	641	N/A
_	76.4	Osceola	W-388	PFO	0			0.27				0.67	625	N/A
_	76.8	Osceola	W-391	PEM	0	0.02						0.67	641	N/A
_	76.9	Osceola	W-392	PFO	0			0.07				0.67	617	N/A
_	76.9	Osceola	W-394	PFO	0			0.04				0.67	617	N/A
_	76.9	Osceola	W-395	PEM	0	0.00						0.67	641	N/A
_	78.5	Okeechobee	W-404	PEM	0	0.42						0.37	641	N/A
_	79.4	Okeechobee	W-407	PEM	0	0.04						0.53	641	N/A
_	79.6	Okeechobee	W-410	PEM	0	0.14						0.57	641	N/A
_	79.6	Okeechobee	W-411	PEM	0	0.10						0.40	641	N/A
_	79.7	Okeechobee	W-412	PSS	0		0.28					0.40	631	N/A
_	79.9	Okeechobee	W-414	PEM	0	0.01						0.40	641	N/A
_	79.9	Okeechobee	W-415	PEM	0	0.01						0.00	641	N/A
_	80.3	Okeechobee	W-417	PEM	0	0.03						0.40	641	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	80.2	Okeechobee	W-418	PEM	0	0.03						0.00	641	N/A
_	80.5	Okeechobee	W-419	PSS	0		0.47					0.40	631	N/A
_	80.8	Okeechobee	W-420	PEM	0	0.33						0.40	641	N/A
_	81.4	Okeechobee	W-423	PFO	0			0.20				0.40	617	N/A
_	81.6	Okeechobee	W-424	PFO	0			0.07				0.40	617	N/A
_	81.7	Okeechobee	W-425	PFO	0			0.81				0.50	630	N/A
_	81.9	Okeechobee	W-426	PSS	0		0.06					0.50	631	N/A
_	82.0	Okeechobee	W-427	PEM	0	0.33						0.50	641	N/A
_	82.2	Okeechobee	W-429	PSS	0		0.08					0.33	631	N/A
_	82.2	Okeechobee	W-430	PFO	0			0.02				0.33	617	N/A
_	82.6	Okeechobee	W-432	PFO	0			0.30				0.57	617	N/A
_	82.7	Okeechobee	W-433	PFO	0			0.25				0.57	617	N/A
_	83.1	Okeechobee	W-436	PEM	0	0.18						0.50	641	N/A
_	83.5	Okeechobee	W-438	PEM	0	0.22						0.47	641	N/A
_	84.1	Okeechobee	W-442	PFO	0			0.49				0.67	617	N/A
_	84.2	Okeechobee	W-444	PEM	0	0.01						0.20	641	N/A
_	85.7	Okeechobee	W-454	PFO	0			1.01				0.63	641	N/A
_	86.9	Okeechobee	W-455	PFO	0			0.36				0.67	617	N/A
_	87.0	Okeechobee	W-456	PFO	0			0.18				0.67	617	N/A
_	87.2	Okeechobee	W-457	PEM	0	0.06						0.27	641	N/A
_	87.4	Okeechobee	W-459	PFO	0			0.05				0.53	630	N/A
_	87.4	Okeechobee	W-460	PFO	0			0.01				0.53	630	N/A
_	89.2	Okeechobee	W-464A	PEM	0	0.56						0.10	641	N/A
_	89.1	Okeechobee	W-464B	PFO	0			0.23				0.57	617	N/A
_	90.7	Okeechobee	W-465	PFO	0			0.54				0.37	630	N/A
_	92.6	Okeechobee	W-473	PEM	0	0.05						0.23	641	N/A
_	93.8	Okeechobee	W-480A	PFO	0			1.18				0.73	617	N/A
_	93.9	Okeechobee	W-480B	PFO	0			0.32				0.47	617	N/A
_	94.6	Okeechobee	W-482	PEM	0	0.01						0.33	641	N/A
_	95.1	Okeechobee	W-484	PEM	0	0.01						0.20	641	N/A
_	96.1	Okeechobee	W-489	PEM	0	0.01						0.30	641	N/A
_	96.1	Okeechobee	W-490	PFO	0			0.06				0.63	611	N/A
_	97.2	Okeechobee	W-493	PEM	0	0.01						0.27	641	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	98.9	Okeechobee	W-497	PEM	0	0.01						0.37	641	N/A
_	99.7	Okeechobee	W-498	PEM	0	0.01						0.57	643	N/A
_	100.0	Okeechobee	W-499	PEM	0	0.71						0.57	643	N/A
_	100.1	Okeechobee	W-501	PEM	0	0.16						0.57	641	N/A
_	100.1	Okeechobee	W-502	PEM	0	0.02						0.50	641	N/A
_	100.5	Okeechobee	W-504	PEM	0	0.07						0.47	641	N/A
_	101.0	Okeechobee	W-505	PEM	0	0.17						0.47	641	N/A
_	101.7	Okeechobee	W-507	PFO	0			0.13				0.73	630	N/A
_	101.8	Okeechobee	W-508A	PFO	0			0.17				0.70	630	N/A
_	102.0	St. Lucie	W-508B	PFO	0			0.22				0.70	630	N/A
_	102.1	St. Lucie	W-509	PEM	0	0.39						0.70	641	N/A
_	102.2	St. Lucie	W-510	PSS	0		0.60					0.70	631	N/A
_	102.3	St. Lucie	W-513	PEM	0	0.56						0.70	641	N/A
_	102.6	St. Lucie	W-514	PFO	0			0.27				0.70	630	N/A
_	102.9	St. Lucie	W-515	PSS	0		0.60					0.70	631	N/A
_	102.7	St. Lucie	W-516	PFO	0			0.12				0.70	630	N/A
_	102.8	St. Lucie	W-517	PFO	0			0.02				0.70	617	N/A
_	102.9	St. Lucie	W-518	PEM	0	0.24						0.63	641	N/A
_	103.0	St. Lucie	W-519	PFO	0			0.08				0.63	630	N/A
_	103.0	St. Lucie	W-520A	PFO	0			0.05				0.63	617	N/A
_	103.0	St. Lucie	W-520B	PFO	0			0.04				0.63	617	N/A
_	103.2	St. Lucie	W-521	PFO	0			0.06				0.70	617	N/A
_	103.3	St. Lucie	W-523	PFO	0			0.14				0.70	611	N/A
_	103.4	St. Lucie	W-524	PFO	0			0.18				0.70	611	N/A
_	103.5	St. Lucie	W-525	PFO	0			0.12				0.70	611	N/A
_	104.2	St. Lucie	W-526	PEM	0	1.13						0.53	641	N/A
_	104.4	St. Lucie	W-528	PSS	0		0.37					0.63	631	N/A
_	104.6	St. Lucie	W-529	PEM	0	0.45						0.63	641	N/A
_	105.2	St. Lucie	W-531B	PFO	0			0.21				0.63	617	N/A
_	105.7	St. Lucie	W-533	PEM	0	0.01						0.00	641	N/A
_	106.0	St. Lucie	W-534	PEM	0	0.53						0.00	641	N/A
_	107.2	St. Lucie	W-535A	PFO	0			1.33				0.00	617	N/A
_	107.6	St. Lucie	W-536D	PEM	0	0.02						0.20	641	N/A

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Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	107.7	St. Lucie	W-537A	PEM	0	0.00						0.20	641	N/A
_	107.9	St. Lucie	W-540A	PFO	0			0.01				0.20	641	N/A
_	108.4	St. Lucie	W-544A	PFO	0			0.02				0.40	617	N/A
_	108.8	St. Lucie	W-546A	PFO	0			0.08				0.40	621	N/A
_	108.9	St. Lucie	W-548A	PFO	0			0.13				0.43	621	N/A
_	109.0	St. Lucie	W-548C	PEM	0	0.00						0.20	641	N/A
_	109.0	St. Lucie	W-548D	PEM	0	0.00						0.20	641	N/A
_	109.2	St. Lucie	W-549A	PEM	0	0.01						0.20	641	N/A
_	109.3	St. Lucie	W-550	PSS	0		0.02					0.20	631	N/A
_	109.5	St. Lucie	W-551	PFO	0			0.11				0.33	630	N/A
_	109.6	St. Lucie	W-552	PEM	0	0.01						0.20	641	N/A
_	109.9	St. Lucie	W-553	PFO	0			0.11				0.33	630	N/A
_	110.0	St. Lucie	W-554	PEM	0	0.01						0.27	641	N/A
_	110.3	St. Lucie	W-556	PEM	0	0.01						0.20	641	N/A
_	110.6	St. Lucie	W-557	PFO	0			0.41				0.43	630	N/A
_	110.7	St. Lucie	W-559	PEM	0	0.93						0.43	641	N/A
_	111.3	St. Lucie	W-560	PSS	0		0.04					0.43	631	N/A
_	111.2	St. Lucie	W-561	PEM	0	0.25						0.43	641	N/A
_	112.9	St. Lucie	W-562	PEM	0	0.12						0.20	641	N/A
_	112.0	St. Lucie	W-563	PFO	0			0.26				0.30	617	N/A
_	112.1	St. Lucie	W-564	PFO	0			0.02				0.30	617	N/A
_	112.4	St. Lucie	W-565	PFO	0			0.03				0.20	621	N/A
_	112.5	St. Lucie	W-566	PEM	0	0.04						0.20	641	N/A
_	112.6	St. Lucie	W-567	PEM	0	0.02						0.20	641	N/A
_	112.8	St. Lucie	W-568	PFO	0			0.04				0.30	617	N/A
_	112.9	St. Lucie	W-571	PEM	0	0.02						0.20	641	N/A
_	113.0	St. Lucie	W-572	PEM	0	0.02						0.20	641	N/A
_	113.1	St. Lucie	W-573	PEM	0	0.02						0.20	641	N/A
_	113.3	St. Lucie	W-574	PEM	0	0.02						0.20	641	N/A
_	113.4	St. Lucie	W-575	PEM	0	0.01						0.20	641	N/A
_	113.5	St. Lucie	W-576	PEM	0	0.02						0.20	641	N/A
_	113.7	St. Lucie	W-577	PEM	0	0.02						0.20	641	N/A
_	113.8	St. Lucie	W-578	PEM	0	0.02						0.20	641	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
_	114.0	St. Lucie	W-579	PEM	0	0.02						0.20	641	N/A
_	114.2	St. Lucie	W-580	PEM	0	0.02						0.20	641	N/A
_	115.0	Martin	W-587	PEM	0	0.03						0.20	641	N/A
_	115.8	Martin	W-589	PEM	0	0.01						0.20	641	N/A
_	116.0	Martin	W-590	PEM	0	0.01						0.20	641	N/A
_	116.1	Martin	W-591	PEM	0	0.01						0.20	641	N/A
_	116.2	Martin	W-592	PEM	0	0.01						0.20	641	N/A
_	116.3	Martin	W-593	PEM	0	0.01						0.20	641	N/A
_	116.5	Martin	W-594	PEM	0	0.02						0.20	641	N/A
_	116.6	Martin	W-595	PEM	0	0.01						0.20	641	N/A
_	116.7	Martin	W-596	PEM	0	0.01						0.20	641	N/A
_	116.9	Martin	W-597	PEM	0	0.01						0.20	641	N/A
_	117.0	Martin	W-598	PEM	0	0.01						0.20	641	N/A
_	117.1	Martin	W-599	PEM	0	0.02						0.20	641	N/A
_	117.2	Martin	W-600	PEM	0	0.01						0.20	641	N/A
_	117.4	Martin	W-601	PEM	0	0.01						0.20	641	N/A
_	117.5	Martin	W-602	PEM	0	0.02						0.20	641	N/A
_	117.7	Martin	W-603	PEM	0	0.07						0.40	641	N/A
_	117.6	Martin	W-604	PEM	0	0.07						0.40	641	N/A
_	117.8	Martin	W-605	PFO	0			0.17				0.33	617	N/A
_	118.6	Martin	W-608	PEM	0	0.01						0.13	641	N/A
_	118.7	Martin	W-609	PEM	0	0.01						0.10	641	N/A
_	118.7	Martin	W-610	PEM	0	0.01						0.20	641	N/A
_	118.9	Martin	W-611	PFO	0			0.75				0.37	630	N/A
_	119.3	Martin	W-613	PEM	0	0.10						0.37	641	N/A
_	119.7	Martin	W-615	PEM	0	0.01						0.30	641	N/A
_	120.1	Martin	W-616	PEM	0	1.22						0.30	641	N/A
_	120.7	Martin	W-617	PEM	0	0.38						0.30	641	N/A
_	121.0	Martin	W-621a	PEM	0	0.09						0.40	641	N/A
_	121.0	Martin	W-621b	PEM	0	0.10						0.40	641	N/A
_	121.3	Martin	W-622	PEM	0	0.24						0.30	641	N/A
_	121.8	Martin	W-624	PEM	0	0.33						0.27	641	N/A
_	122.1	Martin	W-624A	PEM	0	0.03						0.27	641	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
-	122.1	Martin	W-626	PEM	0	0.09						0.27	641	N/A
-	122.2	Martin	W-627	PEM	0	0.00						0.30	641	N/A
-	122.6	Martin	W-629	PFO	0			0.68				0.37	617	N/A
-	122.7	Martin	W-630	PFO	0			0.06				0.43	619	N/A
-	122.8	Martin	W-631	PEM	0	0.75						0.43	641	N/A
-	122.8	Martin	W-632	PFO	0			0.00				0.43	617	N/A
-	122.8	Martin	W-633	PFO	0			0.04				0.43	617	N/A
-	123.0	Martin	W-634	PFO	0			0.05				0.43	619	N/A
-	123.1	Martin	W-635	PFO	0			0.28				0.43	617	N/A
-	123.0	Martin	W-636	PEM	0	0.02						0.43	641	N/A
-	123.1	Martin	W-637	PEM	0	0.10						0.43	641	N/A
-	123.4	Martin	W-638	PSS	0		0.02					0.20	631	N/A
-	124.4	Martin	W-653	PSS	0		0.01					0.27	631	N/A
-	125.3	Martin	W-654	PSS	0		0.03					0.20	631	N/A
-	124.9	Martin	W-654a	PSS	0		0.02					0.20	631	N/A
-	125.3	Martin	W-656	PEM	0	0.01						0.13	641	N/A
-	125.4	Martin	W-659	PEM	0	0.02						0.20	641	N/A
-	126.1	Martin	W-661	PEM	0	0.20						0.33	641	N/A
-	126.2	Martin	W-662	PFO	0			0.00				0.33	617	N/A
Temporary Easement Subtotal					**0**	**31.15**	**5.30**	**30.58**	**0.00**	**0.00**	**0.00**			
Access Roads														
AR 1427	1.4	Polk	W-024A	PEM	N/A	0.00						0.30	641	N/A
AR 1336	6.2	Polk	W-058	PFO	N/A			0.01				0.60	617	N/A
AR 11454	6.4	Polk	W-059	PEM	N/A	0.24						0.53	641	N/A
AR 11454	6.8	Polk	W-062	PEM	N/A	0.04						0.43	641	N/A
AR 11454	7.2	Polk	W-065	PFO	N/A			0.01				0.73	611	N/A
AR 11454	7.3	Polk	W-066	PEM	N/A	0.14						0.50	641	N/A
AR 11454	7.4	Polk	W-067	PFO	N/A			0.13				0.73	611	N/A
AR 11454	7.7	Polk	W-068	PEM	N/A	0.13						0.50	641	N/A
AR 11454	7.8	Polk	W-069	PFO	N/A			0.03				0.73	611	N/A
AR 11454	7.9	Polk	W-070	PEM	N/A	0.06						0.50	641	N/A
AR 11454	8.2	Polk	W-072	PEM	N/A	0.41						0.67	641	N/A
AR 1437	8.9	Polk	W-069-A7	PFO	N/A			0.00				0.70	617	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
AR 11454	9.2	Polk	W-076A	PFO	N/A			0.01					617	N/A
AR 11454	9.2	Polk	W-077	PEM	N/A	0.19						0.40	641	N/A
AR 11454	10.2	Polk	W-083	PEM	N/A	0.17						0.70	641	N/A
AR 11454	10.2	Polk	W-085	PEM	N/A	0.00						0.70	641	N/A
AR 1209	10.6	Polk	W-087-A4	PFO	N/A			0.00				0.00	625	N/A
AR 1461	12.5	Polk	W-105	PEM	N/A	0.01						0.57	641	N/A
AR 1344	19.4	Polk	W-121	PEM	N/A	0.01						0.40	641	N/A
AR 1221	19.5	Polk	W-121A	PEM	N/A	0.21						0.40	643	N/A
AR 2296	38.5	Polk	W-181	PFO	N/A			0.02				0.73	617	N/A
AR 3465	41.1	Polk	W-202-A2	PEM	N/A	0.01						0.07	641	N/A
AR 3465	41.1	Polk	W-202-A3	PEM	N/A	0.01						0.07	641	N/A
AR 3465	41.2	Polk	W-202-A5	PEM	N/A	0.01						0.07	641	N/A
AR 1232	41.7	Polk	W-204	PSS	N/A		0.01					0.37	631	N/A
AR 1234	42.3	Polk	W-206	PSS	N/A		0.01					0.60	631	N/A
AR 1234	42.3	Polk	W-206-A1	PEM	N/A	0.00						0.57	641	N/A
AR 1234	42.4	Polk	W-206-A2	PEM	N/A	0.01						0.57	641	N/A
AR 1234	42.4	Polk	W-207-A	PSS	N/A		0.00					0.60	631	N/A
AR 1234	42.4	Polk	W-207-A1	PSS	N/A		0.00					0.60	631	N/A
AR 1234	42.4	Polk	W-207-A2	PEM	N/A	0.06						0.57	641	N/A
AR 1238	45.3	Polk	W-216-A17	PEM	N/A	0.00						0.20	641	N/A
AR 1239	46.4	Polk	W-216-A35	PEM	N/A	0.00						0.20	641	N/A
AR 1239	46.4	Polk	W-216-A38	PEM	N/A	0.00						0.20	641	N/A
AR 1241	47.3	Polk	W-216-A52	PEM	N/A	0.03						0.20	641	N/A
AR 1241	47.4	Polk	W-216-A54	PEM	N/A	0.01						0.20	641	N/A
AR 1443	54.7	Osceola	W-266	PSS	N/A		0.00					0.20	631	N/A
AR 2307	69.4	Osceola	W-352	PEM	N/A	0.00						0.17	641	N/A
AR 1395	74.1	Osceola	W-374	PEM	N/A	0.01						0.37	641	N/A
AR 1247	90.7	Okeechobee	W-466-A4	PEM	N/A	0.00						0.20	641	N/A
AR 1249	92.4	Okeechobee	W-471-A02	PSS	N/A		0.00					0.30	631	N/A
AR 1249	92.5	Okeechobee	W-471-A04	PSS	N/A		0.00					0.30	631	N/A
AR 1249	92.5	Okeechobee	W-471-A05	PSS	N/A		0.03					0.30	631	N/A
AR 1249	92.6	Okeechobee	W-471-A07	PEM	N/A	0.73						0.33	641	N/A
AR 1249	93.0	Okeechobee	W-471-A08	PFO	N/A			0.00				0.47	617	N/A

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
AR 1249	93.3	Okeechobee	W-471-A10	PFO	N/A			0.01				0.47	617	N/A
AR 1249	93.4	Okeechobee	W-471-A11	PEM	N/A	0.39						0.33	641	N/A
AR 1248	93.5	Okeechobee	W-480-A01	PFO	N/A			0.02				0.73	617	N/A
AR 1248	93.8	Okeechobee	W-480-A05	PEM	N/A	0.00						0.47	641	N/A
AR 1331	98.5	Okeechobee	W-494-A8	PEM	N/A	0.12						0.50	643	N/A
AR 1331	98.6	Okeechobee	W-495	PEM	N/A	0.10						0.50	643	N/A
AR 1262	98.6	Okeechobee	W-495-A03	PFO	N/A			0.01				0.60	618	N/A
AR 1267	99.0	Okeechobee	W-495-A06	PFO	N/A			0.00				0.63	621	N/A
AR 1322	102.1	St. Lucie	W-508-A5	PEM	N/A	0.00						0.20	641	N/A
AR 1322	102.2	St. Lucie	W-509	PEM	N/A	0.21						0.70	641	N/A
AR 1322	102.2	St. Lucie	W-510	PSS	N/A		0.05					0.70	631	N/A
AR 1322	102.3	St. Lucie	W-513	PEM	N/A	0.30						0.70	641	N/A
AR 1322	102.6	St. Lucie	W-513-A1	PSS	N/A		0.00					0.70	631	N/A
AR 1322	102.6	St. Lucie	W-513-A3	PFO	N/A			0.00				0.60	630	N/A
AR 1322	102.6	St. Lucie	W-513-A5	PSS	N/A		0.01					0.70	631	N/A
AR 1322	102.7	St. Lucie	W-515	PSS	N/A		0.18					0.70	631	N/A
AR 1322	102.8	St. Lucie	W-515-A05	PFO	N/A			0.09				0.50	630	N/A
AR 1322	102.9	St. Lucie	W-515-A03	PEM	N/A	0.02						0.20	641	N/A
AR 1272	103.8	St. Lucie	W-525-A19	PEM	N/A	0.01						0.30	641	N/A
AR 1272	103.9	St. Lucie	W-525-A21	PFO	N/A			0.00				0.43	621	N/A
AR 1272	103.9	St. Lucie	W-525-A22	PFO	N/A			0.00				0.43	621	N/A
AR 1272	103.9	St. Lucie	W-525-A23	PEM	N/A	0.00						0.33	641	N/A
AR 1279	110.7	St. Lucie	W-559	PEM	N/A	0.06						0.43	641	N/A
AR 1274	112.0	St. Lucie	W-550-A23	PEM	N/A	0.03						0.20	641	N/A
AR 1274	112.2	St. Lucie	W-550-A24	PEM	N/A	0.00						0.20	641	N/A
AR 1306	119.1	Martin	W-612-A01	PEM	N/A	0.11						0.20	641	N/A
AR 1307	120.2	Martin	W-617-A1	PEM	N/A	0.00						0.20	641	N/A
AR 1309	121.2	Martin	W-622-A06	PEM	N/A	0.00						0.20	641	N/A
AR 1309	121.2	Martin	W-622-A09	PEM	N/A	0.01						0.43	641	N/A
AR 1311	121.8	Martin	W-627-A01	PEM	N/A	0.00						0.30	641	N/A
AR 1315	123.2	Martin	W-627-A21	PEM	N/A	0.00						0.27	641	N/A
AR 8654	124.2	Martin	W-648	PEM	N/A	0.01						0.20	641	N/A
Access Roads Subtotal					**N/A**	**3.86**	**0.29**	**0.34**	**0.00**	**0.00**	**0.00**			

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			
Contractor Yards														
-	71.7	Osceola	W-361-A01	PFO	N/A			8.34				0.50	630	N/A
-	71.8	Osceola	W-361-A02	PEM	N/A	1.68						0.40	641	N/A
-	71.8	Osceola	W-361-A03	PEM	N/A	1.24						0.50	643	N/A
-	71.9	Osceola	W-361-A04	PEM	N/A	1.83						0.40	641	N/A
-	71.9	Osceola	W-361-A05	PEM	N/A	3.06						0.50	643	N/A
-	71.9	Osceola	W-361-A06	PFO	N/A			0.94				0.40	617	N/A
-	71.9	Osceola	W-361-A07	PEM	N/A	0.03						0.40	641	N/A
-	71.9	Osceola	W-361-A08	PEM	N/A	3.10						0.30	641	N/A
-	71.9	Osceola	W-361-A09	PEM	N/A	0.15						0.30	641	N/A
-	77.1	Okeechobee	W-398	PEM	N/A	0.13						0.20	641	N/A
-	77.2	Okeechobee	W-399	PEM	N/A	0.18						0.20	641	N/A
-	77.2	Okeechobee	W-400	PEM	N/A	0.21						0.20	641	N/A
-	124.7	Martin	W-654-A1	PEM	N/A	0.33						0.40	641	N/A
-	126.4	Martin	W-662-A1	PEM	N/A	0.91						0.37	641	N/A
-	126.4	Martin	W-662-A2	PEM	N/A	0.03						0.00	641	N/A
-	126.4	Martin	W-662-A3	PEM	N/A	0.24						0.37	641	N/A
-	126.4	Martin	W-662-A4	PEM	N/A	0.06						0.00	641	N/A
-	126.4	Martin	W-662-A5	PEM	N/A	1.38						0.37	641	N/A
-	126.4	Martin	W-662-A6	PEM	N/A	0.01						0.37	641	N/A
-	126.4	Martin	W-662-A7	PEM	N/A	0.01						0.37	641	N/A
Contractor Yards Subtotal					**N/A**	**14.58**	**0.00**	**9.28**	**0.00**	**0.00**	**0.00**			
Staging Area														
	72.9	Osceola	W-366-A1	PEM	N/A	0.02						0.20	641	N/A
Staging Area Subtotal					**N/A**	**0.02**								
FSC Project Total					**120,085**	**132.77**	**19.25**	**104.07**	**0.00**	**2.49**	**34.47**			

Table 2.4-1

Wetlands Affected by the Florida Southeast Connection Project

Facility	Milepost a/	County	Wetland ID	Wetland Type b/	Crossing Length (Feet) c/	Wetland Impact d/ (Acres)						UMAM Scores e/	State Wetland Classifications f/	Proposed Crossing Method g/
						Construction			Operation					
						PEM	PSS	PFO	PEM	PSS	PFO			

N/A: Not Applicable

a/ Approximate MP along the proposed pipeline rounded to the nearest tenth.

b/ Wetland classification according to Cowardin et al. 1979: PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.

c/ 0 = wetland is not crossed by the pipeline but is in workspace.

d/ No wetlands associated with aboveground faciltiies (See Resource Report 3, Table 3.3-1 for vegetation cover types affected by construction and operation of aboveground facilities including MLVs and Pig Launcher and Reciever facilities. Construction Acreage for pipeline facilities includes pipeline ROW, temporary easement, ATWS, aboveground facilities, access roads, contractor yards and staging areas; Operation Acreage = 10-foot wide corridor permanently maintained in herbaceous vegetated cover through PSS wetlands, and 30-foot wide corridor permanently maintained through PFO wetlands where trees taller than 15 feet will be selectively cut and removed. The permanently maintained corridors represent a change in cover type from PFO to PSS and PEM or PSS to PEM; there is no pipeline operation impact on PEM wetlands, since there is no change in the pre- and post-construction vegetation cover type. Construction impacts were calculated using a proposed construction footprint surface area and existing land use based on field surveys or desktop analysis, including NWI data, in those areas where permission has not been granted to conduct field surveys. Surface area of operational maintenance corridor as described above were used to calculate acres of operation impact to each pre-construction wetland vegetation cover type for each wetland included in the table. The ROW width at all wetland crossings is 75 feet, except for those wetlands described in **Table 2.3-4**. Impacts in HDD areas are related to hand clearing for water withdrawal only.

e/ UMAM scores = Uniform Mitigation Assessment Method; According to FDEP, UMAM provides a standardized procedure for assessing the ecological functions provided by wetlands and other surface waters, the amount that those functions are reduced by a proposed impact, and the amount of mitigation necessary to offset that loss.

f/ State Wetland Classifications correspond to the Florida Land Use Cover and Forms Classification System (FLUCFCS) codes.

g/ Crossing Methods for wetlands are described in Section 2.4.4.4; I = Dry wetland crossing; II = Wet saturated wetland crossing; III = Wet flooded wetland crossing; IV = Conventional Jack and Bore; V = Horizontal Directional Drill; N/A = Wetland not crossed by pipeline.

Table 2.4-2

Summary of Wetland Types Affected by Construction and Operation of the Florida Southeast Connection Project (acres)

State, Facility	PEM		PSS		PFO		Project Totals	
	Construction a/	Operation b/	Construction	Operation	Construction	Operation	Construction	Operation
Florida								
Pipeline Right-of-way	70.99	0.00	12.73	2.49	56.10	34.47	**139.82**	**36.96**
Temporary easement	31.15	0.00	5.30	0.00	30.58	0.00	**67.03**	**0.00**
ATWS	12.17	0.00	0.93	0.00	7.77	0.00	**20.87**	**0.00**
Aboveground Facilities	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**
Access Roads	3.86	0.00	0.29	0.00	0.34	0.00	**4.49**	**0.00**
Contractor Yards	14.58	0.00	0.00	0.00	9.28	0.00	**23.86**	**0.00**
Staging Area	0.02	0.00	0.00	0.00	0.00	0.00	**0.02**	**0.00**
PROJECT TOTAL	**132.77**	**0.00**	**19.25**	**2.49**	**104.07**	**34.47**	**256.09**	**36.96**

a/ Construction acreage for pipeline facilities includes pipeline right-of-way, temporary easement, ATWS, aboveground facilities, access roads, contractor yards and staging areas.

b/ Operation Acreage = For conventional crossing methods: 30-foot width permanently maintained through forested wetlands, 10-foot width permanently maintained through scrub-shrub wetlands; there are no operation impacts to PEM wetlands associated with pipeline right-of-way as there is no change in the pre- and post-construction vegetation cover type.

APPENDIX 2A

HDD Contingency Plan for the FSC Project

1 Introduction

This plan provides procedures and steps to manage contingencies during the performance of horizontal directional drills ("HDD"s) for Florida Southeast Connection, LLC's ("FSC") proposed Florida Southeast Connection pipeline project ("FSC Project"). The FSC Project proposes to utilize HDDs to install various portions of the natural gas transmission pipeline.

HDDs are commonly used in pipeline construction for crossing large waterbodies, transportation corridors, or other sensitive features. This technique allows for the pipeline to be placed using an underground drill without breaking the ground surface between the entry and exit locations.

This HDD Contingency Plan identifies procedures that will be implemented in the event an HDD is deemed not viable at any of the proposed locations and provides procedures for monitoring and containing an inadvertent release of drilling fluids or muds during the operation.

2 Alternative Construction to HDD

HDDs have been in use since the 1970s. The technology has become relatively common and is a proven method that is readily available for installing the pipeline that FSC proposes to use for the FSC Project.

Problems with HDDs are generally associated with subsurface conditions where, in some cases, non-uniformity may exist in the underlying formations—notably those containing scattered rock, sands, or gravel—or cavities where the drilling fluid pressures on the drill head cannot be maintained. In these cases, the pilot hole or reaming hole may become unstable or collapse, causing a sudden increase or loss in bore hole pressure and associated loss of drilling fluid returns during the drilling operation.

If, for any reason, it becomes necessary to suspend HDD operations and/or abandon a partially completed drill hole, the drill will be withdrawn and the hole will be filled and plugged at the surface.

If it is determined necessary to abandon the original HDD location, the proposed alignment may be shifted and retried.

FSC may also adopt alternative construction methods to suit site-specific conditions including open-cut excavation, or conventional jack and bore. Such alternative methods would only be used after notifying applicable regulatory agencies and obtaining the necessary approvals as appropriate in accordance with the permit conditions. No alternative crossing methods will be implemented without proper agency notification and approval.

3 HDD Monitoring Procedures

During the HDD process, there is a potential risk of an inadvertent release of drilling muds or fluids to the surface. The HDD supervisory personnel will be on site at all times during HDD activities to continuously monitor all operations during drilling activities for any anomalous conditions.

The drilling mud likely to be used for the Project would generally consist of fresh water, with a high yield bentonite added to achieve the necessary properties, such as viscosity. Bentonite is composed of clay minerals, and it is not considered a hazardous material by the U.S. Environmental Protection Agency ("USEPA") or Florida Department of Environmental Protection ("FDEP"). Therefore, in the event of a release into a wetland or waterbody, there would be a temporary impact due to an increase in turbidity from the bentonite and the efforts to contain

and clean up the released drilling mud. Drilling parameters will be established to maximize circulation and minimize risk of inadvertent releases. Monitoring of HDD activities will be done in accordance with procedures to be provided by the Project's drilling contractor. Monitoring and sampling procedures will include:

- Visual inspection along the drill path, including monitoring the wetlands and waterbodies for evidence of a release;
- Continuous monitoring of drilling mud consistency, drilling mud pressures, and return flows;
- Periodic recording of drill status information regarding drill conditions, pressures, returns, and progress during the course of drilling activities; and
- A wetland scientist within a two-hour drive of any HDD crossings of wetlands or waterbody so that if a release occurred within a wetland or waterbody, the scientist can assess the impact to the wetland or waterbody and make recommendations to mitigate the impact.

Once the drilling activities are completed, the site will be inspected after equipment removal to identify any visual signs of release.

4 Drilling Fluids Control and Containment

4.1 Storage of Fluids and Lubricants

Storage of fluids and lubricants that could potentially harm the environment will be handled in accordance with applicable federal, state, and local regulations. A Spill Prevention and Control ("SPC") Plan will be developed.

4.2 Containment and Cleanup of Drilling Fluids

HDD procedures demand that highly accurate monitoring and control systems be used to track the progress and exact location of the drilling head at all times. Drilling fluid is used during the advancement of the drill string to penetrate the formation, aid in stabilizing the bore hole, and maintain cutting suspension. The specific weight of the drilling fluid is adjusted throughout the procedure to ensure hydrological stability of the drill hole, while effectively transporting the cuttings to the return pit. Only experienced personnel trained in the HDD process will be assigned the task of conducting and monitoring HDD drilling operations. If a release of drilling fluid should occur in the Project area, the following measures will be implemented.

4.2.1 Measures to Contain a Release of Drilling Fluid in a Wetland or Waterbody

- A sample of the drilling slurry will be collected and held for future analysis in the event that an analysis is requested by regulatory agencies.
- If an inadvertent release of drilling fluid occurs within a wetland, waterbody or sensitive area, appropriate regulatory agencies will be contacted in accordance with applicable regulations and requirements. Drilling fluid pressure will be reduced and operations will be suspended to assess the extent of the release and to implement necessary corrective actions.
- Inspection will be initiated to determine the potential movement of released drilling mud within the wetland or waterbody.
- The Project's drilling contractor will determine and implement modifications to the drilling technique or composition of drilling fluid (e.g., thickening of mud by

increasing bentonite content) as appropriate to minimize or prevent further releases of drilling mud.

- The release will be evaluated to determine if containment structures, such as sediment barriers or erosion controls, are warranted and can effectively contain the release. When making this determination, the potential that placement of containment structures will cause additional adverse environmental impacts will also be considered.
- If accessible, the Project contractor will clean up and remove all drilling fluid from the site and dispose of it in accordance with the applicable regulations.
- Upon completion of the drilling operations, applicable regulatory agencies will be consulted to determine any final cleanup requirements for the inadvertent release.

4.2.2 Measures to Contain a Release of Drilling Fluid on Land

- If a land release is detected, corrective action will be taken to contain and recover the release.
- If public health and safety are threatened by an inadvertent release, drilling operations will be shut down until the threat is effectively addressed or eliminated.
- The Project's drilling contractor will determine and implement modifications to the drilling technique or composition of drilling fluid (e.g., thickening of mud by increasing bentonite content) as appropriate to minimize or prevent further releases of drilling mud.

5 Notification Procedures

Agency contact names and telephone numbers will be maintained by the FSC's Construction Manager. If a release occurs, the Project's contractor must immediately notify FSC's Construction Manager. Notifications will include any affected agencies with jurisdiction over the Project.