

CHAPTER 1

PURPOSE OF AND NEED FOR ACTION

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1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

The South Florida Water Management District (SFWMD) has submitted an application to the U.S. Army Corps of Engineers, Jacksonville District, Regulatory Division (USACE) for a Department of the Army (DA) permit authorizing the discharge of dredge or fill material into waters of the United States (US), including wetlands under Section 404 of the Clean Water Act (CWA) for construction of a shallow Flow Equalization Basin (FEB). The FEB is proposed in western Palm Beach County, Florida, on land designated as Compartment A-1 (A-1 project site) within the Everglades Agricultural Area (EAA) (**Figure 1.1**). The A-1 project site is approximately 16,000 acres and bordered to the east by US Highway 27, to the south by Stormwater Treatment Area (STA) 3/4, to the west by an area known as the Holey Land Wildlife Management Area (Holey Land) and to the north by agricultural lands.

Water flowing south from Lake Okeechobee can be separated into three flowpaths: the Western flowpath that extends beyond the EAA to the west, the Central flowpath, which is the bulk of the EAA, and the Eastern flowpath (**Figure 1-2**). These flowpaths are delineated by the source basins that route flows into the existing Everglades STAs. The project site is in the southern portion of the Central EAA flowpath. The Central EAA is mainly comprised of the S-2, S-3, S-6, S-7, and S-8 drainage basins and also includes the following independent water management or drainage districts established by Chapter 298 Florida Statutes (commonly referred to as 298 Districts): South Florida Conservancy District and South Shore Drainage District (**Figure 1-3**). Currently, the North New River and Miami Canals route flows from these basins and 298 Districts into STA 2, Compartment B, and STA 3/4 for phosphorus treatment prior to discharging into Water Conservation Area (WCA) 2A and WCA 3A. On occasion, water is diverted around the STAs and discharged directly into the WCAs. During extreme storm events, “diversions” could occur as water is sent directly from the canals into the WCAs without entering into the STAs if the water volumes in the canals exceed the capacity of the STAs. Alternately, when dry conditions in the Lower East Coast may lead to salt water intrusion, water is delivered directly from the canals into the WCAs to help maintain the freshwater gradient in the coastal wells. Water diversions in the dry season are referred to as urban water supplies.

Figure 1-2 Location Map of Western, Central, and Eastern Flowpaths

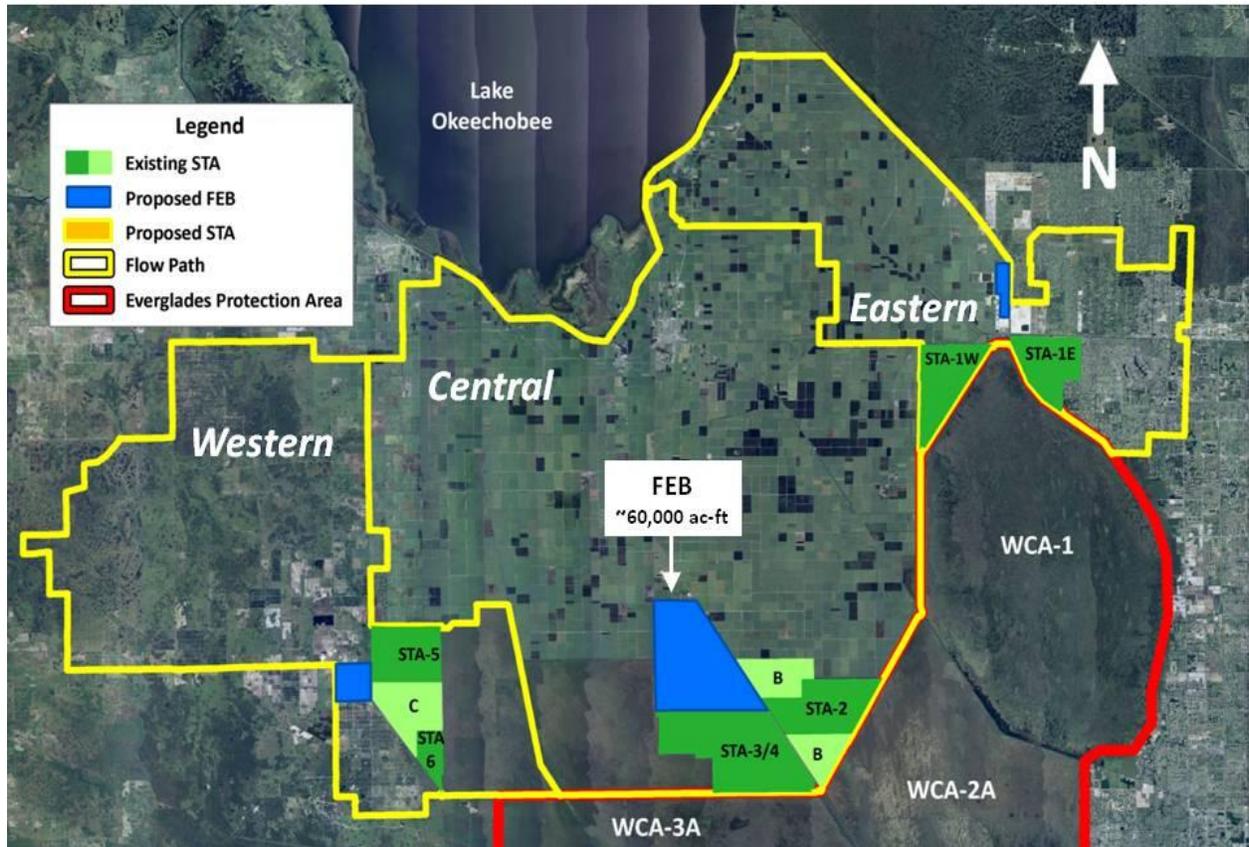
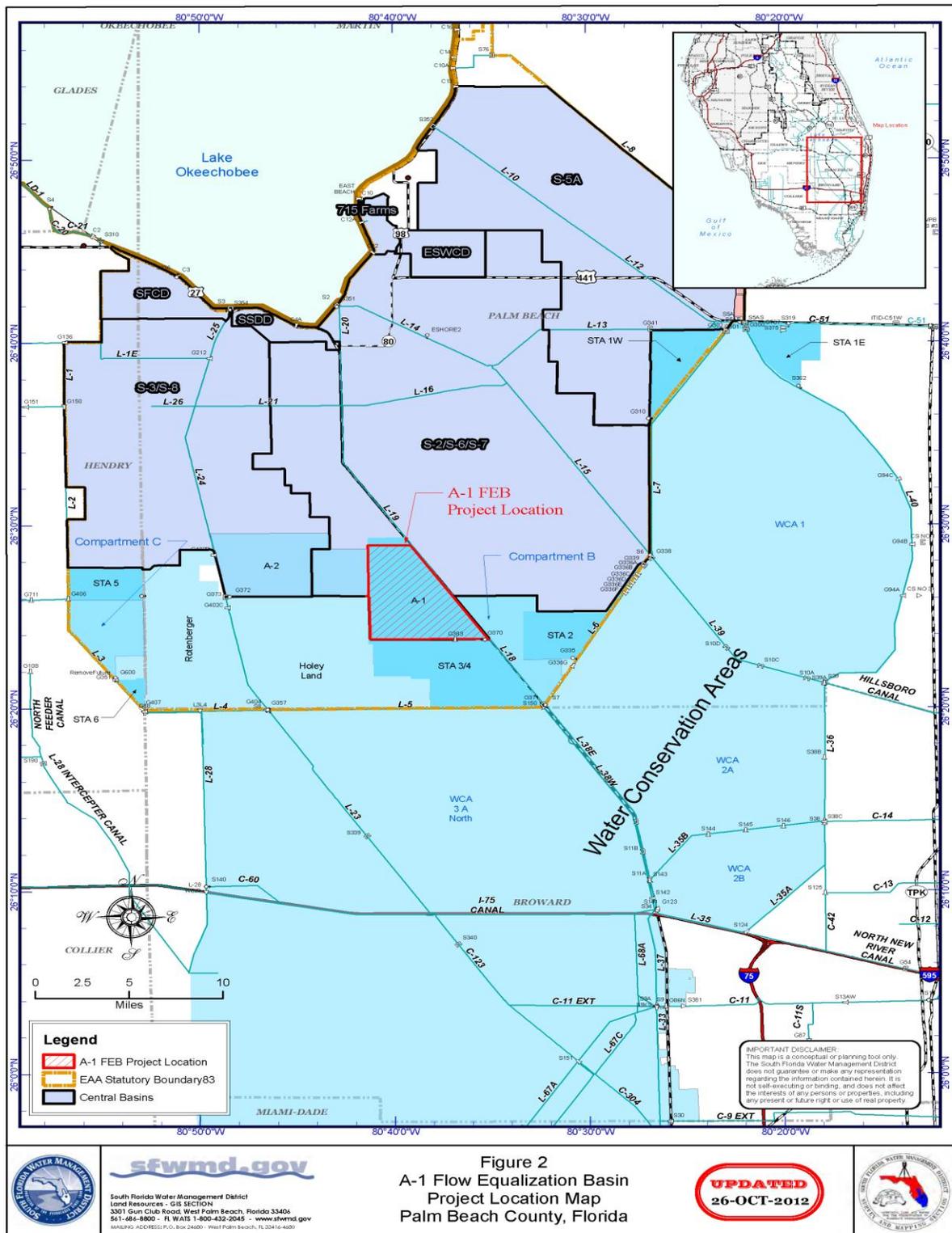


Figure 1-3 Location Map of Source Basins



1.2 NATIONAL ENVIRONMENTAL POLICY ACT REQUIREMENTS

The USACE anticipates a decision on the proposed activities which would constitute a Major Federal Action in accordance with 40 Code of Federal Regulations (CFR) Section 1501.8 and is preparing documentation to comply with requirements of the National Environmental Policy Act (NEPA) of 1969 [42 United States Code (USC) §§ 4321 *et seq.*]. NEPA is the “basic national charter for protection of the environment” [40 CFR §1500.1(a)] and requires federal agencies to be fully informed about the environmental consequences of their decision to provide financial assistance, exercise permit or regulatory authority, or to conduct an action that may significantly affect the environment. In addition, NEPA mandates that the public be informed of the proposed actions, the consequences of the actions, and the ultimate agency decision. Based on the size of the project area, the current purpose for the site, and the potential positive and negative environmental effects, both individually and cumulatively, of the anticipated action (the proposed A-1 Shallow FEB), the USACE has determined that the project would “significantly” affect the human environment. Therefore, an Environmental Impact Statement (EIS) is necessary to inform any final decision on the permit application. The USACE’s decision will be to either issue, issue with modifications to the applicant’s proposal, or deny a DA permit for the proposed action.

This document is an EIS that provides a comprehensive environmental analysis to aid in the decision making process for the DA permit application for the proposed Shallow FEB. The USACE has prepared this EIS in accordance with the Council of Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), 33 CFR Part 325, Appendix B “*National Environmental Policy Act Implementation Procedures for the Regulatory Program*”, and 40 CFR §230.10(a), which implement the procedural provisions of the NEPA (42 USC §§4321 *et seq.*) for the USACE.

The CEQ regulations implementing the NEPA mandate that Federal agencies responsible for preparing NEPA analyses and documentation do so “in cooperation” with other agencies with jurisdiction by law or special expertise (40 CFR §§ 1501.6 & 1508.5). The proposed project would require authorization from the USACE under Section 404 of the CWA and would be subject to U.S. Department of Interior (DOI)/U.S. Fish and Wildlife Service (USFWS) approval for a land use change for construction of a Shallow FEB on the A-1 Project Site. Therefore, the USACE requested that the DOI be a cooperating agency on this EIS, and the DOI agreed on October 30, 2012. Since the USFWS and the U.S Environmental Protection Agency (USEPA) have expertise in threatened or endangered species and water quality, respectively, the USACE has also invited the USFWS and USEPA to be cooperating agencies on this EIS. The USEPA agreed to be a cooperating agency on this EIS on October 16, 2012. The USFWS has not yet agreed to be a cooperating agency on this EIS but has assisted the USACE to develop this Draft

EIS. Because the authorization from the USACE is the major federal action, the USACE is the lead federal agency for this NEPA process and is responsible for preparation of the EIS.

This particular chapter of the EIS will cover the project background and purpose, and a description of the project as proposed by the SFWMD. This chapter is designed to provide a concise description to the public and to decision makers about what the essential needs and goals are for the project. The project's purpose and need is presented in Section 1.5. Section 1.6 describes the permit decision to be made while Section 1.7 discusses issues raised by the public. Finally, Section 1.8 discusses the environmental documents related to the proposed permit action.

1.3 BACKGROUND INFORMATION

Section 1.3.1 provides background information to describe the history of actions that have focused on managing phosphorus levels in the Everglades Protection Area (EPA) as defined in the 1994 Everglades Forever Act (EFA), including the adoption of the phosphorus Water Quality Based Effluent Limits (WQBEL) for the STAs, and the development of Regional Water Quality Plan. The EPA includes WCA 1, otherwise known as Arthur R. Marshall Loxahatchee National Wildlife Refuge (the Refuge), WCA 2A, 2B, 3A, 3B, and the Everglades National Park. Section 1.3.2 describes the prior permitting history associated with the previously permitted A-1 Reservoir project. Finally, Section 1.3.3 describes the history and need to obtain approval for a land use change on the A-1 project site.

1.3.1 HISTORY OF PHOSPHORUS MANAGEMENT IN THE EVERGLADES

In 1988, the federal government filed a complaint in federal court against the Florida Department of Environmental Protection (FDEP) and SFWMD for alleged violations of state water quality (U.S. v. FDER and SFWMD, Case No. 88-1886-CIV-MORENO). The lawsuit was settled in 1991. In 1992, a Consent Decree was entered embodying the terms of the 1991 settlement agreement. The 1992 Consent Decree identified a number of specific actions the State needed to undertake to address excess phosphorus in discharges from the EAA into the Everglades. These include the development of a regulatory program for implementation of performance-based best management practices (BMPs) to reduce phosphorus in outflows from EAA farms, and creation of the initial 32,600 acres of STAs with 34,700 total acres to be purchased. STAs are shallow marshes constructed and operated to reduce phosphorus levels in surface water entering the EPA. The Consent Decree also included interim and long-term phosphorus concentration limits for inflows to the Everglades National Park (ENP), and ambient phosphorus levels for the Refuge marsh.

In 1994, expanding upon the 1992 Consent Decree, the Florida Legislature enacted the Everglades Forever Act (EFA), which, following the approach identified in the 1992 Consent Decree, envisioned a two pronged approach to achieving water quality standards in the EPA. First, the EFA directed the SFWMD to implement a regulatory source control program requiring landowners in the EAA and adjacent C-139 Basin to reduce phosphorus in their runoff prior to discharge. Second, the EFA required the SFWMD to acquire land, then design, permit, and construct an expanded series of STAs to further reduce phosphorus levels in stormwater runoff and other sources before it enters the EPA. In 1995, the settling parties (ENP, the Refuge, FDEP, and SFWMD) jointly moved to modify the Consent Decree, including the size of and the deadline for completion of STAs, to reflect changed circumstances and the enactment of the EFA by the Florida legislature in 1994. The motion to approve those modifications was granted in 2001. In the 1994 EFA, the STAs, also known as the Everglades Construction Project (ECP), originally consisted of six large constructed wetlands totaling about 40,450 acres. The STAs were expanded by approximately 5,000 acres in FY2007 while in FY2012, completion of construction of Compartments B and C resulted in an additional 12,000 acres of treatment area. As discussed below, the latest proposed expansion embodied in the 2012 NPDES permit for the STAs will bring the STAs to a total of approximately 57,000 acres. (SFWMD 2013)

The EFA also required the development of a numeric total phosphorus water quality standard for the EPA by December 31, 2003, or a default standard of 10 parts per billion (ppb) would take effect. Although the default criterion did become effective, it was replaced with the current 10 ppb criterion which includes a four part methodology to measure achievement of the criterion. If the STAs and source controls contemplated by the EFA would not achieve water quality standards including the applicable numeric criterion for total phosphorus in the EPA by December 31, 2006, the EFA required the SFWMD to submit a new proposal to the FDEP by December 31, 2003, that would achieve compliance by 2006. In March 2003, the SFWMD developed and submitted the Everglades Protection Area Tributary Basins Conceptual Plan for Achieving Long-Term Water Quality Goals (Long-Term Plan) to FDEP, which was incorporated into the EFA by reference. The Long Term Plan was revised in October 2003. Also in 2003, the Florida legislature amended the EFA twice requiring the SFWMD to implement the Long-Term Plan in two phases. The initial phase included STA expansions, physical and vegetative enhancements to existing STAs, expanded source control programs, or BMPs, and integration with the Comprehensive Everglades Restoration Plan (CERP) projects. The second phase was to be developed if the elements of the initial phase were unsuccessful in achieving water quality standards in the EPA by 2016.

The STA expansions and enhancements described in the initial phase of the Long-Term Plan have been completed and reductions in phosphorus concentrations have been achieved, but

concentrations are still higher than the water quality standard. Despite the success of these measures state and federal agencies recognize the need to further improve the quality of water entering the Everglades in order to achieve the standards.

In 2004, the Miccosukee Tribe of Indians of Florida (Miccosukee Tribe) and the Friends of the Everglades (FOE) brought suit against the USEPA alleging that the 2003 EFA amendments were new or revised state water quality standards that USEPA should have reviewed and disapproved. The complaint also alleged that USEPA should have reviewed and disapproved parts of the State's phosphorus rule. USEPA already reviewed and approved the numeric criterion and implementing methodology for total phosphorus. After several remands and actions, in July 2008, Judge Alan Gold agreed with the Miccosukee Tribe and FOE and issued an order enjoining FDEP from issuing new NPDES permits for the STAs that authorize discharges above the 10 ppb phosphorus standard. The Judge also ordered USEPA to review and disapprove the amendments to the EFA and to review the remainder of the State's phosphorus rule to determine if it is in compliance with CWA. In December 2009 USEPA issued a new determination disapproving the EFA Amendments as new or revised water quality standards as well as disapproving portions of the phosphorus rule. In response to motions filed by the Miccosukee Tribe and FOE, on April 14, 2010, Judge Gold further ordered USEPA to issue an Amended Determination identifying the remedies and strategies that the SFWMD would need to implement to achieve the 10 ppb phosphorus standard in the EPA. The Court also ordered the State to submit NPDES permits within 60 days of the Amended Determination that conformed to the Court's orders, and the Amended Determination.

1.3.1.1 Restoration Strategy

In response to Judge Gold's April 14, 2010, order, the USEPA began a technical review of the current phosphorus control technologies in order to develop a suite of remedies and strategies to achieve water quality standards in the EPA. USEPA consulted with the SFWMD, FDEP, and others during the development of these remedies and strategies. USEPA first identified a WQBEL for discharges into the EPA that USEPA determined would achieve compliance with the State of Florida's numeric phosphorus criterion in the EPA. USEPA, after months of modeling of various options and discussion, subsequently identified a suite of additional water quality projects based on the modeling that would work in conjunction with the existing Everglades STAs to meet the WQBEL for discharges from those STAs. USEPA's Evaluation of Alternatives to Achieve Phosphorus WQBELs in Discharges to the Everglades Area dated September 2, 2012 is included in Appendix G.

On September 3, 2010, USEPA issued an Amended Determination (2010 AD) identifying a recommended WQBEL, and a suite of remedies and strategies designed to achieve the WQBEL. The 2010 AD is included in Appendix G.

In particular, the 2010 AD proposed that the A-1 site would be designated as an STA to maximize phosphorus uptake. The size of the STA that the USEPA predicted would be needed to meet the WQBEL was based on many factors and assumptions including the volume of flow to be treated and the concentration of TP in these flows. Based on these assumptions, the modeling predicted a 15,600 acre STA would be needed in the Central Flowpath to meet the WQBEL at the discharge points of STA 2 and STA 3/4. The USEPA noted in the 2010 AD that there may be other project designs that could meet the WQBEL and invited the SFWMD to submit an alternative plan. Since the USEPA issued the 2010 AD, additional permitting developments occurred.

On November 2, 2010, consistent with the Court's April 14, 2010 Order, FDEP submitted example NPDES permits to the Court and indicated that FDEP lacked State law authority to conform to the 2010 AD without compliance schedules. After hearings, the Court issued a subsequent order that deemed these permits as submitted to USEPA as draft permits for review under the CWA. USEPA objected to these permits finding certain provisions, including the use of the compliance schedules, inconsistent with the requirements of the CWA.

In addressing USEPA's objections, the SFWMD began a new analysis of potential remedies, starting with the work done for the Amended Determination. The SFWMD updated and revised some of the flow data and hydrologic modeling upon which the USEPA had relied in developing the projects for the 2010 AD. For example, the SFWMD plan assumed a slightly lower volume of water to be treated, and relied upon different assumptions regarding TP concentrations in the water to be treated. Both the 2010 AD and the SFWMD plan relied on the use of the 15,000 acre A-1 site to store or treat water. However, the revised SFWMD plan would utilize the A-1 site as a 54,000 acre-foot FEB to manage and meter water flow and phosphorus load discharged into STA 2 and STA 3/4. Even though the FEB was not designed to treat phosphorus, water depth in the Shallow FEB is projected by the State to support vegetation that is likely to aid in the removal of additional phosphorus.

The new modeling relied on new data and information and options that were not available to the USEPA at the time of the 2010 AD. After extensive technical discussions with the SFWMD and the FDEP and thorough evaluation, the USEPA concluded that the State plan is based on an appropriate set of assumptions given the information available at the time the plan was

developed. The USEPA determined that the State plan can reasonably be expected to achieve the WQBEL.

The USEPA worked closely with other federal agencies, the SFWMD, and the FDEP to identify a modified suite of remedies that was based on many months of additional modeling by the SFWMD, ENP and the Refuge. Ultimately, these new remedies were incorporated into a draft National Pollutant Discharge Elimination System (NPDES) permit and consent order, along with an EFA permit and consent order, issued by FDEP on June 6, 2012. Historically, each STA had an individual permit. It was decided to issue one watershed NPDES permit for all the STAs. The 2012 revised NPDES watershed permit, associate documents and draft enforcement consent order between the FDEP and the SFWMD include corrective actions and deadlines to achieve the WQBEL. These documents are in Appendix G and can be found online at the website: <http://www.dep.state.fl.us/water/wqssp/everglades/ecp-sta.htm>.

USEPA found the permit addressed its objections, which led to final NPDES permit being issued on September 10, 2012. The permit established a WQBEL and identified a suite of additional water quality improvement projects developed by the State in lieu of those in the Amended Determination to be constructed identified as the Regional Water Quality Plan (RWQP).

This EIS, although independent from the evaluation performed by the USEPA in the Amended Determination and subsequent evaluation associated with the 2012 NPDES permit recognizes the prior discussions between the USEPA, SFWMD and FDEP. This is also reflected in USEPA's memorandum reviewing the State's proposal, entitled, "Assessment of the State of Florida's Everglades Water Quality Plan," dated June 13, 2012.

1.3.1.2 Water Quality Based Effluent Limit

The WQBEL is a numeric discharge limit that will be applied to all NPDES permitted discharges from Everglades STAs to the EPA to assure that such discharges do not cause or contribute to exceedances of the 10 ppb total phosphorus (TP) criterion [expressed as a long-term geometric mean (LTGM)] established under 62-302.540, Florida Administrative Code (F.A.C.) (SFWMD – Final Technical Support Document for the WQBEL 2012). TP is measured at a network of stations across the EPA marsh and prevents imbalances of aquatic flora and fauna. The WQBEL is measured at the discharge points from each STA and requires that total phosphorus concentration in STA discharges shall not exceed: 1) 13 ppb as an annual flow-weighted mean in more than three out of five water years on a rolling basis; and 2) 19 ppb as an annual flow-weighted mean in any water year.

1.3.1.3 Regional Water Quality Plan

The RWQP was the result of many months of discussions and modeling by both the State of Florida and ENP and the Refuge, and is composed of projects divided into the three EAA flow paths (Eastern, Central and Western) (**Figure 1-2**). Under the RWQP, the proposed Shallow FEB project, a component of the Central Flowpath, is an incremental step towards achieving the overall goal of meeting water quality standards in the EPA. The Shallow FEB is the subject of this EIS. Other projects identified in the RWQP will be evaluated as appropriate for those projects requiring DA authorization under the CWA.

1.3.2 PRIOR DEPARTMENT OF THE ARMY PERMITS

On October 14, 2004, (after passage of the EFA and before Judge Gold's decision) a Memorandum of Agreement (MOA) regarding acceleration of several CERP and other water quality improvement projects was signed by the Governor's Executive Office and the SFWMD. Collectively the group of projects was named Acceler8. Acceler8, consisting of eight projects with multiple components (Figure 1-4), was designed to expedite attainment of water quality, quantity, timing and delivery goals of Everglades restoration efforts ahead of the federal implementation schedule for CERP. The eight Acceler8 projects include:

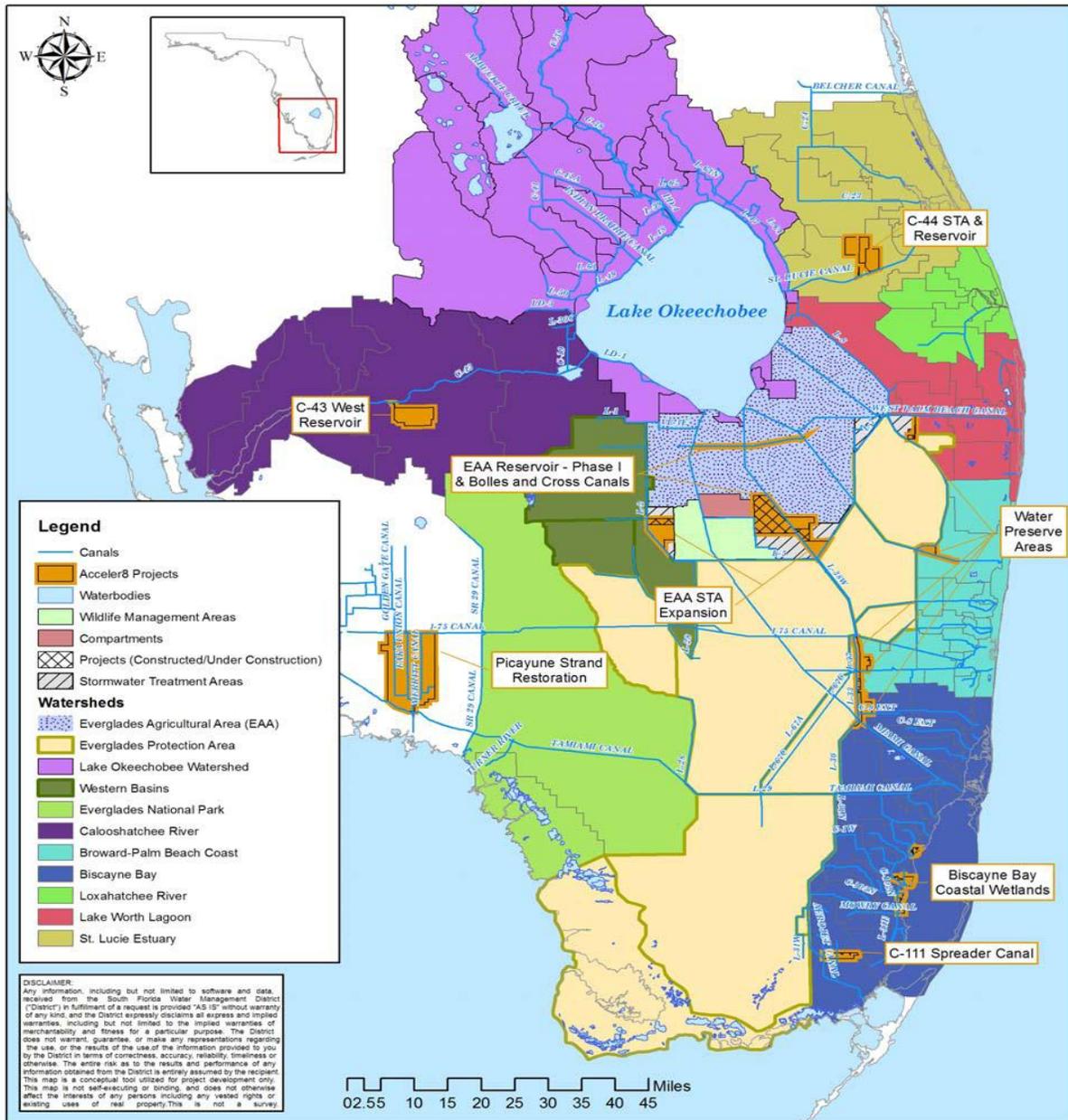
- C-44 (St. Lucie Canal) Reservoir / Stormwater Treatment Area
- C-43 (Caloosahatchee River) West Reservoir
- Everglades Agricultural Area STA Expansion
- Everglades Agricultural Area Storage Reservoir- Phase 1 (later phase to include Bolles and Cross Canals Improvements)
- Water Preserve Areas Includes Site 1, C-9, C-11, Acme Basin B, Water Conservation Area-3A/3B Seepage Management Area
- Picayune Strand (Southern Golden Gate Estates) Restoration
- Biscayne Bay Coastal Wetlands - Phase 1
- C-111 Spreader Canal

As part of the Acceler8 program, the SFWMD pursued construction of a 12.5-foot deep reservoir on the A-1 project site for water storage ahead of the federal schedule for implementation of a CERP reservoir project at that site. The 12.5-foot deep reservoir was to be the Everglades Agricultural Area Reservoir – Phase 1 (fourth bullet above) project, also referred to as the A-1 Reservoir. As described in the 2006 Final EIS for the EAA A-1 Reservoir, the overall project purpose of the reservoir was to provide water storage in order to improve timing of water deliveries from the EAA to the WCAs, reduce Lake Okeechobee regulatory releases to the estuaries (i.e. route additional water from the lake south thereby reducing discharges to the

estuaries), meet supplemental agricultural irrigation demands, and increase flood protection within the EAA. A DA permit was issued to the SFWMD for the discharge of dredged or fill material into waters of the US associated with the construction of the 190,000 acre-foot A-1 Reservoir in July 2006. The SFWMD began construction on the EAA A-1 Reservoir in 2006, but terminated the construction contract in late 2008. Subsequently, in 2008 the State of Florida announced the River of Grass proposal to purchase additional lands in the EAA and C-139 Annex from the U.S. Sugar Corporation. The SFWMD recognized that the acquisition of additional lands could lead to modifications of the plan for the A-1 Reservoir beyond what was contemplated by the expedited project. The DA permit for the A-1 Reservoir has since expired.

The SFWMD having terminated the plans for the reservoir, is now proposing to construct a Shallow FEB (up to 4 feet of surface water) on the A-1 project site (**Figure 1-5**). The purpose of this project is not to be confused with purpose of the A-1 Reservoir as the project purposes are quite different. The main difference is that the A-1 Reservoir project purpose was to reduce Lake Okeechobee regulatory releases to the estuaries (i.e. to route additional water from the lake south thereby reducing discharges to the estuaries) and provide water storage for other uses, while this project would only attenuate the flow of existing water into the STAs to maximize water quality treatment for existing water, that is water currently sent south from Lake Okeechobee (does not accept water releases that would have otherwise been sent to the estuaries). To construct the Shallow FEB, a new DA permit will be required to fill waters of the US, including wetlands.

Figure 1-4 Acceler8 Projects



 <p>sfwmd.gov</p>	<p>Everglades Restoration Resource Area South Florida Water Management District 2301 Center Park West Drive, Suite # 150 West Palm Beach, FL 33409 Tel # (561) 242-5520</p>	<p>Figure 1-3. Acceler8 Projects Map Everglades Agricultural Area Compartments B and C</p>	<p>UPDATED 04/15/2008</p>
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1.3.3 TALISMAN LAND ACQUISITION

The need to obtain an interim land use change approval from the DOI/USFWS for construction of the Shallow FEB on the A-1 project site is a requirement of the funding agreement entitled *Cooperative Agreement Among the United States Department of the Interior and the Nature Conservancy and the South Florida Water Management District* (Cooperative Agreement). Congress enacted the 1996 Federal Agriculture Improvement and Reform Act (Farm Bill) and provided funds on April 4, 1996 (Public Law 104-127, 110 Statute 1022). Under Section 390 of the Farm Bill, the Secretary of Interior was authorized to use funds made available to conduct restoration activities in the Everglades ecosystem in South Florida, including, but not limited to the acquisition of real property and interests in real property located within the Everglades ecosystem. The Farm Bill provided that the Secretary of the Interior could transfer funds to the USACE, the State of Florida, or the SFWMD to conduct the aforementioned restoration activities.

A Framework Agreement was entered between the DOI, the Department of the Army, the State of Florida, FDEP and the SFWMD, on October 3, 1996, which provides a framework for the Secretary of Interior to provide funds under Section 390 to the other parties for Everglades ecosystem restoration. The parties agreed to use Section 390 funds, in part, to acquire real property for conservation purposes and to construct features that are intended to become part of existing or future USACE projects authorized by Congress. The parties agreed that any real property acquired or features constructed with these funds will be used to conduct restoration activities in the Everglades ecosystem. The Framework Agreement provides that the terms and conditions relevant to the provision of Section 390 funds shall be set forth in individual funding agreements. It also provides that funding agreements between DOI, FDEP, and the SFWMD generally will use the standard forms and follow the standard procedures of the USFWS pertaining to the provision of funds including grants or cooperative agreements, whichever the case may be.

The Framework Agreement specifically provides that real property acquired may be managed for purposes that are not inconsistent with the purpose of restoring the Everglades ecosystem until the land is intended to be incorporated into a DA project. In addition, the Framework Agreement provides a dispute resolution mechanism.

In 1999, the Nature Conservancy under the terms of the Cooperative Agreement closed on the acquisition of approximately 50,000 acres of land located within the southern portion of the EAA in Palm Beach and Hendry Counties. This acquisition, which included the Compartment A-1 lands, was the culmination of many years of negotiations.

The DOI transferred funds to the Nature Conservancy pursuant to the Cooperative Agreement, and the SFWMD received the title to the properties acquired. The Cooperative Agreement states that lands acquired for public ownership under this Agreement will be used and managed for purposes of Everglades ecosystem restoration and will be subject to the provisions of the Framework Agreement, including but not limited to, those provisions applicable to uses of property prior to the commencement of the USACE project. Any proposed change in land use of Compartment A-1 may not be implemented until the DOI/USFWS: 1) reviews the proposal; 2) determines that it meets the requirements of the NEPA, Section 7 of the Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act, and any other applicable statutes; and 3) approves the proposal. The Cooperative Agreement also includes a procedure for dispute resolution.

It is essential to Everglades restoration that water entering the WCAs achieves the WQBEL and flows entering ENP meet the limits set in the phosphorus rule which are also the limits identified in the 1992 Consent Decree, Appendix A for ENP. During the evaluation and optimization for the A-1 project site the SFWMD determined a Shallow FEB would optimize the treatment performance of the existing STA's and be more cost effective than a deep FEB, or reservoir. Thus, concurrent with the analysis conducted in this EIS, in order to approve the land use change for construction of the Shallow FEB, the DOI/USFWS must determine that the Proposed Action furthers restoration of the Everglades.

1.4 DESCRIPTION OF PROPOSED ACTION

The proposed Shallow FEB is a shallow above-ground impoundment for the temporary storage of stormwater runoff, with a capacity of approximately 60,000 acre-feet at an approximate maximum operating depth of 4 feet (**Figure 1-5**). As a result of the project, approximately 536.8 acres of waters of the US, including wetlands, would be impacted as a result of placement of fill and approximately 10,500 acres of waters of the US would be inundated (up to four feet of water depth).

The key features of the Shallow FEB project include the following:

- Approximately 60,000 acre-foot impoundment with a perimeter levee and seepage collection canals
- Gated inflow structures
- Inflow conveyance channels and interior levees
- Outflow collection and conveyance canal
- Gated outflow structures

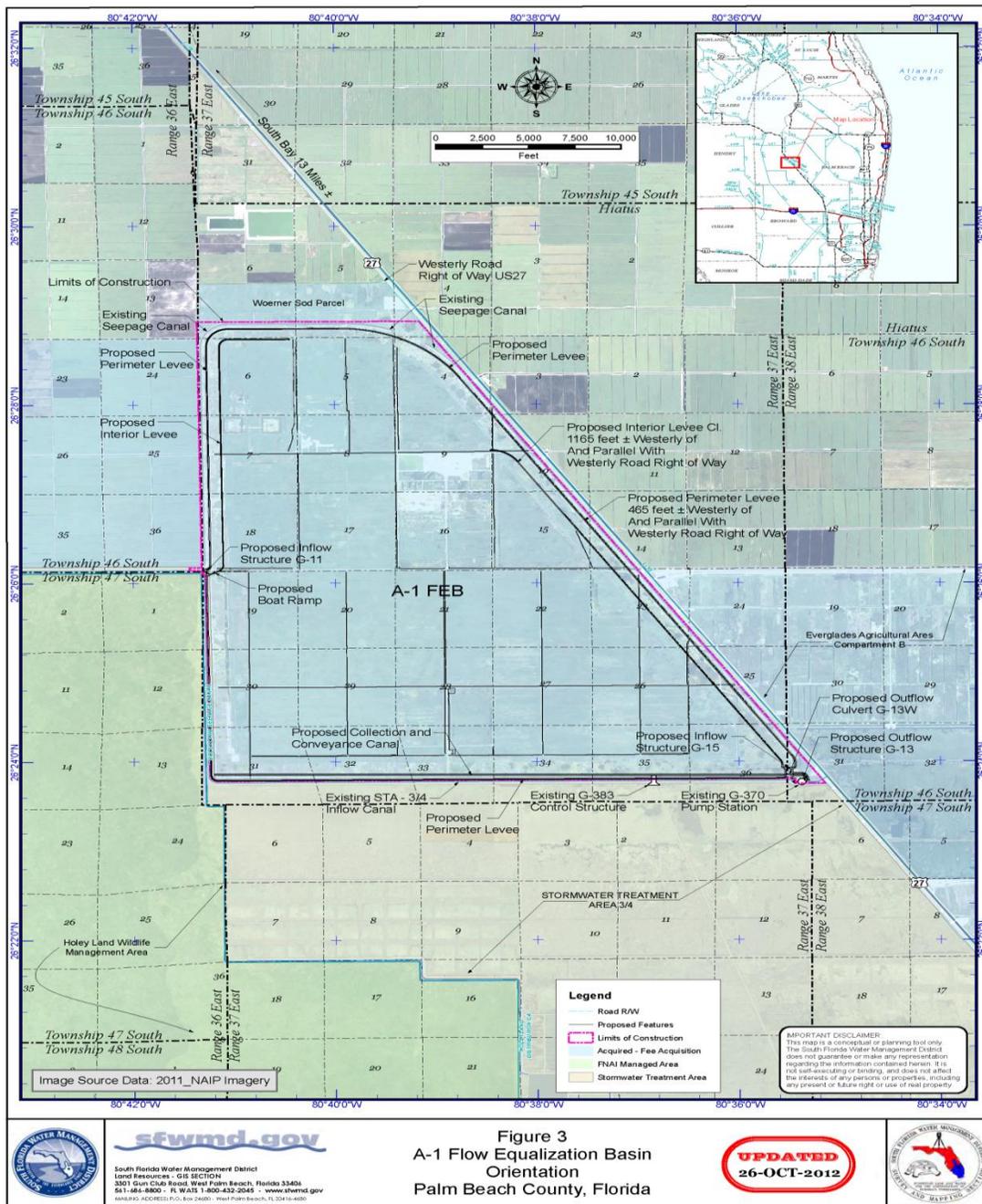
The proposed Shallow FEB is intended to attenuate peak water flows and temporarily store excess water from within the central EAA, collected by the North New River and Miami Canals and to subsequently improve inflow delivery rates to STA 2 (including Compartment B) and STA 3/4. By managing basin runoff in the Central Flowpath in a more advantageous manner, the impacts of storm driven events would be reduced for STA 2 and STA 3/4. The proposed Shallow FEB will also improve operations of the STAs in the dry season by providing water during the periods of drought and low water conditions. Attenuating and managing excess water flows in the Central Flowpath will enhance operations and improve phosphorus treatment performance in STA 2 and STA 3/4 so that these STA discharges meet the WQBEL. Discharges from these STAs flow into WCA 2A and WCA 3A, part of the EPA marsh where the 10 ppb phosphorus criterion is applied.

The goals and objectives for the Shallow FEB are to assist STA 2 and 3/4 in achieving the WQBEL at the STA discharge. The FEB will facilitate this in concert with the STAs in three ways:

1. Attenuate peak water flows and temporarily store runoff from the central EAA, thereby minimizing the discharge of untreated water into the EPA
2. Improve inflow delivery rates to STA 2 and STA 3/4, thereby providing enhanced operation and phosphorus treatment performance
3. Assist in maintaining minimum water levels and reducing the frequency of dryout conditions within STA 2 and STA 3/4, which will sustain phosphorus treatment performance

Although the 2012 Consent Order requires that construction commence by June 2014 and be completed by July 2016, the SFWMD is proposing to move forward on an accelerated basis. The SFWMD anticipates that construction would begin in October 2013 and be completed by December 2014. The Consent Order requires that 54,000 acre-feet of storage capacity be constructed. Since the A-1 project site could support 60,000 acre-feet of storage, the SFWMD has chosen to utilize the maximum storage on the site.

Figure 1-5 Shallow FEB Features



For copies of this map (0:\net_data\apps\gis\A1_FEB\user\leach\Sheet 3.mxd) which was produced on 10/26/2012 by R. Schaffer, contact the Survey Section.

1.5 PROJECT PURPOSE AND NEED

In accordance with the NEPA, an EIS “shall briefly specify the underlying purpose and need to which the agency is responding” (40 CFR §1502.13). When considered together, the “purpose” and the “need” for the project establish the basic parameters for identifying the range of alternatives to be considered in an EIS. Under NEPA (33 CFR Part 325, Appendix B) and under Section 404 of the CWA pursuant to the Section 404(b)(1) Guidelines (40 CFR Part 230), there are three ways that the USACE is to examine the underlying goals, or purpose, of a project: 1) the Applicant’s stated purpose and need (i.e. SFWMD’s stated purpose and need), 2) a “basic” project purpose defined by the USACE specifically for addressing a project’s water dependency, and 3) an “overall” project purpose, which is defined by the USACE and is used for the alternatives analysis. Pursuant to 33 CFR Part 325, Appendix B, when defining the purpose and need for a project, “while generally focusing on the applicant’s statement, the USACE will in all cases, exercise independent judgment in defining the purpose and need for the project from both from the applicant’s and the public’s perspective.”

Interpreting the Applicant’s Stated Purpose and Need. The Applicant’s stated purpose and need is an expression, typically in the Applicant’s own words, of the underlying goals for a proposed project. The USACE takes an applicant’s purpose and need into account when determining the overall purpose and the project purpose and need. The Applicant’s purpose and need is described in Section 1.5.1 below.

Defining the USACE’s Basic Project Purpose. The USACE uses the basic project purpose to determine water dependency [40 CFR §230.10(a)(3)]. If a project is not water dependent, other alternatives that would not result in impacts to *special aquatic sites* are presumed to be available. The Section 404(b)(1) Guidelines state that practicable alternatives to nonwater-dependent activities are presumed to be available and to result in less environmental loss unless clearly demonstrated otherwise by the applicant [40 CFR §230.10 (a)(3)]. Section 1.5.2.1 below defines the USACE’s basic project purpose as applied to the Applicant’s proposed project.

The Section 404(b)(1) Guidelines are one of the substantive criteria that the USACE uses to evaluate a permit. The Section 404(b)(1) Guidelines establish two rebuttable presumptions: first, for a non-water-dependant project, the Guidelines presume that practicable alternatives are available that do not involve the discharge of dredged or fill material into a special aquatic site, such as wetlands. Second, the Guidelines presume that such alternatives result in less adverse impact on the aquatic ecosystem than wetland alternatives. These presumptions apply unless the applicant clearly demonstrates otherwise. Application of these rebuttable

presumptions results in the identification of the least environmentally damaging practicable alternative (LEDPA).

Defining the USACE’s Overall Project Purpose. The USACE will use the overall project purpose to identify alternatives for evaluation in this EIS and to determine if the Applicant’s proposed project is the LEDPA under the Section 404(b)(1) Guidelines. According to USACE guidance in its 2009 Standard Operating Procedures, “The overall project purpose should be specific enough to define the applicant’s needs, but not so restrictive as to constrain the range of alternatives that must be considered under the Section 404(b)(1) Guidelines. Defining the overall project purpose is the USACE’s responsibility. However, the applicant’s needs and the type of project being proposed should be considered.” The USACE’s overall project purpose more specifically addresses the Applicant’s purpose and need than does the USACE basic project purpose. The USACE’s overall project purpose, as applied to the Applicant’s proposed project, is defined in Section 1.5.2.2 below.

Defining the DOI/USFWS’ Project Purpose and Need. The project purpose as defined by DOI/USFWS is to conduct restoration activities in the Everglades ecosystem. Because the Compartment A lands were acquired for public ownership under the Cooperative Agreement and are intended to be used and managed for purposes of Everglades Ecosystem Restoration subject to the provisions of the Cooperative Agreement, any proposed change in land use of Compartment A-1 may not be implemented until the DOI/USFWS approves the proposal. Therefore, for purposes of this EIS, the DOI/USFWS must determine that the Proposed Action results in restoration of the Everglades in order to approve the interim land use change for construction of the Shallow FEB. Consistent with the Cooperative Agreement, this must include an analysis of the actual contribution of these proposed actions to restoring the Everglades as well as their contribution to improving the performance and operational flexibility of other restoration features.

1.5.1 THE APPLICANT’S PURPOSE AND NEED STATEMENT

The Applicant’s stated purpose and need is a statement that defines the intent and underlying goals for a proposed project. The Applicant’s stated purpose and need are as follows:

The SFWMD’s purpose of the project is to improve inflow delivery rates to STA 2 and STA 3/4 by attenuating peak water flows and temporarily storing water runoff primarily from the central EAA, and to assist in maintaining minimum water levels and reducing the frequency of dryout conditions within STA 2 and STA 3/4, which would increase the phosphorus treatment performance of these STAs in order to achieve the WQBEL.

The RWQP identified that an FEB was needed to improve management of flows in the Central Flow Path. The Central Flow Path is primarily comprised of flows from the S-2/S-6/S-7 and S-3/S-8 drainage basins, South Florida Conservancy District, and South Shore Drainage District with a small amount of water coming from the C-139 Basin and Lake Okeechobee regulatory releases under limited conditions. An FEB in this location within the EAA can manage basin runoff in the Central Flowpath in a more advantageous manner than the no action alternative, thereby reducing the impacts of storm driven events and dry-outs on STA 2 and STA 3/4 phosphorus reduction performance in order to assist these STAs in meeting the WQBEL.

1.5.2 USACE PROJECT PURPOSE AND NEED STATEMENT

As stated above, the USACE defines the basic project purpose to determine water dependency while the overall project purpose is used to identify and evaluate alternatives, including the LEDPA.

1.5.2.1 USACE Basic Project Purpose and Water Dependency

The basic project purpose is to improve water quality of flows from the STAs 2 and 3/4. In general, improvement of water quality or water treatment does not require access or proximity to a special aquatic site. Therefore, the USACE finds that the basic project purpose is not water dependent.

The A-1 project site is located in an area which consists of agricultural areas as well as wetlands and ditches (or other Waters of the US). The need to attenuate water and then deliver it to the STAs located at the south of the central flow path will ultimately limit the location of any alternative sites of comparable size that could be utilized to satisfy the project purpose. Additionally, other project sites within the Central Flowpath would have similar site characteristics as the entire EAA has similar characteristics. Therefore, limited practicable alternatives exist that would not have a similar impact on special aquatic sites and none of these would be able to deliver water to the STA 3/4 and STA 2 as needed to improve performance. The USACE may authorize the discharge of dredged or fill material into waters of the US for a proposed project that is not water dependent if the USACE determines that the proposed project: (1) is the LEDPA and complies with other Section 404(b)(1) Guideline requirements, (2) is not contrary to the public interest, and (3) complies with all other applicable regulatory requirements.

The USACE determined that the DA permit application for the proposed Shallow FEB is a single and complete project as defined in 33 CFR §330.2(i). While the Regional Water Quality Plan

envisions multiple projects in three separate flow paths from the EAA into the Everglades, the A-1 FEB project is the component of the Central Flowpath and has independent utility.

1.5.2.2 USACE Overall Project Purpose

The overall project purpose, as defined by the USACE, is to achieve the WQBEL at the STA 2 and STA 3/4 discharge points in the Central Flowpath of the Everglades Protection Area.

1.5.3 DOI PROJECT PURPOSE AND NEED STATEMENT

The purpose and need statement for the required DOI/USFWS interim land use change is to conduct restoration activities within the Everglades ecosystem. Concurrent with the analysis conducted by the USACE in this EIS, in order for approval of the land use change for construction of the Shallow FEB, DOI/USFWS also must determine that the proposed action furthers restoration of the Everglades.

1.6 DECISIONS TO BE MADE

The Proposed Action would result in the discharge of dredged or fill material into waters of the US, including wetlands, through filling, excavation, land clearing, and other activities. Under Section 404 of the CWA (33 USC §1344), the USACE is responsible for regulating the placement of fill and discharge of dredged material into the waters of the US, including wetlands. Therefore, because the SFWMD is seeking approval of a permit from the USACE, a federal agency, the project involves a federal action. Because any environmental consequences of SFWMD's proposed project are essentially products of the USACE permit action, the scope of the federal permitting action includes all of construction activities associated with this action on the project site. Based on review of this EIS, the USACE will make a decision to either issue, issue with conditions, or deny a permit for the Proposed Action.

The Proposed Action, through the USACE permit review requires consultation under Section 7 of the ESA and Section 106 of the National Historic Preservation Act. Additionally, the Proposed Action would involve evaluation for compliance with the Section 404 (b)(1) Guidelines of the CWA; Section 401 of the CWA, the Clean Air Act, and federal requirements under the 1996 Farm Bill Act. A draft of the Section 404(b)(1) Guidelines evaluation is included in Appendix A, the final evaluation will be provided in a Record of Decision that documents the DA permit decision after completion of the Final EIS. Other authorizations required may include: a Water Quality Certification issued pursuant to Section 401 of the CWA through the FDEP; a Coastal Zone Management Act consistency determination under Section 307 issued by FDEP; an Everglades Forever Act (EFA) from FDEP; a Conceptual Reclamation Plan issued by the FDEP; and a Zoning and Land Use Permit issued by the appropriate county. If the STA is selected as

the preferred alternative, a National Pollution Discharge Elimination System permit for construction and operation of an STA may also be required. Consultation and coordination, including public involvement, are included in Chapter 7 of this EIS while a description of the required permits, licenses and environmental laws are described in Chapter 8.

1.7 PUBLIC INVOLVEMENT

One of the basic tenets of NEPA is that comprehensive information is made available to the public and agency officials before decisions are made and before actions are taken. In addition, NEPA gives all persons, organizations, and government agencies the right to comment on proposed federal actions that are evaluated by an EIS. To provide the public with the comprehensive information they need to comment, the early identification of issues and potential impacts is critical to efficient, effective EIS preparation. To obtain public input for this draft EIS and to ensure that the information provided in the draft EIS was comprehensive, the USACE sought input both early in the process, as required by NEPA, and throughout the development of this document. The opportunities for public input available during the EIS development are summarized in the following paragraphs.

1.7.1 SCOPING SUMMARY

The scoping process helps to establish the framework for the environmental study and facilitates the development of the reasonable range of feasible alternatives to be evaluated in the EIS. The goal of scoping is to provide opportunities for the public and agencies to provide input on the proposed project. The lead federal agency uses scoping comments to identify the nature and extent of potential issues and impacts.

To solicit public comments and develop a range of alternatives, the USACE held a public scoping meeting, published the intent to complete an EIS in the Federal Register, distributed a public notice, conducted a press release to media outlets, and consulted with agencies and federally recognized Native American Tribes letters by mail. The USACE generated a mailing list of interested parties which includes parties that had previously been involved with the A-1 Reservoir mailing list, a list of parties generated by the FDEP for the watershed NPDES permit for the STAs parties on the distribution list for the Central Everglades Planning Project (CEPP) and the River of Grass project, and parties interested in the EAA, as well as adjacent landowners, State, Federal, and local governments. Approximately eighteen (18) people attended the Scoping meeting which was held on September 6, 2012, at the SFWMD Auditorium, 3300 Gun Club Road, West Palm Beach, Florida.

During the formal scoping period from August 28, 2012, to September 27, 2012, fourteen (14) issue-specific comments were identified in the communication received from the public and agencies. In general, comments received were related to one or more of the following nine (9) major categories:

- general support for the project,
- potential for improved habitat,
- water quality,
- fish and wildlife resources,
- the interrelationship with the federal Central Everglades project,
- wetland mitigation and a contingency plan,
- effects of operation,
- alternative analysis, and
- downstream water quantity.

Scoping comments were used in conjunction with the USACE defined overall project purpose to develop the full range of alternatives presented in Chapter 2. Specific public and agency input received during scoping was used to inform the scope and range of issues addressed. This input included:

- geographic extent of the affected environment,
- evaluation of the deep FEB, or reservoir, as an alternative.

1.7.2 ISSUES ELIMINATED FROM DETAILED ANALYSIS

The following issues were eliminated from detailed analysis based on public and internal scoping:

- **Essential Fish Habitat** – Since the proposed project would not change the amount of freshwater that currently is released from Lake Okeechobee to tide, the project would not affect essential fish habitat in the St. Lucie and Caloosahatchee estuaries.
- **Air Quality** – Although a new pump station would be required for the deep FEB and the STA alternatives, no measurable changes in air quality are expected to occur as a result of any of the alternatives. There may be a negligible impact on carbon monoxide emissions within the project area as the pumps are expected to be standard flood control diesel pump stations similar to those at G-370 and G-372. Short term increases would be associated with earth-moving equipment and activities required to accomplish the proposed construction activities, but those short-term impacts will be intermittent

in nature and likely offset by the cessation in use of agricultural equipment. Alternatives 2, 3, and 4 require exotic plant removal, which is anticipated to occur by burning. The increase in air quality pollution associated with the vegetation burning is short term. Long-term effects are associated with the operation of the existing pumps. However, it is anticipated that there would be slight long-term improvements in air quality due to the changes in land use from agricultural to uses such as water storage and native wetland habitats.

- **Noise Pollution** - No measurable changes in noise are expected to occur as a result of any of the alternatives. Noise impacts are expected during construction activities; however, this would be temporary in nature and limited to the immediate area of construction. The long-term noise impacts are associated with the operation of the existing pumps, which is not expected to cause concerns for humans or fish and wildlife species.
- **Transportation** – Any effect on highways from construction traffic would be short term and would not cause extended delays on adjacent highways. These impacts could be considered negligible considering the scope of construction work. Railways that exist in the EAA to transport sugar cane and the mainline railroad, South Central Florida Express, are not anticipated to be affected by Action Alternatives based on their distance from project site.
- **Water Supply and Drinking Water** - The project purpose does not involve increasing or decreasing system performance for water supply or drinking water.

1.8 RELATED ENVIRONMENTAL DOCUMENTS

A number of previously published environmental documents contain information relevant to this EIS. Brief summaries of some of the most relevant environmental documents are provided in the following paragraphs. The reports and documents listed below were utilized to varying degrees as sources of information to evaluate the proposed project and have helped to inform the USACE as it developed this EIS on construction and operation of the Shallow FEB.

1.8.1 FINAL EIS – EVERGLADES AGRICULTURAL AREA RESERVOIR A-1

This EIS, which was completed in 2006, is the USACE's NEPA document for the decision to construct a reservoir on the project site. Even though the purpose of the previously permitted reservoir is different from the purpose of the proposed Shallow FEB, much of the information to develop the alternative to construct a deep FEB, or reservoir on the project site was based on the 2006 EIS. In addition, background information and descriptions of the affected environment were derived from the 2006 EIS.

1.8.2 FINAL EIS TO CONSTRUCT STORMWATER TREATMENT AREAS ON COMPARTMENT B AND C OF THE EVERGLADES AGRICULTURAL AREA, FLORIDA

The USACE completed an EIS in January 2009 for the construction of three additional STAs in the EAA. Two of the three additional STAs include the Compartment B North Build-out and Compartment B South Build-out, which expanded STA 2. The third additional STA is Compartment C, which is located west of the Rotenberger Wildlife Management Area in Hendry County and is part of the STA 5/6 complex. Because the proposed Shallow FEB is intended to assist STA 2, the Compartment B and C EIS was used as a source of reference material since Compartment B expanded the treatment capacity of STA 2. Information in the Compartment B and C EIS was used to help develop background information, to update information needed to describe the affected environment, and to support the technical information used to evaluate the environmental effects.

1.8.3 SOUTH FLORIDA ENVIRONMENTAL REPORT

The South Florida Environmental Report (SFER) is an annual document that consolidates the scientific and engineering efforts made by various agencies throughout south Florida related to Everglades Restoration. As a requirement of the 1994 EFA, the SFWMD, in cooperation with the FDEP, compiles various agencies' reports into a single document to summarize and update the accomplishments on South Florida's environmental restoration and other key activities. The final SFER of 2012 and draft report of 2013 were used to provide information in the EIS on the existing STAs and water quality data.

1.8.4 FINAL SUPPLEMENTAL EIS FOR THE LAKE OKEECHOBEE REGULATION SCHEDULE 2008

The Lake Okeechobee Regulation Schedule (LORS) 2008 is included in the modeling assumptions for the proposed project. LORS 2008 is an operating schedule for Lake Okeechobee that balances competing water use objectives including flood control, water supply, navigation, and enhancement of fish and wildlife resources. LORS lessened some of the impacts to the environment from the previous regulation schedule (referred to as Water Supply and Environment) by operating the lake at a lower level, and accommodated for the Herbert Hoover Dike structural limitations. A final Supplemental EIS was completed in November 2007 and a ROD was signed in April 2008.

1.8.5 EVERGLADES RESTORATION TRANSITION PLAN

The Everglades Restoration Transition Plan (ERTP) is the water management operating criteria for Central and Southern Florida Project features and the constructed features of the Modified Water Deliveries and Canal-111, which was recently adopted. The ERTP is a modification of the Interim Operational Plan to incorporate operational flexibilities designed to improve hydrological conditions in WCA-3A for the endangered Everglade snail kite, endangered wood stork, and wading bird species while maintaining protection for the endangered Cape Sable seaside sparrow. An EIS was completed for the project, and the Record of Decision was signed on October 19, 2012.

1.8.6 WATER CONSERVATION AREA 3 DECOMPARTMENTALIZATION & SHEET FLOW ENHANCEMENT

Water Conservation Area 3 Decompartmentalization and Sheet Flow Enhancement report, which was completed in May 2007, documents the historical, hydrologic, meteorological and water quality data for WCA 3A and the surrounding area. The document was used to compile existing or baseline conditions of WCA 3A and existing water flows from WCA 3A and 3B.

1.8.7 CENTRAL AND SOUTHERN FLORIDA PROJECT COMPREHENSIVE EVERGLADES RESTORATION PLAN – WATER CONSERVATION AREA 3 DECOMPARTMENTALIZATION AND SHEETFLOW ENHANCEMENT FEASIBILITY SCOPING MEETING REPORT

Decompartmentalization and Sheetflow Enhancement of WCA 3 (Decomp) is a part of the CERP recommended in the 1999 Central and Southern Florida Project Comprehensive Review Study (also known as the Restudy or Yellow Book). The April 2008 report was used to describe the ecosystem in WCA 3A and 3B, which supported the existing site conditions for fish and wildlife habitats, wildlife usage, water flows, water quality, water management, and hydrology.

1.8.8 USEPA AMENDED DETERMINATION AND ASSESSMENT OF THE STATE OF FLORIDA'S EVERGLADES WATER QUALITY PLAN

On September 3, 2010, the USEPA issued its Amended Determination in order to ensure that the water entering the EPA from the EAA and C-139 Basin meets the pertinent water quality standards in the shortest time possible. On June 13, 2012 USEPA issued a memorandum entitled, "Assessment of the State of Florida's Everglades Water Quality Plan." This memorandum documents the history and evolution of the efforts by USEPA, FDEP, and SFWMD since the issuance of the Amended Determination to define the pertinent water quality standards and the means for achieving them. These documents are discussed in further detail in section 1.3.1.1.

1.8.9 NPDES AND EFA PERMITS

On June 13, 2012, FDEP received notification from the USEPA that the permit and associated projects the FDEP submitted on June 6, 2012, addressed USEPA's objections and were sufficient to achieve the phosphorous standard for the EPA. On June 20, 2012, FDEP issued a Notice of Draft Permit for both the Everglades Forever Act watershed permit and proposed consent order and the NPDES watershed permit and proposed consent order for the operation and maintenance of the ECP STAs. The FDEP issued signed permits on September 10, 2012. These permits address all of the STAs, including 2 and 3/4. The NPDES permit number for the STAs is FL0778451 while the EFA permit number is 0311207.

1.8.10 CENTRAL AND SOUTHERN FLORIDA PROJECT COMPREHENSIVE REVIEW STUDY FINAL INTEGRATED FEASIBILITY REPORT AND PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

The Central and Southern Florida (C&SF) project Comprehensive Review Study, known as the Restudy, re-examines the C&SF Project to determine the feasibility of modifying the project to restore the south Florida ecosystem and to provide for the other water-related needs of the region. The Restudy, dated April 1999, investigated potential structural or operational modifications to the C&SF Project for improving the quality of the environment; protecting water quality in the south Florida ecosystem; improving protection of the aquifer; improving the integrity, capacity, and conservation of urban and agricultural water supplies; and improving other water-related purposes.