Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

Type of Permit:	Everglades Forever Act Permit
Project:	Stormwater Treatment Area 3/4 (STA-3/4 Project)
County:	Palm Beach
Permit No.:	0192895
Applicant:	South Florida Water Management District
Applicant Address:	3301 Gun Club Road P. O. Box 24680 West Palm Beach, Florida 33416-4680
Authorization:	The Everglades Forever Act, Section 373.4592, Florida Statutes
Application Received:	December 17, 2001
Issuance Date:	January 9, 2004
Expiration Date:	January 9, 2009

PROJECT DESCRIPTION:

The project is to construct, operate and maintain Stormwater Treatment Area 3/4 (STA-3/4 Project). The STA-3/4 Project consists of the STA-3/4 Works, STA-3/4 Supply Canal, G-371 and G-373 Diversion Structures, U.S. Highway 27 Bridges, STA-3/4 West L-5 Canal Enlargement including associated components along the L-5 borrow canal, and Pump Stations G-370 and G-372 (See Figure 1). The STA-3/4 Project is part of the Everglades Construction Project (ECP), construction, operation, and maintenance of which is required by the Everglades Forever Act (EFA- Ch. 373.4592, F.S.) to restore the Everglades ecosystem. Construction activities authorized by this permit include dredging and filling in wetlands, construction of water control structures, and other earthmoving work necessary to construct the project.

Construction and operation of the project involves rehydrating approximately 16,544 acres of historical wetlands previously converted to agricultural cropland. This project will impact approximately 115.16 acres of jurisdictional wetlands. Approximately 3 acres of the wetland impacts are within the boundaries of STA-3/4. The remaining 112.16 acres of wetland impacts are associated with the enlargement of the L-5 canal. All of the surface waters and wetlands to be impacted by the construction of the project are Class III Waters.

Upon completion of construction and the start-up phase of operation, the project will be operated to treat water from the S-7/S-2 and S-8/S-3 basins. Presently, untreated runoff from those basins drains into the North New River and Miami Canals to be routed through the S-7 and S-8 Pump Stations to Water Conservation Areas 2A and 3A. Stormwater runoff from these basins that is

currently flowing untreated will, upon completion of the STA, be diverted into the constructed wetland for treatment utilizing natural, passive physical, and biological processes for nutrient removal and water quality improvement and will then be discharged back to the North New River and Miami Canals. Operation of the project involves maintaining water levels within the project to optimize the efficiency of the treatment area as defined by performance at removing the pollutants for which the treatment wetland was designed. Other operation and maintenance activities include water quality and vegetation monitoring, preparation and submittal of monitoring reports, vegetation maintenance, and maintenance of the water control structures (including canals and levees).

Operation of this project shall be implemented in three phases. The start-up phase of operation will begin after construction is completed and continue until the 4-week geometric mean total phosphorus concentration at the outflow is less than that of the inflow. Upon successfully meeting the start-up phase, the STA-3/4 Project may begin initial discharges. A stabilization phase will follow, continuing until the 12 month flow-weighted average total phosphorus concentration at the outflow is less than or equal to 50 parts per billion. Thereafter, the project will be in the normal or post stabilization operations phase.

PROJECT FACILITIES:
The seven individual ECP components included in the STA-3/4 Project are as follows (see Figure 1):

1. Diversion Structures
2. Project Inflow Pump Stations
3. Project Supply Canal
4. Interior Works
5. STA-3/4 Discharge Canals
6. STA-3/4 Seepage Collection System
7. US 27 New Bridges

Below are descriptions of these ECP works, taken from the September 20, 1999, *Alternatives Analysis* Report for "STA-3/4" prepared by Burns and McDonnell. Other documents related to this project are: February 15, 1994 *Conceptual Design, Everglades Protection* Project; April 4, 1996 General Design Memorandum; June 30, 2000 *Plan Formulation* Document; August 23, 2000 *Plan Implementation* Document; and the October 11, 2000 *Design Criteria* Document. Since the preparation of the aforementioned documents, the permittee has identified certain improvements and enhancements to improve design and operation of STA-3/4. Descriptions of these improvements and enhancements can be found in Subsection H. below.

A. Diversion Structures

G-371 will act as a diversion structure located in the North New River Canal. As such, G-371 will divert canal flows to new inflow Pump Station G-370, located in the northeast corner of STA-3/4, and will allow existing Pump Station S-7, located in the southeast corner of STA-3/4, to be used as an outflow pump station.
Under normal STA-3/4 operating conditions, G-371 will be in the full-closed position. However G-371 may be operated for any of the following conditions:

1. Full or partial bypass of STA-3/4 during runoff events in the S2/S7 Basins;
2. Full or partial bypass of STA-3/4 during periods of regulatory releases from Lake Okeechobee to the North New River Canal;
3. Bypass of STA-3/4 during periods of water supply releases from Lake Okeechobee intended for delivery to communities and other users in Broward county via the North New River Canal; and
4. Full or partial bypass of STA-3/4 when all or portions of the STA are unavailable due to maintenance or other conditions, including but not limited to when interior water conditions may damage existing treatment cell marsh vegetation.

The G-373 structure will be installed in the Miami Canal downstream of G-372 and will divert canal flows to new Pump Station G-372. This structure will allow existing Pump Station S-8, located 8 miles west of the southwest corner of STA-3/4, to be used as an outflow pump station. Under normal STA-3/4 operating conditions, G-373 will be in the full-closed position. However G-373 may be operated for any of the following conditions:

1 Full or partial bypass of STA-3/4 during runoff events in the S3/S8 Basins;
2. Full or partial bypass of STA-3/4 during periods of regulatory releases from Lake Okeechobee to the Miami Canal;
3. Bypass of STA-3/4 during periods of water supply releases from Lake Okeechobee intended to delivery to communities and other users via the Miami Canal; and
4. Full or partial bypass of STA-3/4 when all or portions of the STA are unavailable due to maintenance or other conditions, including but not limited to when interior water conditions may damage existing treatment cell marsh vegetation.

B. Project Inflow Pump Stations

Untreated water from the North New River and the Miami canals is directed into the STA at its north boundary by means of pump stations G-370 and G-372.

Inflow Pump Station G-372 is the project's primary inflow structure, drawing water from the Miami Canal. G-372 has a design capacity of 3,670 cfs and will pump an annual average volume of water equal to 252,601 acre-feet (derived from a 10-year base period).

Inflow Pump Station G-370 is the secondary inflow pump station for the project, drawing water from the North New River Canal. G-370 has a design capacity of 2,770 cfs and will pump an annual average volume of water equal to 385,535 acre-feet (derived from a 10-year base period).

C. Project Supply Canal

The Inflow Canal borders the north side of the STA and the Holey Land. Control structure, G-383, provides flexibility in managing incoming flows before distribution into the cells. This structure is situated in the Inflow Canal immediately north of the intersection of the Inflow Control levee with Interior Levee 1. This normally closed structure serves to maintain separation between inflows from the North New River Canal and the Miami Canals, but can serve to redistribute water to prevent cell dryout, provide optimum treatment, and provide other operational strategies. G-383 is designed to pass 1470 cfs, 40% of Miami Canal peak inflow rate or 50% of North New River Canal peak inflow rate.

D. Interior Works

Inflow to the north cell is controlled by a series of gated hydraulic structures, G-374 A-F, G-377 A-E and G-380 A-F, which allow water to pass from the Inflow Canal to the treatment cells. The hydraulic gradient is such that water flows in a southerly direction within the cells. Water that passes through Cell 1A and Cell 2A, then enter Cell 1B and 2B passing through a series of structures (G-375 A-F and G-378 A-E) located on Interior Levee 2 and 3. Water at this point travels through Cells 1B and 2B for additional treatment, then exits along the southern boundaries of the cells into the Discharge Canal by passing through another series of structures (G-376 A-F and G-379 A-E).

E. STA-3/4 Discharge Canal

The Eastern Discharge Canal (EDC) is located at the southern boundary of cell 1B and 2B and is connected to the borrow pits at its western end. The eastern end of the EDC terminates in L-5, west of the existing pump station S-7. The Western Discharge Canal (WDC) is located along the southern boundary of Cell 3 and the western boundary of Cell 2B. The northern end of the WDC starts at Cell 3 and the terminates at the borrow pits.

Treated water from STA 3/4 will be discharged into the L-5 Borrow Canal from the G-381 A-F, G-379 A-E and G-376 A-F structures, and then will be released to WCA-3A, once the performance of STA-3/4 has been optimized in accordance with Subsection (4)(b) of the EFA. In the meantime, the treated water will be pumped back to the North New River and Miami Canals by means of existing pump stations S-7 on the North New River and S-8 and G-404 on the Miami Canal. Pump Station S-7 discharges to WCA-2A, Pump Station S-8 discharges to WCA3A, and Pump Station G-404 discharges to western WCA-3A via the L-4 Borrow Canal, the South L-4 Levee Gap and L-3 extension canal. G-404 was part of the STA-5 permit, but functions to move water from both STA 3/4 and 5. Treated water from STA 3/4, once discharged into the L-5 Canal

can also be released to WCA-3A via structure S-150 when water levels in the North New River Canal are higher than the downstream water level in WCA-3A.

F. STA-3/4 Seepage Collection System

Seepage control is accomplished by routing water collected by the project's north seepage collection canal back to the inflow pump stations (G-370 and G-372) via (3) 75 cfs seepage return pumps at each station. Seepage collected will then be routed back to the treatment cells by the inflow canal system.

G. US 27 New Bridges

Conveyance of water from the North New River Canal (L-18) to the G-370 Inflow Pump Station at STA-3/4 requires the excavation of a canal crossing at US 27. This section of the G-370 intake canal will allow water to pass from the eastern side to the western side of US 27. Correspondingly, northbound and southbound bridges will need to be constructed to carry US 27 traffic over the new canal section.

H. Improvements and Enhancements

Cell 3 will be subdivided into Cells 3A and 3B through construction of a new interior levee and additional water control structures will be constructed through the new levee. An overhead power distribution line will be extended along the new levee across Cell 3. Small forward-pumping stations will be constructed along the interior levees between cells in series to permit withdrawal from upstream emergent marsh cells to maintain stages in the downstream SAV cells. Three stations are anticipated. The station pumping from Cell 1A to Cell1B is assigned a preliminary capacity of 54 cfs, the station from Cell 2A to Cell 2B is assigned a preliminary capacity of 29 cfs, and the station from Cell 3A to 3B is assigned a preliminary capacity of 24 cfs. Cells 1B, 2B and 3B will be treated with herbicide for removal of emergent macrophyte vegetation to permit development of submerged aquatic vegetation.

The southwestern corner of treatment cell 2B (west of outflow Structure G-379E) will be utilized for an approximate 100-acre Periphyton Stormwater Treatment Area (PSTA) demonstration project. The purpose of this project is to demonstrate the ability of PSTA to serve as a final "polishing" cell in the overall STA treatment process. This PSTA Demonstration Project is intended to augment and form an additional element of the Process Development and Engineering component of the Conceptual Plan for Achieving Long-Term Water Quality Goals (Burns & McDonnell, 2003) in discharges from tributary basins to the Everglades Protection Area (EPA). The demonstration cell will be placed at the downstream end of the treatment cell 2A-2B flow path, where the lowest phosphorus concentrations can be anticipated, consistent with the intended function of the PSTA cell as a final "polishing" cell in an STA.

LOCATION:
The project is located within the south-central portion of the Everglades Agricultural Area and includes works in wetlands and Class III fresh waters within the southern most portion of Palm Beach County, Florida. The STA (**STA-3/4**) is located on 16,544 acres of lands located just north of the L-5 canal, directly north of the Palm Beach County line, extending from the Holey Land Wildlife Management Area eastward to U.S. Highway 27 (North New River Canal), and includes Sections 31, 32, 33, 34, 35, and 36, Township 46 South, Range 37 East, Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14. 15, 16, 22, 23, 24, Township 47 South, Range 37 East, Sections 6, 7, 8, 16, 17, 18, 19, 20, 21, Township 47 South, Range 38 East, and Section 31, Township 46 South, Range 38 East.

The **Supply Canal** connects the STA with both the Miami Canal and the North New River Canal and will be located just north of the STA and Holey Land Wildlife Management Area, within Sections 35 and 36, Township 46 South, Range 35 East, Sections 31, 32, 33, 34, 35, 36, Township 46 South, Range 36 East, and Sections 18, 19, and 30, Township 46 South, Range 37 East.

The **Discharge Canal** will be constructed by enlarging the existing L-5 borrow canal, a Class III fresh waters, running east-west just south of STA-3/4, in Sections 22, 23, 24, 27, 28, 29 and 30,Township 47 South, Range 37 East, and Sections 19, 20, 21, 22 and 28, Township 47 South, Range 38 East, and Sections 7, 8, 9, 10, 11, and 12, Township 48 South, Range 36 East, Palm Beach County.

IN ACCORDANCE WITH:
This EFA permit for the construction, operation, and maintenance of the STA-3/4 Project is issued in accordance with the following:

- The Everglades Forever Act, Section 373.4592, F.S.;

- The permit application for the construction, operation, and maintenance of the ECP, including the STA-3/4 Project and associated works, prepared by the South Florida Water Management District, and received by the Department on June 1, 1994;

- The permit application for the construction, operation, and maintenance of the STA-3/4 Project and associated works, prepared by the South Florida Water Management District, submitted to the Department on December 17, 2001, and additional information submitted in support of the application on May 29, 2002 and August 12, 2002; and,

- The engineering drawings and technical specifications for STA-3/4 and associated works, including the design documents.

GENERAL CONDITIONS:

In accordance with Subsection 373.4592(9)(g) of the EFA, this permit may include any standard conditions provided by Department rule which are appropriate and consistent with the EFA.

1. **Enforcement.** The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Chapter 373.129, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. **Scope of permit.** This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. **Limitation of rights.** The issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit. However, this permit is in lieu of other permits under Part IV of Chapter 373, F.S. (1994) or part VIII of Chapter 403, (1992), pursuant to Subsection 373.4592(9)(c), F.S. Sections 403.91-403.938 comprised part VIII of Ch. 403 in 1992. Except for s. 403.927 and ss. 403.93-403.958, these sections were repealed by ss. 45, 46, Ch. 93-213, or s. 18, Ch. 95-145. Sections 403.93-403.936 were repealed by s. 13, Ch. 95-299. The two remaining sections from former part VIII as it was constituted in 1992, ss. 403.927 and 403.938 (transferred to s. 403.9333 by s. 12, Ch. 95-299), are located in part VII of Ch. 403.

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

5. **Liability.** This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Chapter 373.4592 F.S. (the EFA).

6. **Operation and maintenance responsibilities.** The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. **Access Rights.** The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

A. Have access to and copy any records that must be kept under conditions of the permit;

B. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

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

Reasonable time may depend on the nature of the concern being investigated.

8. **Noncompliance.** If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

A. A description of and cause of noncompliance; and

B. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties and/or for revocation of this permit.

9. **Records as evidence.** In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111, F.S. and 403.73,

F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. **Changes in Law.** The permittee agrees to comply with changes in applicable Department rules and applicable Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida law.

11. **Transferability.** This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-343.130, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. **Permit at Work Site.** This permit or a copy thereof shall be kept at the work site of the permitted activity. For the purposes of this permit the work site shall be defined as South Florida Water Management District Headquarters located at 3301 Gun Club Road in West Palm Beach, Florida.

13. **Records Retention.** The permittee shall comply with the following:

A. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

B. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

C. Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;

2. the person responsible for performing the sampling or measurements;

3. the dates analyses were performed or the appropriate code as required by Chapter 62.160 F.A.C.;

4. the person responsible for performing the analyses;

5. the analytical techniques or methods used, including MDL; and

6. the results of such analyses, including identification of potential outlier values.

14. **Requests for Information.** When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. Sovereign Lands. The permittee is hereby advised that Florida law states: "No person shall commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund or the Department of Environmental Protection under Chapter 253, until such person has received from the Board of Trustees of the Internal Improvement Trust Fund the required lease, license, easement, or other form of consent authorizing the proposed use." Pursuant to Florida Administrative Code Rule 18-14.002(1), if such work is done without consent, or if a person otherwise damages state land or products of state land, the Board of Trustees may levy administrative fines of up to $10,000 per offense.

2. Artifacts. If historical or archaeological artifacts, such as Indian canoes, are discovered at any time within the project site, the permittee shall immediately notify the Department's Southeast District Office at the address and telephone number listed in Specific Condition No. 3, below, and the Bureau of Historic Preservation, Division of Historical Resources, R. A. Gray Building, 500 S. Bronough St., Tallahassee, Florida 32399-0250, telephone (850) 487-2333.

3. Addresses. Reports and notices submitted to the Department in accordance with this permit shall be submitted to the Department's Division of Water Facilities, Water Quality Standards and Special Projects Program, 2600 Blair Stone Road, MS 3560, Tallahassee, Florida, 32399-2400, telephone no. (850) 245-8424, and to the Department's Southeast District Office, Office of Environmental Affairs, 400 North Congress Avenue, P. O. Box 15425, West Palm Beach, Florida, 33416-5425, telephone no. (561) 681-6709.

4. Related Permits. The Department and the permittee acknowledge the issuance of other permits related to the STA-3/4 Project. Related permits include FDEP NPDES Permit No. FL0300195, EFA/Individual Water Use Permit No. 0178018, which authorizes temporary dewatering activities for the construction of facilities within the STA-3/4 and STA-2 Hydropattern Restoration Projects, and, the U.S. Army Corps of Engineers 404 Permit No. 199404532.

Construction, Operation, and Maintenance Conditions

5. Project Construction. During construction of the STA-3/4 Project and the associated works, the permittee shall take all reasonable precautions to minimize the suspension and transport of soils, levee materials, and roadway materials into waters adjacent to or downstream of the construction site in accordance with Section 02435 of the Technical Specifications for the STA-3/4 Project and associated works (appended hereto as Exhibit A). In addition, during construction, the permittee shall perform turbidity monitoring in accordance with Section 02435 of the Technical Specifications.

The permittee shall construct the STA-3/4 Project consistent with the design documents. The STA-3/4 Project, including applicable construction activities, may be further modified for standard engineering practices pursuant to Subsection 373.4592(9)(j)(3) of the EFA or for technological advances pursuant to Subsection 373.4592(9)(j)(2) of the EFA.

6. Construction of Enhancements. Prior to construction of the enhancements detailed in Subsection H. of the Project Description, the permittee shall submit final engineering design plans to the Department for approval.

7. Project Operation and Maintenance. The permittee shall operate and maintain the STA-3/4 Project consistent with the design documents and the operations criteria required by Specific Condition 10. The STA-3/4 Project, including applicable operation and maintenance activities, may be further modified for standard engineering practices pursuant to Subsection 373.4592(9)(j)(3) of the EFA or for technological advances pursuant to Subsection 373.4592(9)(j)(2) of the EFA.

8. As-Built Certification and Record Drawings. Within 30 days after completion of the construction contract for this project, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law. The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the project is ready for inspection. Additionally, if deviation from the approved drawings is discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. A registered surveyor shall certify all surveyed dimensions and elevations.

9. Pump Station Testing and Maintenance. In order to ensure operational readiness, initial testing is required by the construction contractor for the pump stations authorized by this permit prior to turnover of the pump stations to the permittee for operation. Maintenance requirements for the pump stations include operation of the pumps for approximately 2 to 4 hours per month, as necessary, to maintain their mechanical integrity. Therefore, temporary operation of the pump stations for testing and maintenance purposes is allowed and is not subject to the discharge criteria

of the specific conditions of this permit. However, the permittee shall include all such discharge flows and loads as a part of the monitoring requirements of this permit.

10. STA Operations Plan. No later than six months after issuance of this permit, the permittee shall submit to the Department at the addresses listed in Specific Condition No. 3, an Operations Plan for the STA-3/4 Project. The Operations Plan shall contain the specific provisions for operation of the STA-3/4 Project components, and the plan shall include the information described in A-E, below.

A. **Minimum Water Level Targets to Avoid Dryout**. In accordance with the relevant project design documents, the permittee shall plan to maintain a minimum of six (6) inches of water within STA-3/4 to prevent dryout of the treatment cells, subject to available water from the upstream watershed. The average elevations for each cell as determined in the detailed topographic survey performed for the STA-3/4 design are as follows:

Cell 1A = 9.35 ft. NGVD
Cell 1B = 9.25 ft. NGVD
Cell 2A = 9.70 ft. NGVD
Cell 2B = 9.70 ft. NGVD
Cell 3 = 9.60 ft. NGVD

Topographic data were utilized to establish the static water level in STA-3/4. The corresponding minimum static water control elevations to prevent dryout (based on the prevailing ground elevations noted above) are as follows. During drought events, the permittee shall, to the maximum extent practicable, maintain these minimum water control elevations.

Cell 1A = 9.85 ft. NGVD
Cell 1B = 9.75 ft. NGVD
Cell 2A = 10.15 ft. NGVD
Cell 2B = 10.15 ft. NGVD
Cell 3 = 10.25 ft. NGVD

B. **Responding to Dryout Conditions**. The permittee shall evaluate and correct potential adverse dryout effects on the water quality performance of STA-3/4. If the compliance requirements in this permit are not met due to dryout conditions, then the permittee shall propose modifications to the Operations Plan as appropriate and as approved by the Department.

C. **Maximum Water Level Targets**. The permittee shall ensure to the maximum extent practicable that maximum water depths of 4.5 feet are not exceeded for more than 10 consecutive days during storm events.

D. **Phosphorus uptake optimization**. Operations shall be conducted to distribute the flows and water levels within STA-3/4 to optimize the phosphorus reduction performance and shall be updated as necessary to include the results of the permittee's STA optimization research conducted pursuant to Subsection (4)(d)(7) of the EFA.

E. **Hydropattern Restoration**. STA-3/4 shall be operated in such a manner to be consistent with the activities proposed to restore the hydropattern of the Everglades Protection Area, as described in Specific Condition 11 below.

F. **Operations Plan Modifications**. If data from the operation of STA-3/4 indicate that operations are adversely affecting water quality or performance of STA-3/4, then the Operations Plan may be modified, as approved by the Department. The District may implement modifications to the Operations Plan for hydraulic or other justifiable reasons pertaining to operations.

11. Hydropattern Restoration. This permit does not authorize the hydropattern restoration of WCA-3A. Once the performance of STA-3/4 has been optimized and long-term water quality solutions for S-7/S-2 and S-8/S-3 basins have been implemented, it is anticipated that discharges from STA-3/4 will be diverted directly into WCA-3A to assist in hydropattern restoration in accordance with Subsection (4)(b) of the EFA. Future WCA-3A hydropattern restoration plans will be coordinated with CERP implementation. Implementation of hydropattern restoration in WCA-3A associated with STA-3/4 will require review and approval by the Department in the form of a modification to this permit. The modification will require downstream monitoring which must be implemented sufficiently in advance to establish a scientifically-defensible baseline and may include transect monitoring, if appropriate. The monitoring plan should be submitted to the Department for review and approval prior to the commencement of monitoring.

In accordance with Subsection (4)(b) of the EFA, the permittee shall operate the STAs in order to improve and restore the Everglades water supply and hydroperiod. The permittee shall operate the Everglades Construction Project as specified in the February 15, 1994, Conceptual Design Document (Part VII, Intended Operation of Plan Components), to provide additional increased flow to the Everglades Protection Area (EPA) through the modification of historical operational practices for regulatory releases from Lake Okeechobee and the Water Conservation Areas. Pursuant to Subsection (4)(b) of the EFA, the expectation is that these practices will achieve an average increase of 28 percent to the Everglades Protection Area compared to the baseline years of 1979 to 1988. The STAs shall be operated to achieve the goal of providing additional flows to the Everglades Protection Area and shall, to the maximum extent practicable, be coordinated with and consistent

with the Lower East Coast Water Supply Plan, the Lake Okeechobee Regulated Schedule for the Water Conservation Areas, the Central and Southern Florida Project Comprehensive Review Study, and the entitlement of the Seminole Tribe of Florida to surface water withdrawals under the Water Rights Compact (P.L. 100-228).

12. Implementation of Everglades Agricultural Area Best Management Practices (BMP) Program.

A. *Implementation.* The permittee shall continue to implement the Everglades Agricultural Area BMP program in accordance with Rule 40E-63, F.A.C.

B. *BMP Fluctuations.* The permittee shall report phosphorus loads from the EAA to STA-3/4 in excess of those expected under the BMP requirements of Chapter 40E-63, F.A.C. as assumed in the design basis and design refinements for STA-3/4.

C. *BMP Performance.* On an annual basis, the permittee shall evaluate the performance of BMPs in agricultural areas upstream of STA-3/4, consistent with Rule 40E-63, F.A.C., as may be modified, and Subsection (4)(f) of the EFA.

13. Minimization of Wetland Impacts. In accordance with Subsection (9)(e)3 of the EFA, the permittee shall comply with the information related to minimization of wetland impacts provided in the Permit Application, dated December 17, 2001, attached as Exhibit B, and hereby incorporated by reference.

14. Water Quantity and Flooding Impacts. The permittee shall be responsible for ensuring that the project is operated so as not to adversely affect adjacent lands with regards to flooding impacts. The permittee shall hold and save the Department harmless for any and all damages, claims, or liabilities, which may arise from water quantity and/or flooding impacts resulting from the construction and operation of this project.

15. Structures Inspection Plan. Within 60 days from permit issuance, the permittee shall submit to the Department for approval, an inspection plan to evaluate the integrity and functionality of all above ground dikes, levees and structures, including pump stations, created under the guidance of a Florida registered professional engineer. A summary report of annual inspections and any necessary work completed to respond to inadequacies that may have been found during inspections shall be included annually in the Everglades Consolidated Report.

Phosphorus Conditions

16. Start-Up. During the Start-Up Phase, the District shall monitor phosphorus concentrations within STA-3/4 to demonstrate that the project is achieving a net reduction in phosphorus. Start-Up Phase operation and phosphorus monitoring within STA-3/4 shall be performed as follows:

A. *Recirculation.* During Start-Up, the District may recirculate waters within the STA.

B. *Treatment Cell Start-Up.* Portions of the STA-3/4 facility may operate independently of each other. Under those circumstances, performance of operating portions of the STA shall be measured as follows:

1) In order to ensure that no discharge of pollutants occur due to the inundation of soils within STA-3/4, the permittee shall comply with the following for each cell:

a) The permittee shall manage water depths in STA-3/4 to facilitate the recruitment of marsh vegetation.

b) On a weekly basis, the permittee shall monitor water quality at the upstream side of inflow stations G-370 (flow path Cell 1) and G-372 (flow path Cells 2 & 3), and the upstream side of outflow structures G-376B and G-376E (Cell 1B), G-379B and G-379D (Cell 2B), and G-381B and G-381E (Cell 3) (See Figure 1).

c) The Start-Up Phase for STA-3/4 shall end when these samples demonstrate, over a four-week period, a net reduction in phosphorus occurs, per Specific Condition 16.B.d.

d) This net reduction shall be deemed to occur when the 4-week geometric mean total phosphorus water column concentration from samples collected at the G-376B, G-376E, G-379B, and G-379D outflow structures is less than the 4-week geometric mean total phosphorus water column concentration collected at G-370 pump station for the eastern flow-ways (Cells 1A/1B and Cells 2A/2B) and the 4-week geometric mean total phosphorus water column concentration from samples collected at the G-381B and G-381E outflow structures is less than the 4-week geometric mean total phosphorus water column concentration collected at the G-372 pump station for the western flow-way (Cells 3A/3B). If STA-3/4 has not met this test within two months after beginning start-up operations, the permittee shall submit monthly reports of the 4-week geometric mean difference. If after six months, the system has not met the 4-week start-up test, the permittee shall evaluate vegetative conditions and identify strategies to achieve that test. Discharge from STA-3/4 may commence at the end of the start-up period. Some of the treatment cells may meet the net reduction criteria before the others; therefore, to maximize treatment effectiveness of STA-3/4, discharges may commence from each of the treatment cells as soon as they meet the net reduction test for phosphorus.

2) Pesticide Sampling. The permittee shall conduct a one-time monitoring at the inflow structures G-370 (flow path Cell 1) and G-372 (flow path Cells 2 & 3) and the outflow structures G-376B and G-376E (Cell 1B), and G-379B and G-379D (Cell 2B), and G-381B and G-381E (Cell 3) for the pesticides indicated in Table 1.

C. *Alternative Data*. When required by flow or water levels, alternative representative data may be provided by the District to demonstrate that any portion of the STA-3/4 facility is achieving start-up compliance requirements.

D. *Initiation of Flow-Through Operation.* Start-Up Phase documentation shall be submitted to the Department and shall include all supporting data and analyses. When STA-3/4, or individual cells of STA-3/4, meets the start-up criteria, routine flow through operation for STA-3/4, or individual cells of STA-3/4, may begin. Once flow-through discharges begin, the District shall initiate water quality monitoring consistent with the monitoring program described in this permit.

E. *Interim Operations*. Prior to the full flow-through operation of STA-3/4, discharge of excess inflows may be diverted through the G-371 and G-373 structures during times when the discharges from S-7 and/or S-8 exceed the safe flow-through capacity of STA-3/4, or when stages within the cells exceed target levels or established vegetation is threatened.

F. *Mercury Monitoring*. The Start-Up Phase is also dependent on the individual treatment cells demonstrating a net improvement in total mercury and methyl mercury, in accordance with the provisions of the mercury monitoring condition (2) in Exhibit C.

17. Stabilization. Following completion of the Start-Up Phase, the project shall begin a period of stabilization, in accordance with Subsection (9)(h) of the EFA. The stabilization period for STAs is generally anticipated to last 2 to 3 years after the start-up phase ends. During that period, compliance with the criteria in Subsection (9)(h) of the EFA shall be evaluated as follows:

After start-up operations have ended and flow project flow-through operations and discharges have begun from each flow-way, the District shall operate and monitor STA-3/4, allowing for a stabilization period. The stabilization period for STA-3/4 shall end when the 12 month flow-weighted average total phosphorus concentration at the outflow stations is less than or equal to 50 ppb. Starting 12 months after commencing discharge from each flow-way, the District shall provide rolling 12 month flow-weighted average total phosphorus concentration in monitoring reports. If, after the first two years of full project flow-through operation, the STA has not met this stabilization test, the District shall submit a report which shall compare the flow weighted mean of the total phosphorus discharge data from the most recent 12-month period (e.g., months 13 - 24) with the flow-weighted mean of the total phosphorus discharge data from the previous 12 month period (e.g., months 1 - 12) to ensure that performance of the STA is not declining, based upon a Student's t-test at the 95% confidence interval. This report is to be submitted 90 days after the end of each reporting period. If at any time, the STA performance indicates that this test will not be

met by December 31, 2006, the permittee shall submit a report on the progress made towards meeting the stabilization requirements and an analysis of the system operation and shall submit and initiate implementation of an optimization plan designed to reach the phosphorus stabilization goal by December 31, 2006.

18. Post Stabilization / Normal Flow-Through Operations. From the end of the stabilization period, until the beginning of the long-term compliance period discharges from STA-3/4, via the G-376B, G-376E, G-379B, G-379D, G-381B, and G-381E structures, shall meet an annual flow-weighted average total phosphorus concentration at the outflow stations of less than or equal to 76 ppb for each water year, (May 1 - April 30). In addition, the discharges shall not exceed an annual flow weighted average total phosphorus concentration of 50 ppb for three or more consecutive water years. Both tests are simultaneously applied to ensure that the design objectives of the STA-3/4 project are met.

Conditions for Parameters Other than Total Phosphorus

19. Comparison of Outflows to Inflows. For all water quality parameters indicated in the Monitoring Table other than total phosphorus and dissolved oxygen, inflow and outflow samples collected at the sampling locations identified in Table 2 (See Figure 1) shall be used to determine compliance with this specific condition. Compliance with this specific condition shall be evaluated as follows:

- **A.** If the annual average outflow concentration does not cause or contribute to violations of applicable Class III water quality standards, then the facility shall be deemed in compliance with this condition.
- **B.** If the annual average concentration at the outflow causes or contributes to violations of applicable Class III water quality standards, but does not exceed, or is equal to, the annual average concentration at the inflow stations, then the facility shall be deemed in compliance with this condition.
- **C.** If the annual average concentration at the outflow causes or contributes to violations of applicable Class III water quality standards, and also exceeds the annual average concentration at the inflow station, then the facility shall be deemed out of compliance with this condition.

20. Dissolved Oxygen. The permittee shall comply with the requirements for dissolved oxygen and the associated compliance schedule listed in Administrative Order AO-008-EV, attached as Exhibit D, and herein incorporated by reference.

21. Public Health, Safety, or Welfare. Pursuant to Subsection (9)(h)3 of the EFA, discharges from the STA-3/4 Project shall not pose a serious danger to the public health, safety, or welfare.

Factors Impacting Compliance

22. Factors Outside the Permittee's Control. In the event that non-compliance or failure to achieve performance objectives results for any reason other than those listed below, the permittee shall take appropriate remedial measures.

A. Anomalous Rainfall. Compliance with Specific Conditions 16-19 shall not be tested in water years when the EAA annually adjusted rainfall, as defined in Rule 40E-63, F.A.C., exceeds 63.8 inches, or is less than 35.1 inches (based on the minimum and maximum annual rainfall values for the EAA during water years 1979 thru 1988), and sufficient supplemental flows are not available to maintain wet conditions in STA-3/4. In this instance, results from adjacent years will be treated as consecutive for purposes of testing compliance. The Department may make similar adjustments where emergency discharges occur.

B. Natural Background. Deviations from water quality standards may occur as a result of natural background conditions, in accordance with Section 403.021(11), F.S. The Department shall evaluate such deviations as a part of the Department's evaluation of water quality standards in accordance with Subsection (4)(e)4 of the EFA.

C. Random Variation. The District shall report any statistical uncertainty in the methodology using acceptable scientific methods.

D. Vegetation Conditions. The District shall report whether vegetation conditions in STA-3/4 have contributed to the non-compliance. The permittee shall prepare an analysis of the vegetation coverage of STA-3/4 as compared with the baseline vegetation coverage maps developed in accordance with the monitoring conditions found in Specific Condition 29.

E. Other Factors. Unavoidable legal barriers or restraints, including those arising from actions or regulations not under the control of the permittee.

23. Emergency Conditions. Discharges from STA-3/4 or diversion of waters from the STA-3/4 inflow structures through the G-371 and/or G-373 structures shall also be allowed in accordance with Section 373.439, F.S., or when water conditions within STA-3/4 may damage existing marsh vegetation. When a diversion event or series of proximal diversion events is anticipated due to aforementioned conditions, the permittee shall notify the Department of the anticipated event via email. After major diversion events, the permittee shall submit a diversion summary report to the Department. The diversion summary report shall contain information regarding the circumstances related to the discharge, as well as duration of the discharge and may be submitted in electronic format via email. Summary reports of minor diversions, not associated with Section 373.439 F.S. emergency measures, shall be submitted by the permittee on a monthly basis.

Renewals and Modifications

24. Permit Renewal. At least 60 days prior to the expiration of this permit, the permittee shall apply for renewal of this permit. Renewal may be for a period of 5 years in accordance with Subsection (9)(f) of the EFA.

25. Permit Modifications for Technological Advances. Pursuant to Subsection (9)(j) of the EFA, the permittee may submit proposed modifications to the STA-3/4 Project, including proposed superior technologies to be incorporated into the operation of the STA-3/4 Project, to the Department for a determination as to whether a permit modification is necessary. Within 30 days after receipt of such a submittal, the Department shall notify the permittee as to whether a permit modification is necessary. Minor modifications can be processed in letter format. The Departments shall determine whether the modification is minor or major based on the nature and magnitude of the proposed modification and the potential for the modification to have environmental impacts that are significantly different from those previously considered by the Department for the activity, pursuant to Rule 62-343.100, F.A.C. The permittee shall be required to publish a notice of application pursuant to Section 373.413 (3) and (4), F.S., as applicable, for any major permit modifications required in accordance with this specific condition.

26. Permit Modifications for Design Changes. The District shall submit proposed modifications of the STA-3/4 Project to the Department prior to implementation of the modifications for review and approval by the Department. Such modifications may include, but not be limited to:

A. **Modifications to Achieve Design Objectives**. Pursuant to Subsection (9)(j)3 of the EFA, the District shall modify the STA-3/4 Project, including modifications of the Operations Plan, if the project is not achieving the design objectives of the Everglades Construction Project;

B. **Modifications for Future Facilities.** If the monitoring data indicates the need for the construction of future facilities or structures, the permittee may apply for modifications to the STA-3/4 Project, as appropriate to accommodate alterations in operations of STA-3/4 in conjunction with the construction and operation of the new facilities or structures.

C. Modifications for WCA-2A and WCA-3A Hydropattern Restoration Activities. The permittee may modify the operation of the STA-3/4 Project if inter-agency agreements based on research and monitoring activities justify the need for such modification to assist in the restoration of the hydrology and biological status of WCA-2A or WCA-3A, pursuant to Subsection (4)(b) of the EFA and the design of the Everglades Construction Project (ECP-4).

27. Permit Modifications for Long Term Compliance. Pursuant to Subsection (10)(a) of the EFA, the District shall submit to the Department a permit modification to incorporate proposed changes to the Everglades Construction Project and this permit by December 31, 2003. These changes shall be designed to achieve compliance with the phosphorus and other state water quality standards by December 31, 2006.

28. Department Review and Approval. Where conditions in this permit require Department review and approval of remedial actions or plan modifications to be implemented pursuant to this permit, the Department will consult with the permittee to ascertain whether mutual agreement can be reached. If mutual agreement on the remedial actions or plan modifications cannot be reached, the action of the Department will be deemed final agency action and will be subject to judicial or administrative review, as appropriate.

SPECIFIC CONDITIONS FOR MONITORING PROGRAM

In accordance with Subsection (9)(h) of the EFA, the following monitoring conditions are intended to assess the water quality of the discharges of the STA-3/4 Project, to assess the ability of the STA in achieving the design objectives of the Everglades Construction Project, and to measure progress towards achieving state water quality standards.

29. Monitoring Program. Monitoring performed in accordance with this permit shall include the vegetation and water quality and quantity parameters listed below and in the attached tables. At a minimum, the monitoring program for the STA-3/4 Project, shall include the following:

A. **Aerial vegetation photographs and mapping.** Within twelve months after start-up, the permittee shall submit a baseline vegetation coverage map for STA-3/4, based upon ground-truthed aerial photographs. The baseline vegetation coverage map shall include color codes for cattail, open water, and mixed marsh vegetation, although the latter category may be broken down into subcategories if dominated by certain types of vegetation. From the baseline vegetation coverage map, the extent of area coverage of each vegetation cover type within STA-3/4, shall be assessed. Following completion, the baseline vegetation coverage map and a summary of the extent of area coverage of each vegetative coverage type shall be included in the following annual monitoring report to be submitted to the Department in accordance with Specific Condition 30.

In the event that the water quality performance requirements of Specific Conditions 16-21 are not being met, the Department may require the permittee to develop additional vegetation coverage maps of STA-3/4, developed using the same methods as for the baseline vegetation coverage map. The additional maps shall be developed within six months after such notification by the Department.

Based upon the vegetation coverage maps and the water quality performance information submitted in accordance with this permit, the operations plan for the STA-3/4 Project may be modified in accordance with Specific Conditions 25-28. The permittee must use their best efforts to modify the operations plan for the STA-3/4 Project, as soon as the vegetation analysis provides information warranting modification of the operations plan.

B. **Research and Monitoring Program**. In accordance with the water quality research and monitoring objectives of Subsections (4)(d) and (9)(h)2 of the EFA, the permittee shall implement an EFA Research and Monitoring Program, which shall be in addition to the effluent monitoring required in this permit. This program shall evaluate the effectiveness of the STAs in improving water quality and maintaining designated and existing beneficial uses of the EPA and tributary waters. The research monitoring of the STAs shall include specific analysis for each treatment cell of each STA to determine treatment effectiveness for each of the cells and to obtain data needed for STA performance optimization. Results of research efforts shall be reported as part of the annual Everglades Consolidated Report.

1) Start-Up Phase Monitoring Program. For the first four weeks after flow-through operation of STA-3/4 begins, the permittee shall monitor total phosphorus at G-370 and G-372 (Inflow locations) and G-376B, G-376E, G-379B, G-379D, G-381B, and G-381E (Outflow Locations) in accordance with Table 2, and shall submit data to the Department within 60 days after the last date of sampling.

2) Mercury Monitoring Program. The permittee shall monitor mercury, report the results obtained, and take all necessary actions as specified in the document entitled "Mercury Monitoring Program," which is hereby incorporated by reference and made a part of this permit as Exhibit C.

3) Routine Monitoring Program. The permittee shall conduct a Long-Term Monitoring Program at G-370, G-372, G-376B, G-376E, G-379B, G-379D, G-381B, and G-381E, and report the results to the Department, in accordance with the annual reporting requirements of this permit for the parameters listed in Table 2 of the "Monitoring Required" section of this permit. Data from this program may provide the basis for additional permit compliance requirements.

4) Representative Monitoring Program. The permittee shall collect grab samples at all outflow locations (G-381 A-F, G-379 A-E and G-376 A-F structures) in order to verify whether discharge water quality can be adequately characterized by monitoring at a limited number of outflow discharge structures in each flow-way. This program should include monthly grab samples collected concurrently from each outflow location. It should be initiated at Start-Up and should be conducted until sufficient data is gathered to support conclusions regarding water quality comparability amongst the stations in

individual flow-ways. The permittee shall submit an evaluation of this data to the Department for approval upon determining that sufficient data exists to support conclusions. Upon approval by the Department, the permittee may cease this monitoring program. Data from this program may provide the basis for modifications to the number and location of outflow compliance monitoring stations and may be used to determine compliance with Specific Conditions 16-18.

5) Monitoring for Future Facilities or Structures. The permittee shall continue to collect the data from the STAs, including STA-3/4, and other applicable data needed to determine the effective settling rate for the STAs, the efficiency and effectiveness of STA-3/4 in treating waters from the EAA, and to adequately assess the need, if any, for future treatment wetland facilities or structures.

6) Monitoring for effectiveness of corrective actions related to former land use. As part of the start-up monitoring program, as identified in Table 1, the permittee shall monitor and evaluate potential impacts from historical land use and the effectiveness of completed corrective actions. Pre-construction contamination assessments and ecological assessments have identified concentrations of pesticides, petroleum, and metals ("compounds of concern"), related to former agricultural application and operations (e.g., pump stations, mix/load areas, storage facilities, and airstrips). Various contaminants including but not limited to, those found in Table 3, were found to be present at concentrations of potential ecological and/or human concern and corrective actions, to address identified contamination or known conditions, were implemented prior to construction of the STA and associated structures. This compounds of concern monitoring program is intended to provide long term assessment to determine if operation of the permitted system causes detrimental release of compounds, currently bound to soils, into the water column or creates a sediment system that poses an ecological threat. Therefore, at a minimum the monitoring plan should include the parameters and frequency of monitoring listed in Table 3.

30. Annual Monitoring Reports. All studies and other reports and submittals required by this permit shall be submitted to the Department in an " Annual Report." The Annual Reports are to be received by the Department no later than January 1st of each year following the date of issuance of this permit. Each Annual Report shall present the information for the previous water year, from May 1st to April 30th. The District may consolidate the reporting requirements of this permit into the Everglades Consolidated Report. If additional reporting modifications are required, and upon approval by the Department, the District may modify the Annual Report submission date to coincide with multiple reporting requirements and time periods needed for data acquisition and analysis. In addition to the permit number and name of the permit administrator, the Annual Reports shall contain, at a minimum, the following information:

A. **Quality Assurance and Quality Control.** Sampling and monitoring data shall be collected, analyzed, reported and retained in accordance with Chapter 62-160, F.A.C. Any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health (DOH) under Chapter 64E-1, F.A.C., where such certification is required by Rule 62-160.300, F.A.C. The laboratory must be certified for all specific method/analyte combinations that are used to comply with this permit. The analytical method used shall be appropriate so as to determine if the sample complies with Class I and Class III surface water quality standards as specified in Chapter 62-302, F.A.C., and groundwater standards as specified in Chapter 62-530, F.A.C., whichever is more stringent. All field activities including on-site tests and sample collection, whether performed by a laboratory or another organization, must follow all applicable procedures described in DEP-SOP-001/01 (January 2002). Alternate field procedures and laboratory methods may be used if they have been approved according to the requirements of Rules 62-160.220, and 62-160.330, F.A.C.

B. **Water Quality Data**. Records of monitoring information shall include all applicable laboratory information specified in Rule 62-160.340(2), F.A.C. including the following:

1) Date, location, and time of sampling or measurements;

2) Person responsible for performing the sampling or measurements;

3) Dates analyses were performed or the appropriate code as required by Chapter 62-160, F.A.C.;

4) Laboratory/Person responsible for performing the analyses;

5) Analytical methods used, including MDL and PQL;

6) Results of such analyses, including appropriate data qualifiers, and all compounds detected;

7) Depth of sampling;

8) Flow conditions and weather conditions at time of sampling; and,

9) Monthly flow volumes.

Also the following records must be kept on file for reference during the duration of the project but are not required to be submitted in annual reports.

10) Field sampling and laboratory quality manuals

11) Sampling and analysis notes, as required under Ch. 62-160 FAC and NELAC Quality Systems (1999), respectively.

C. Hydraulic Retention Time. Calculations for reporting which require averaging of measurements shall be weighted by flow value. In order to account for the estimated hydraulic retention times within the STA, comparison of the moving annual average inflow and outflow levels for all parameters established in the start-up monitoring program of the monitoring plan shall be calculated by comparing the outflow data from one 12-month period with the inflow data from the 12-month period which begins one month prior to that of the outflow data.

D. Performance Evaluation.

1) The operations status of the STA, stating whether the STA is in start-up, stabilization, or normal flow-through operations;

2) A comparison of inflow water quality data with outflow water quality data using the student's t-test with a 95% confidence intervals; and,

3) Beginning with the second Annual Report, a comparison of performance of current reporting year with performance in previous years.

E. Herbicide and Pesticide Tracking. The permittee shall provide, in each annual report, information regarding the application of herbicides and pesticides used to exclude/eliminate undesirable vegetation and pests in the wetted area of the treatment cells. Such reporting shall include the names, concentrations, locations, and quantities of all herbicides and pesticides used.

F. Implementation Schedules. When appropriate, the permittee shall include information on:

1) ECP implementation;

2) BMP implementation and optimization;

3) STA optimization;

4) Project design modifications;

5) Implementation of remedial measures in the event of noncompliance with permit conditions;

31. Removal of Parameters. Upon demonstration that a specific parameter(s) is not present or is found consistently in compliance with Class III Water Quality Standards, the permittee may request

a modification to the monitoring program as appropriate. A minimum of one year's worth of data, for those parameters being sampled quarterly or more frequently, will be required prior to the Department approving any modification to the monitoring program. Parameters sampled semi-annually or annually will be examined on a case-by-case basis. The Department may approve a reduction of the monitoring frequency or waive the monitoring requirement for parameters that consistently are reported as in compliance with state water quality standards.

32. Addition of Parameters. If the Department has reason to believe that additional parameters exist that may cause or contribute to water quality violations in the project area, those parameters shall be added to the monitoring section of this permit as a permit modification.

33. Public Health, Safety, or Welfare. Data from the Everglades Nutrient Removal Project, STA-1W, STA-2, STA-5, and STA-6, as well as, the monitoring and compliance requirements of this permit, provide reasonable assurances that discharges authorized by this permit will not pose a serious danger to the public health, safety, or welfare. If warranted by additional information, the Department may include additional monitoring or compliance conditions in this permit, in accordance with Specific Condition 26 and Subsections (9)(g) and (11)(a)2, of the EFA.

34. Emergency Suspension of Sampling. Under hurricane, tropical storm warnings, or other extreme weather conditions, the permittee's normal sampling schedule may be suspended if necessary. The permittee shall notify the Department's Southeast District and Water Quality Standards and Special Projects Program at the addresses and telephone numbers listed in Specific Condition No. 3, above, of any anticipated sampling suspension associated with hurricanes, tropical storms, or other extreme weather events that may require deviation from the normal sampling schedule. Within 14 days following the cessation of emergency conditions, the permittee shall notify the Department of when normal sampling is expected to resume.

MONITORING REQUIRED:

Key for Table:

Sample Type: G = Grab sample
FPC = Flow proportionate composite sample
INSITU = In Situ field sample
CAL = Calculated parameter
PR = Pump record
TB = Tipping bucket
HYDRO = Hydrolab

Sample Locations: Inflow Sites = G-370 and G-372 Pump Stations

Outflow Sites = G-376B, G-376E, G-379B, G-379D, G-381B and G-381E Structures

Sample Frequency:
W = Weekly
BI-W = Once every other week (26 samplings per year)
Q = Quarterly
DAV = Daily averages of continuous sampling
DAC = Daily accumulation of continuous sampling

TABLE 1- STA-3/4 START UP PESTICIDE MONITORING
DEP ANALYSIS GROUP "AA" and "BB"

Chlorinated acids	**Water**	**Units**	**Sediment**	**Units**	**Sampling Locations**
2,4-D	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
2,4,5-T	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
2,4,5-TP	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
Organochlorine compounds					
ALDRIN	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
ALPHA BHC	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
BETA BHC	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
GAMMA BHC	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
DELTA BHC	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
CARBOPHENOTHION	Yes	ug/L	Ye	ug/Kg	See key for inflow and outflow sites
CHLORDANE	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
DICOFOL	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
DIELDRIN	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
DDD-P,P'	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
DDE-P,P'	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
DDT-P,P'	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
ENDOSULFAN ALPHA	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
ENDOSULFAN BETA	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
ENDOSULFAN SULFATE	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
ENDRIN	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites

ENDRIN ALDEHYDE	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
HEPTACHLOR	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
HEPTACHLOR EPOXIDE	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
METHOXYCHLOR	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
MIREX	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
TOXAPHENE	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
TRIFLURALIN	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
CHLOROTHALONIL	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
CYPERMETHRIN	Yes	ug/L	No	ug/Kg	See key for inflow and outflow sites
PERMETHRIN	Yes	ug/L	No	ug/Kg	See key for inflow and outf sites
PCB'S 1016,1221,1232,1242,1254,1260	Yes	ug/L	Yes	ug/Kg	See key for inflow and outflow sites
Organophosphorus & nitrogen compounds (water insol)					
ALACHLOR	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
AZINPHOS METHYL	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
CHLORPYRIFOS ETHYL	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
CHLORPYRIFOS METHYL	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
DIAZINON	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
ETHION	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
ETHOPROP	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
FONOFOS	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
MALATHION	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
MEVINPHOS	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites

NALED	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
PARATHION METHYL	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
PARATHION ETHYL	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
PHORATE	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
FENAMIPHOS	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
BUTYLATE	Yes	Ug/L	no	ug/Kg	See key for inflow and outflow sites
AMETRYN	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
ATRAZINE	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
METRIBUZIN	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
PROMETRYN	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
SIMAZINE	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
METOLACHLOR	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
METALAXYL	Yes	Ug/L	no	ug/Kg	See key for inflow and outflow sites
HEXAZINONE	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
NORFLURAZON	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
DISULFOTON	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
DEMETON	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
Urea and other pesticides					
BROMACIL	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
DIURON	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites
LINURON	Yes	Ug/L	yes	ug/Kg	See key for inflow and outflow sites

TABLE 2 - EFA ROUTINE MONITORING PROGRAM

PARAMETER	UNITS	SAMPLE TYPE	SAMPLING FREQUENCY	SAMPLING LOCATION
Alkalinity	mg/l	G	BI-W	See key for inflow and ou sites
Ammonia	mg/l	G	BI-W	See key for inflow and ou sites
Chloride	mg/l	G	BI-W	See key for inflow and ou sites
Dissolved Oxygen (See Attached Administrative AO-008-EV)				See key for inflow and ou sites
Mercury (See attached Mercury Monitoring Program)				See key for inflow and ou sites
PH	SU	INSITU	W	See key for inflow and ou sites
Specific Conductance	Umhos	INSITU	W	See key for inflow and ou sites
Temperature	Deg C	INSITU	W	See key for inflow and ou sites
Turbidity	NTU	G	BI-W	See key for inflow and ou sites
Total Phosphorus	mg/l	FPC/G	W	See key for inflow and ou sites Start-up Sites (see Spec 28.B.1)
Total Nitrogen	mg/l	G	BI-W	See key for inflow and ou sites
Total Dissolved Phosphorus	mg/l	G	BI-W	See key for inflow and ou sites
Nitrate + Nitrite	mg/l	G	BI-W	See key for inflow and ou sites
Total Dissolved Nitrogen	mg/l	G	BI-W	See key for inflow and ou

				sites
Ortho-Phosphate	mg/l	G	BI-W	See key for inflow and ou sites
Total Dissolved Solids	mg/l	G	BI-W	See key for inflow and ou sites
Sulfate	mg/l	G	BI-W	See key for inflow and ou sites
Flow	CFS	PR	DAV	See key for inflow and ou sites
Flow	CFS	CAL	DAV	See key for inflow and ou sites
Rainfall Volume	Gal	TB	DAC	Rainfall Sampling Station

TABLE 3 COMPOUNDS OF CONCERN MONITORING PROGRAM

Parameter	**Medium**	**Units**	**Sample Type**	**Sampling Frequency**	**Sampling Locations**
DDD	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
DDT	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
DDE	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
ATRAZINE	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
CHLORDANE	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
SIMAZINE	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
TOXAPHENE	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
ARSENIC	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
COPPER	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
LEAD	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B
ZINC	Surface Water [1]	ug/L	G	0, 6, 12, and 24 mths [2]	G-376B, G-379B, and G-381B

DONE AND ORDERED on this 9th day of January, 2004, in Tallahassee, Florida.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Jerry Brooks

Jerry Brooks
Deputy Director
Water Resource Management

FILING AND ACKNOWLEDGMENT

FILED, on this date, under Section 120.52(7), F.S., with the designated deputy clerk, receipt of which is hereby acknowledged.

Jaro Joseph 1/9/04

Jaro Joseph **Date**

PARTIES REQUESTING NOTICE:
Miccosukee Tribe of Indians of Florida, c/o Dexter Lehtinen, Esq.
Miccosukee Tribe of Indians of Florida, c/o Kelly Brooks, Esq.
United States Sugar Corporation, c/o Bubba Wade
Seminole Tribe of Indians of Florida, c/o Stephen A. Walker, Esq.
Sugar Cane Growers Cooperative, Roth Farms, Inc., and Wedgeworth Farms, Inc.,
c/o William H. Green, Esq.
Keith Saxe, Esq., U. S. Department of Justice
Michael Stevens, U.S. Department of the Interior (fax)
Jeffrey J. Ward, Sugar Cane Growers Cooperative
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