



# Florida Department of Environmental Protection

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Tallahassee, Florida 32399-3000

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February 20<sup>th</sup>, 2012

Jayne Bergstrom  
Section Administrator  
Permit Acquisition and Compliance  
Office of Everglades Policy and Coordination  
South Florida Water Management District  
3301 Gun Club Road  
West Palm Beach, FL 33406

**Project:** C-4 Emergency Detention Basin  
**Subject:** Minor Modification  
**Modification No.:** 0192729-013

Dear Ms. Bergstrom,

The Florida Department of Environmental Protection (Department) has reviewed the South Florida Water Management District's (District) request for a minor modification to the existing Environmental Resource Permit No. 0192729. The Department received this request on December 7, 2011 and the subsequent RAI response on January 20, 2012. The District has requested the following changes:

- Elimination of the biennial incidental wildlife monitoring.
- Elimination of the biennial periphyton monitoring.
- Elimination of the biennial intensive vegetation monitoring.
- Elimination of the biennial routine vegetation groundtruthing.
- Elimination of the biannual aerial vegetation surveys.
- Elimination of the biennial workshop and report submittals and substitute with annual data summaries in the South Florida Environmental Report (SFER).
- Modification of the requirement to monitor and report water quality data at a frequency of weekly if flowing to biweekly if recorded flow.
- Elimination of G420 quarterly grab samples.
- Reduce water quality parameters currently sampled from NO<sub>x</sub>, OPO<sub>4</sub>, TDKN, TDPO<sub>4</sub>, TKN, TPO<sub>4</sub> and Temp to TPO<sub>4</sub> only.
- Eliminate flow monitoring of seepage recycle pump 420S.
- Move the sampling location to the bridge over C-4 Emergency Detention Basin inflow canal (C4IN), a site upstream of G420 and G422, rather than sampling at G-420 and G-422 separately.
- Eliminate the outside stage wetland monitoring sites C4SW1 and C4SW3 (keep the inside stage monitoring at C4SW2).
- Modification of inspection and reporting requirements of C-4 related dike(s) and pump station(s).
- Grab samples shall be used in place of auto-sampler samples.

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After completing the review of the request and associated documentation, Department staff concur that the proposed modifications are not expected to result in any adverse environmental impacts and that as of December 11, 2011 the District has satisfied the requirements of the six year monitoring and reporting period (year 2005 through 2011) since commencement of operation of Phase II. As a result, the Department hereby approves the requested minor modification to the referenced permit pursuant to your request.

As the District has met all vegetation and wildlife monitoring and reporting requirements as stated in the attachment previously referred to as "Attachment A" this attachment is no longer needed. Therefore, the "Project Monitoring Plan" (previously named Attachment B in earlier modifications) has been updated and will now be referred to as Attachment A. The Department would also like to provide the current Department mailing address in Specific Condition 3. The issued permit shall be modified as follows utilizing ~~strikethroughs~~ for deletions and underlines for additions (sections not shown below remain the same):

### **SPECIFIC CONDITIONS:**

3. **Addresses:** Reports and notices submitted to the Department in accordance with this permit shall be submitted to the Department's Office of Ecosystem Projects, Program Coordination and Regulation Section, 3900 Commonwealth Blvd., MS 24, Tallahassee, Florida 32399-3000, telephone number (850) 245-3166. Electronic copies of reports and notices required by this permit shall also be sent to RPPS\_Comp@dep.state.fl.us. Southeast District Office, Environmental Affairs Program, Attn. Inger Hansen, 400 North Congress Avenue, Suite 200, West Palm Beach, Florida, 33401, telephone no. (561) 681-6709.

11. **Water Quality Wetland Monitoring Requirements:** ~~The applicant has alleged that because of the infrequent utilization of the Phase I and Phase II Wetland Detention Area, there will be no negative impacts to wetlands within the basin. To ensure that the wetlands within the Wetland Detention Areas are not impacted by the project construction and/or operation, a monitoring and maintenance plan shall be implemented in accordance with the following:~~

~~This monitoring will also help assess the effectiveness of the Melaleuca removal program.~~

~~The required monitoring period will be six years from commencement of operation of Phase II (estimated as year 2005 through 2011). During this monitoring period, every other year, the permittee shall submit a monitoring report that analyzes all the monitoring data collected during the previous 2 years, and compare this data to the baseline surveys to determine if any impacts have occurred as a result of operation of the projects. The data collected from the monitoring program (as described in Attachments A and B as described below), shall be used to conduct a WRAP assessment for comparison with pre-project conditions.~~

~~Aerial vegetation surveys (as described in Attachment A) shall be implemented every other year for a period of six (6) years to document potential shifts in vegetative communities. Water quality monitoring (as described in Attachment B A) shall be implemented during periods in which the wetlands within the Detention Basin are used for stormwater storage as part of operating the Detention Basin. Inflow shall be monitored at C4IN at the bridge over the C-4 Emergency Detention Basin inflow canal, a site upstream of G420 and G422. Outflow shall be monitored at G421. Automated samplers ~~Grab samples~~ will be used to collect water samples to measure Total Phosphorous during operation to help determine the total phosphorus mass balance for the affected wetland basins. Grab samples will be collected ~~weekly~~ biweekly (if~~

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recorded flow) during periods of operation in accordance with Table 3 in Attachment A and results shall be submitted to the Department in accordance with Specific Condition 20.

~~Wildlife observations and reporting (as described in Attachment A) shall be implemented once every other year (biennially) incidental to ground truthing for vegetation monitoring via aerial photography at the locations and according to the methods set forth in Attachment A for a period of six (6) years (estimated as year 2005 through 2011) to document changes in wildlife utilization within the boundaries of and immediately adjacent to the facility in the extension of the Dade-Broward Canal and the seepage canal. The results will be compared to the facility's pre-operational baseline condition and appropriate reference transects in the adjacent Pennsuco Wetland Area.~~

~~Periphyton monitoring and reporting (as described in Attachment A) shall be implemented every other year (biennially) in the wet season in the same year as vegetation monitoring at the locations and according to the methods identified in Attachment A for a period of six (6) years to document the effects of changing water quality and hydroperiod on periphyton community shifts. Water level and flow, and exotic vegetation monitoring and reporting shall be implemented in accordance with the requirements of the original permits. Specific Condition 14.~~

The locations of the C-4 Emergency Detention Basin and Pennsuco Wetlands Area stage, flow, and water quality monitoring stations; ~~vegetation ground truthing stations;~~ are depicted in Figures 1-~~6~~and 2 in Attachment A.

~~Every other year (biennially) and no later than September 30, 2007, 2009, and 2011, the permittee shall conduct a workshop for the Department, the Corps of Engineers, and Miami Dade County DERM to present an analysis, integration, and synthesis of all of the vegetation, periphyton, wildlife, and water quality monitoring data, together with the hydroperiod/hydropattern data, water budget, and total phosphorus budget, to assess the net environmental impacts of facility construction and operation relative to baseline and appropriate reference conditions. The workshop presentation shall also include a WRAP rescoring of the facility relative to baseline and reference conditions. The permittee shall then submit a consolidated report that captures the workshop presentation, appends all of the relevant monitoring data and calculations, and addresses any issues raised by the participating agencies at the workshop. The biennial consolidated report is due to the Department no later than November 30, 2007, 2009, and 2011.~~

~~The effectiveness of exotic vegetation management shall be assessed on an annual basis after the annual treatment cycle has been completed with an appropriate lag time using standard methods. The effectiveness of exotic vegetation management shall be quantified on a biennial basis via aerial photography for biennial reporting at the workshop and in the consolidated environmental impact evaluation report.~~

~~Additional mitigation may be required if the project is causing negative impacts to the interior wetlands system within the Phase I and Phase II Detention Basins. The amount of mitigation will be determined on a case by case basis with close coordination with the Permittee, Dade County DERM and the US Army Corps of Engineers.~~

14. **Monitoring of Stages and Flow:** ~~The permittee shall install stage gages immediately upstream and downstream of the proposed pump station to record stages in the Supply Canal, and the Impoundment Reservoir. The stage gages shall show water level stages in feet (NGVD). During the operation of the facility for a storm event, water levels and flow shall be monitored in~~

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accordance with Table 2 of Attachment A, at a minimum on a hourly basis. The C4SW2 stage data, C4IN inflow data(estimated from G420 and G422), and G421 outflow data shall be submitted to the Department as part of the required Dike and Pump Inspection Report.

15. **Dike and Pump Station Inspection:** ~~The permittee shall submit to the Department annual reports (in March of each year) of inspections of all aboveground dikes, levees and berms behind which water is contained. Such reports shall include a schedule and proposal of technique for repair of any deficiencies noted, and shall be signed and sealed by a Florida registered professional engineer. A structural inspection of the pump station shall also be implemented as part of an annual impoundment inspection, including verification of the calibration of control elevations of the pump station.~~

The permittee shall submit annual and periodic levee inspection reports to the Department evaluating the integrity and functionality of the above-ground levees and structures, including pump stations. The cover letter of the inspection report should summarize site conditions and work that was completed, or may be completed, in response to inadequacies found during these inspections. A Professional Engineer or the District's Dam Safety Officer shall review and approve major repair plans associated with the levee system. Inspection Reports, both annual and periodic, shall be submitted to the Department in March.

**a. Annual Levee Inspections and Reports**

After commencement of routine operations, annual levee and structure inspections shall be conducted by field staff trained by a Professional Engineer. The annual inspection report shall be reviewed and signed by a supervisor, such as a Bureau Chief, and submitted to the Department.

**b. Periodic (5-year) Levee Inspections and Reports**

After 5 years of operation, periodic levee and structure inspections shall be conducted by, or under the supervision of, a Professional Engineer registered in the State of Florida. The periodic inspection report shall be signed and sealed by that Professional Engineer and submitted to the Department.

20. **Annual Status Report:** The Permittee shall submit an Annual Status Report to the Department detailing the operations activities of the Project during the reporting year (defined as the water year from May 1<sup>st</sup> to April 30<sup>th</sup>). The annual reporting requirements under this permit shall be incorporated into the South Florida Environmental Report (SFER) and submitted to the Department no later than March 1<sup>st</sup> of each year. If additional reporting modifications are required, the Permittees may request a modification to the annual report submission date and upon approval by the Department, the Permittees may modify the Annual Report submission date to coincide with other reporting requirements and time periods needed for data acquisition and analysis.

At a minimum, the following information should be included in the Annual Status Reports:

A. **General Information.**

1. Permit number;
2. Permit name;
3. Permit administrator;
4. Summary of monitoring results;
5. Evaluation of Project success in achieving its objectives;

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6. [Problems encountered during period covered;](#)
7. [Actions taken to address problems encountered;](#)
8. [Any additional information specifically required by the conditions of this permit.](#)

B. **Implementation Schedules.** [When appropriate, the Permittees shall include information on:](#)

1. [Project implementation;](#)
2. [Project optimization;](#)
3. [Project design modifications;](#)
4. [Implementation of remedial measures in the event of noncompliance with permit conditions.](#)

21. **Data Quality:** [All monitoring data required during the operations and maintenance of this project shall be conducted in accordance with the following:](#)

**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 NELAP-accredited \(primary or secondary\) with the Florida 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 III surface water quality standards as specified in Chapter 62-302, F.A.C. 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 \(effective December 3, 2008\). Alternate field procedures and laboratory methods may be used only after they have been approved according to the requirements of Rules 62-160.220, and 62-160.330, F.A.C.](#)

**b. Method Detection Limits (MDLs).** [The sample collection, analytical test methods and method detection limits \(MDLs\) applicable to this permit shall be performed and reported in accordance with Rule 62-4.246, F.A.C. A list of Department established analytical methods, and corresponding MDLs \(method detection limits\) and PQLs \(practical quantification limits\), which is titled "Florida Department of Environmental Protection Table as Required by Rule 62-4.246\(4\) Testing Methods for Discharges to Surface Water" dated April 25, 2006, is available from the Department on request. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. More stringent MDLs and PQLs may be necessary for specific parameters. If required, these will be identified in the permit monitoring plan.](#)

## **NOTICE OF RIGHTS**

The Department will issue this modification unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 of the Florida Statutes before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with sections 120.569 and 120.57, F.S.

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The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Petitions by the applicant or any of the parties listed below must be filed within twenty-one days of receipt of this written notice. Petitions filed by any other persons must be filed within twenty-one days of publication of the notice or receipt of the written notice, whichever occurs first. Under Section 120.60(3), Florida Statutes, however, any person who asked the Department for notice of agency action may file a petition within twenty-one days of receipt of such notice, regardless of the date of publication. The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- a) The name and address of each agency affected and each agency's file or identification number, if known;
- b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- c) A statement of when and how the petitioner received notice of the agency decision;
- d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;
- f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth

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Boulevard, Tallahassee, FL 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this order is filed with the clerk of the Department.

The Department will not publish notice of this determination. Publication of this notice by you is optional and is not required for you to proceed. However, in the event that an administrative hearing is held and the Department's determination is reversed, proceeding with the proposed activity before the time period for requesting an administrative hearing has expired would mean that the activity was conducted without the required authorization.

If you wish to limit the time within which all substantially affected persons may request an administrative hearing, you may elect to publish, at your own expense, the enclosed notice (Attachment 1) in the legal advertisement section of a newspaper of general circulation in the county where the activity is to take place. A single publication will suffice.

For the purposes of publication, a newspaper of general circulation means a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S. In the event you do publish this notice, within seven days of publication, you must provide to the following address proof of publication issued by the newspaper as provided in Section 50.051, F.S. If you provide direct written notice to any person(s) as noted above, you must provide to the following addresses a copy of the direct written notice.

Florida Department of Environmental Protection  
Office of Ecosystem Projects  
Attn: Brittany Baugher  
Program Coordination and Regulation Section  
3900 Commonwealth Blvd.  
MS 24, Tallahassee, Florida, 32399

Please retain this letter for your files as it reflects final agency action barring any administrative hearings which rule otherwise. The activities may be inspected by authorized state personnel in the future to insure compliance with appropriate statutes and administrative codes. If the activities are not in compliance, you may be subject to penalties under Chapters 373, 403, 253, and 258, F.S., as applicable.

This modification letter does not alter the permittee's need to comply with the permit's general and specific conditions, except as stated herein. This letter and attachment must be attached to the original permit.

If you have any questions regarding this Minor Modification to the issued permit, please contact Brittany Baugher at (850) 245-3191 or Stacey Feken at 850-245-3176. When referring to this application, please use the file number indicated above.

Sincerely,



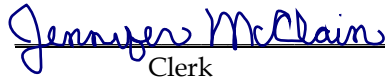

Greg Knecht  
Director  
Office of Ecosystem Projects

GK/em/ swf/bb

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**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Section 120.52 Florida Statutes, with the designated Department Clerk,  
receipt of which is hereby acknowledged.

 \_\_\_\_\_   
Clerk Date

**ELECTRONIC COPIES PROVIDED TO:**

Jayne Bergstrom, SFWMD  
Nimmy Jeyakumar, SFWMD  
John Leslie, SFWMD  
Stuart Van Horn, SFWMD  
Jose Guardiario, SFWMD  
Ric Householder, SFWMD  
Brad Robbins, SFWMD  
Matthew Powers, SFWMD  
Ernie Marks, FDEP  
Stacey Feken, FDEP  
Paul Julian, FDEP  
Inger Hansen, FDEP  
Brittany Baugher, FDEP  
Marissa Krueger, FDEP



**Attachment A**

Project Monitoring Plan

For The C-4 Emergency Detention Basin

Revised February 20, 2012

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## Glossary

DQOs	Data Quality Objectives
ERP	Environmental Resource Permit
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FSQM	Field Sampling Quality Manual
GPS	Global Positioning System
LIMS	Laboratory Information Management System
SFWMD	South Florida Water Management District
SOP	Standard Operating Procedure
TPO4	Total Phosphorous
QA/QC	Quality Assurance/Quality Control

## Project Organization

This South Florida Water Management District (SFWMD) project follows the Organization and Responsibility Section of the SFWMD's Field Sampling Quality Manual (FSQM). Refer to this document for details on key personnel and relevant responsibilities.

## Project Description

### Introduction and Background

This document serves as a reference for surface water quality monitoring for the C4 Emergency Detention Basin(C4EDB) project initiated in April 2005. The SFWMD, in conjunction with the Federal Emergency Management Agency (FEMA), was issued permits to construct and operate the C4 Emergency Impoundment to improve flood protection for the City of Sweetwater and surrounding areas during extreme storm events. The C4 Emergency Impoundment provides 1558 acre-feet of aboveground storage for floodwaters. During a major storm event the project will convey floodwaters from the C4 Canal into the storage detention basins (both Phase I and Phase II), which will help reduce flooding of areas further east. Once the storm has passed and stages in the C4 Canal have returned to normal, the floodwaters will discharge back to the C4 Canal, and eventually to tide.

### Active Mandates and Permits

The stations under this project are permitted under an Environmental Resource Permit (ERP). Adherence to these permits is paramount to the success of this project. The FDEP Environmental Resource Permits that govern the sampling requirements of this project are as follows:

- # EI 13-0192729-001, initiated 09/10/2002 and expires on 09/09/2007 (Phase I)
- # EI 13-0192729-004, initiated 09/26/2003 and expires on 09/25/2008 (Phase II)
- # EI 13-0192729-008, modification of 001 and 004, same expiration dates apply.

- # EI 13-012729-010, modification of 008, same expiration dates applies.
- # EI 13-012729-011, modification of 010, same expiration dates applies.
- # EI 13-012729-012, exemption
- #EI 13-012729-013, modification of 011

### Project Objectives

The SFWMD water quality monitoring plan for the C-4 Impoundment shall use water quality monitoring to determine the total phosphorous mass balance within the C-4 Impoundment. The monitoring will be conducted by the SFWMD for the duration of the applicable permit and is intended to identify water quality changes that reflect operation of the impoundment as required by the above permits.

The data collected shall be used to determine overall nutrient load into and out of the impoundment.

### Duration

#### **1.1.1. Initiation Conditions**

The monitoring for this project was initiated in April 2005. The first monitoring trip was performed on June 22<sup>nd</sup>, 2005.

#### **1.1.2. Modification or Termination Conditions**

The monitoring for this project shall be conducted by the SFWMD as required by the permits and is intended to identify water quality changes that reflect operation of the impoundment. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of the permit.

Initially, flow triggered autosamplers were deployed at each of the C4 control structures. During the 2009 C4 biennial meeting, data collected from the autosamplers and the associated grab samples were evaluated, and it was determined the grab sample data would be sufficient to characterize the water quality for the C4 project. Accordingly, the District requested a modification to the permit, which DEP approved on February 8, 2010. As a result of the modification, the autosamplers were eliminated from the project in favor of weekly grab samples if flowing at each station. This change is reflected in the 013 modification issued February 20, 2012. In addition, quarterly grab samples will be collected at G420 regardless of flow. Following an additional two years of sampling with only one flow event, the District requested a modification of the permit to allow weekly sampling to become Bi-weekly if Recorded Flow; the quarterly sampling to be suspended, all parameters be dropped with the exception of TPO<sub>4</sub>, omit periphyton sampling, and the sampling site be moved to the bridge over the C4EDB inflow canal, a site upstream of both G420 and G422. This permit modification was approved on February 20, 2012.

## Geographic Location

### Regional Area

The C4 Emergency Impoundment is located north of the Tamiami Trail and the C4 Canal, west of SW 137<sup>th</sup> Avenue in Miami-Dade County, Florida. The SFWMD, in conjunction with the Federal Emergency Management Agency (FEMA) was issued permits to construct and operate the impoundment. The impoundment is composed of a north impoundment (Phase I) and a south impoundment (Phase II) (see **Figure 1**).

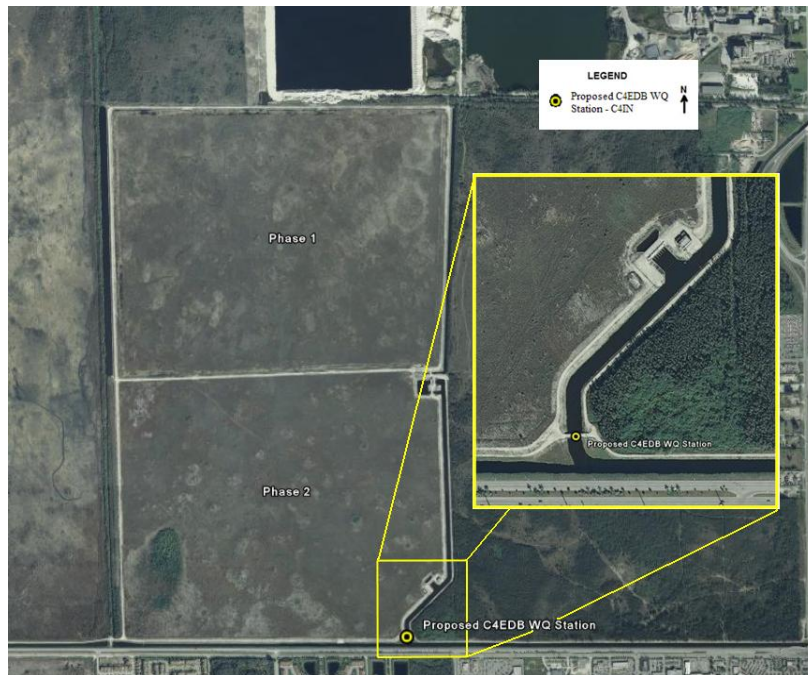
### Sampling Locations

The location of the monitoring station is depicted in Figure 1 with the GPS coordinates listed in **Table 1**.

### Access and Authority

The gates on roadways leading into the C4 Emergency Impoundment Area are secured with a SFWMD lock. The lock requires a “D” key which can be obtained through a SFWMD key permit <http://www.sfwmd.gov/site/kpa/.index.php>.

**Figure 1 - C4 Impoundment Project Map**



**Table 1 - C4 Impoundment Site Coordinates**

SITE NAME	GPS LATITUDE (ddmmss)	GPS LONGITUDE (ddmmss)
G421 Outflow Spillway	25°46'17"N	-80°26'02"W
C4IN	25°45'41" N	80°26'06" W

**Figure 2: Stage and Flow Monitoring**



**Table 2 - C4 Stage and Flow Monitoring**

Stage	Flow	Frequency
C4SW2 (interior), G420_H, G420_T, G420S_H, G422_H, G422_T, G423_T	G420_P, G421_S, G422_P, G423_S	Daily

Surface Water Field Activities

Surface Water Monitoring Frequencies by Station and Parameters

Surface water quality sample locations, collection methods, frequencies and parameters are depicted in Table 3. Samples will be collected biweekly when flow is recorded. An initial water quality sample must be taken, followed by bi-weekly sampling during periods of recorded flow. The Water Quality Monitoring Section’s Recorded Flow SOP must be followed when determining flow and sample collection. Sampling at other frequencies (e.g. daily) may occur if determined necessary by the Field Project Manager. The Field Project Manager will determine the dates for all sampling requests.

**Table 3 - Project C4 Monitoring Frequencies and Parameters**

Station	Parameters	Frequency
G421	TPO4	Bi-weekly if Recorded Flow
C4IN	TPO4	Bi-weekly if Recorded Flow

Project Specific Guidelines

Grab Sampling Procedures

Grab samples are collected on upstream side of the bridge. Sample collection for this project shall follow the procedures and requirements found in the Field Sample Collection Procedures Section of the District’s FSQM.

Field Quality Control Requirements

Field quality control requirements shall follow the procedures found in the Quality Control Section of the District’s FSQM



## Autosampler Collection

Autosamplers were eliminated from this project effective November 30, 2009. There are no active autosamplers in the C4 project

## Sample Submission

Following completion of sample collection, the samples are transported in coolers with wet ice at 4° Celsius to the laboratory for analysis. Samples are submitted to the laboratory on the same day as collection or via courier the following day. Samples are submitted according to the requirements outlined in the SFWMD's FSQM. If samples are submitted to other than the SFWMD's in house laboratory, the laboratory must be a SFWMD approved laboratory.

## Data Quality Objectives

### Data Uses

The data from the C4IP is reported annually in the SFWMD's South Florida Environmental Report (SFER). The report can be accessed from the SFWMD's Water Quality Bureau upon request.

### Data Quality

While it is recognized that data quality objectives (DQOs) are typically developed separately for each specific monitoring project, all mandated monitoring conducted by the District must meet the objectives conveyed in the FDEP's Quality Assurance Rule, 62-160 Florida Administrative Code (F.A.C). Over the years, the District's field collection staff and chemistry laboratory, and their contractors, have met or exceeded these data quality objectives, as reflected in their respective quality manuals, for all data generated. As a result, unless otherwise specified, the District has adopted a uniform set of DQOs following criteria detailed within the "Analytical Methods and Default QA/QC Targets" table of the *Chemistry Laboratory Quality Manual (CLQM)*.

Surface water samples, including field testing and field quality control samples, are collected in accordance with the FDEP Quality Assurance Rule, 62-160 F.A.C. and the current version of the FSQM. Applicable sections of the FSQM include, but are not limited to, field sample collection procedures, decontamination procedures, field testing and quality control requirements.

The data quality objectives of the field testing parameters for this project are covered by the table *Field Quality Assurance Objectives* in the field testing section of the District's FSQM. This manual is updated annually, and therefore, the most recent version of the District's FSQM details the specific field testing data quality objectives for this project at the time of sample collection.

Samples are analyzed according to the provisions within the FDEP Rule 62-160 F.A.C. and the District's *CLQM*. This manual is updated annually, and therefore, the most

recent version of the CLQM details the specific laboratory analyses data quality objectives for this project at the time of sample collection.

Data are qualified in accordance with the FSQM and CLQM data validation and reporting sections.

#### Completeness Targets

For each project, monitoring parameters and frequencies will be registered in LIMS. This process aids in the creation of header sheet templates, quality assurance and determining completeness. Completeness targets, meaning the number of samples successfully collected and analyzed, are set at 95% annually for this project

#### Data and Records Management

After the data validation process, all data are maintained so that end users can retrieve and review all information relative to a sampling event. Field notes are maintained on an internal server either by scanning actual field note pages or by uploading narratives from field computers path to server. All analytical data and field conditions are sent to a database (DBHYDRO) for long-term storage and retrieval.

The collecting agency shall maintain records of field notes and copies of all records relative to the chain of custody and analytical data. It is the responsibility of the collection agency to maintain both current and historical method and operating procedures so that at any given time the conditions that were applied to a sampling event can be evaluated. Upon completion of the project, the collecting agency shall provide all original field notes to the SFWMD's WQMD for permanent archival.

Records shall be maintained for the life of the project and five years thereafter, in a manner that will protect the physical condition and integrity of the records. Storage shall follow the SFWMD's records storage procedure. Access to archived methods shall be through designated records custodian. Corrections of data or records shall follow the SFWMD SOP's.

#### Data Deliverables

The laboratory data shall be submitted to the SFWMD in a DBHYDRO compatible format. The laboratory shall evaluate the data in accordance with the data quality objectives stated in the FSQM. All data submittals shall conform to existing SFWMD guidelines or other format as requested by the SFWMD.

#### Data Storage

After the data validation process, all data are maintained so that end users can retrieve and review all information relative to a sampling event. Field notes are maintained on an internal server by scanning actual field note pages. All analytical data and metadata are sent to either the (DBHYDRO) or (ERDP) database for long-term storage and retrieval.

### Revisions and Modifications

This section is left for future changes as they are made and should be referenced throughout the document as revisions occur. Sections should be added chronologically. As revisions are made a note Revisions and Modifications.

**Table 2 – Revisions and Modifications**

<b>Date</b>	<b>Section</b>	<b>Page Number(s)</b>	<b>Change From</b>	<b>Change To</b>	<b>Reason</b>
<u>3/18/08</u>	<u>5.6</u>	<u>8</u>	<u>200 ml</u>	<u>100 ml</u>	<u>Autosampler aliquot volume incorrect in previous version.</u>
<u>10/5/09</u>	<u>Multiple</u>	<u>Multiple</u>	<u>Flow triggered autosamplers at each control structure</u>	<u>Quarterly grabs at G420 regardless of flow, and weekly grabs at each control structure only if flow.</u>	<u>Automatic samples replaced with grab samples when flowing.</u>
<u>12/21/10</u>	<u>Figure 1</u>	<u>6</u>			<u>Updated map to reflect periphyton monitoring</u>
<u>12/21/10</u>	<u>Table 1</u>	<u>6</u>		<u>G421P G423P</u>	<u>Updated table to reflect periphyton monitoring</u>
<u>12/21/10</u>	<u>5.0</u>	<u>7</u>	<u>Monitoring Frequencies by Station and Parameters</u>	<u>Surface Water Monitoring Frequencies by Station and Parameters</u>	<u>Added “surface water” to differentiate from periphyton monitoring section</u>
<u>12/21/10</u>	<u>6.0 to 6.2</u>	<u>8</u>		<u>Periphyton Monitoring</u>	<u>Added periphyton monitoring section</u>
<u>12/21/10</u>	<u>8.0-8.2</u>	<u>9-10</u>		<u>Periphyton data to be stored in ERDP</u>	<u>Biological data are to be stored in ERDP not DBHYDRO</u>

<b>Date</b>	<b>Section</b>	<b>Page Number(s)</b>	<b>Change From</b>	<b>Change To</b>	<b>Reason</b>
<u>12/21/10</u>	<u>3.2</u>	<u>4</u>		<u># EI 13-012729-011, modification of 010, same expiration dates applies.</u>	<u>Updated with latest permit modification</u>
<u>11/28/11</u>	<u>7.1</u>	<u>8</u>	<u>The report can be found at <a href="http://www.sfwmd.gov">www.sfwmd.gov</a></u>	<u>The report can be accessed from the SFWMD's Water Quality Bureau upon request</u>	<u>Report was not at old address.</u>
<u>11/28/11</u>	<u>6.1</u>	<u>8</u>	<u>G421, G423</u>	<u>G421P, G423P</u>	<u>Corrected Station names in table to reflect periphyton monitoring station</u>
<u>11/28/11</u>	<u>8.2</u>	<u>10</u>	<u>Field notes will be stored on \\ad\dfsroot\data\kb_wqm\fieldnotes</u>	<u>Field notes will be stored on internal server</u>	<u>Field notes now stored through NuGenesis on internal server.</u>
<u>2/20/12</u>			<u>See Minor Mod Letter issued with attachment for changes</u>		<u>Updated to requested permit modification.</u>