Compliance Monitoring Plan

For

Water Conservation Area 3 Decompartmentalization and Sheetflow Enhancement Physical Model

(DPM)

AGENCY: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Document Date: 09/20/2018

Water Quality Monitoring Section
Water Quality Bureau, Water Resources Division
South Florida Water Management District

SFWMD-FIELD-CMP-038-00

Table of Contents

1.0 Project Organization

Overall project organization and responsibilities are detailed in the South Florida Water Management District (SFWMD or District) Water Quality Bureau (WQB) Quality Management Plan (QMP). Field activity responsibilities are detailed in the Water Quality Monitoring (WQM) Section's Field Sampling Quality Manual (FSQM). Laboratory analysis and data validation responsibilities are detailed in the Analytical Service Section's Chemistry Laboratory (District Lab) Quality Manual (CLQM). These documents define the procedures used by WQB personnel to meet the Florida Department of Environmental Protection's (FDEP) Quality Assurance (QA) Rule, Florida Administrative Code (F.A.C.) 62-160. Refer to these documents for details on key personnel and relevant responsibilities.

2.0 Project Introduction and Background

This document serves as a reference for surface water quality monitoring for Water Conservation Area (WCA) 3 Decompartmentalization (DECOMP) and Sheetflow Enhancement Physical Model (DPM). Samples and/or data are collected to satisfy the mandated monitoring requirements in accordance with the permit(s) to which this document is attached.

This plan details permit mandated monitoring requirements. Modifications to this sampling may be requested in response to any future design changes, and/or changes to project objectives. Monitoring reductions may also be requested to stations, frequencies, and/or analytes if monitoring demonstrates that specific analytes are not present or if found consistently in compliance with regulatory standards. This plan will be reviewed and/or modified as needed to reflect changes. At a minimum, this plan will be reviewed when the permit is renewed.

Compliance monitoring was initiated in 2018 and will continue for the life of the permit(s). The S-152 structure consists of ten (10) manually operated gated culverts in the L67A levee and moves water from WCA 3A to WCA 3B. It was originally constructed by the U.S. Army Corps of Engineers (COE) under CERPRA Permit #0304879, initiated 01/09/2012. While the structure continues to be owned by the COE, operations has been transferred to the District under a letter of concurrence between the COE and the District.

DPM is designed to experimentally address uncertainties of depth, hydroperiod, sheetflow and canal backfilling associated with the Comprehensive Everglades Restoration Plan (CERP) DECOMP Project as defined in Section 373.1501 (1)(g), F.S. Information gathered from the DPM Project will be used in the planning and design of future phases of DECOMP.

2.1 Water Quality Operational Criteria

Regression models (specific to each month) are used to forecast the geomean TPO4 at the S152, using recent TPO4 data at S152, as well as stage data from WCA3A and the L67A stations. The model forecasts are then used to determine whether the structure can open (or stay open) for 2 weeks and if so then it is calculated for the next 4 weeks. Details of the application of the regression models to structure operation are detailed in Saunders and Newman (2017).

3.0 Geographic Location

DPM is located within Miami-Dade County (Figure 1) along the L-67A and L-67C canals within WCA 3 in Sections 3, 10, and 15 Township 53 and Range 37 east. One (1) mandated monitoring station will be sampled for this project. The station location and description is listed in Table 1 with the location depicted in Figure 1.

Table 1: DPM Surface Water Monitoring Stations and GPS Coordinates

Station	Latitude	Longitude	Description
S152	255154.563	803613.995	On the L-67A Levee 8.2 miles north of S-333. Platform is located 350 ft. northwest of the culverts.

The standard positional goal for station coordinates is detailed in the Wate Quality Monitoring Station Registration SOP (SFWMD-FIELD-SOP-031). Coordinates are relative to NAD83 HARN horizontal datum.

4.0 Sample Collection Procedures

All surface water quality samples are collected on the upstream side of all structures at a depth of 0.5 m unless vegetation and/or other conditions inhibit the collection of a representative sample upstream. Samples, including field testing and field quality control samples will be 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. All water quality samples required for collection are depicted in Table 2.

4.1 Field Testing Procedures

Field testing procedures follow the procedures and requirements found in the FSQM. Table 2 below describes the parameters collected for this project.

Table 2: DPM Grab, Frequency and Parameter ACODES

Station	Type	Frequency	Parameter ACODES
S152	Grab	Biweekly	Total Phosphorous (TPO4)

4.2 Field Quality Control and Sample Submission Requirements

Field quality control requirements shall follow the procedures found in the Field Quality Control Measurements and Requirements Section of the FSQM.

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 FSQM. If samples are submitted to a laboratory other than the District Lab, it must be approved by the District Lab.

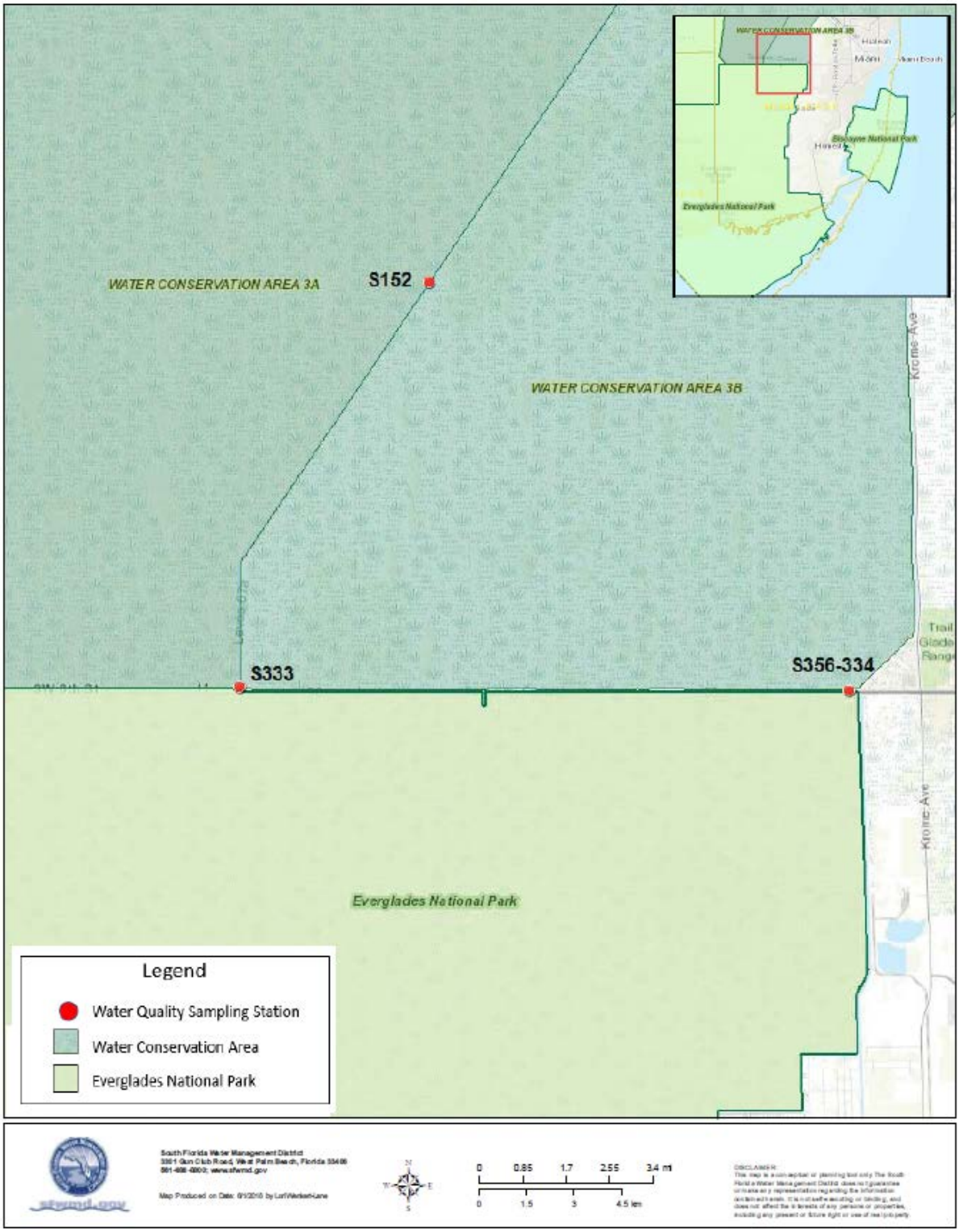

Figure 1: DPM Site Location Map

5.0 Data Quality Objectives (DQOs)

5.1 Data Usage

The data from this project are compiled and reported in accordance with the conditions outlined in the permit or mandate.

5.2 Data Quality

All monitoring described herein shall meet the requirements conveyed in the FDEP's Quality Assurance Rule, 62-160 F.A.C. 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).

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 regularly, and therefore, the most recent version of the District's CLQM details DQOs for this project at the time of sample collection for each specific laboratory analysis. Data are qualified in accordance with the FSQM, CLQM and applicable data validation SOPs.

5.3 Completeness Target

The completeness target (i.e., the number of samples successfully collected and analyzed) shall be set at 95% annually for this project. Sampling attempts shall be included in the completeness target. At times samples will not be able to be collected because of no flow or low water conditions, unsafe station conditions, equipment malfunction, site maintenance, tropical storms/hurricanes or other unforeseen problems that might affect sample collection and/or quality. If samples cannot be collected on an attempt, collectors shall document "no bottle" (NOB) to indicate and attempt was made and/or the sample could not be collected for the documented reasons.

6.0 Data and Records Management

The District laboratory evaluates data in accordance with the data quality objectives stated in the District's FSQM and CLQM. All data submittals shall conform to existing District guidelines.

6.1 Contract Deliverables

There are no contract deliverables.

6.2 Data and Record Storage

After the data validation process, all data and records are maintained so that end users can retrieve and review information relative to a sampling event. Field records are maintained in accordance with the *Archive Records Storage and Retention* SOP (SFWMD-FIELD-SOP-022). All analytical data and specified metadata are sent to the DBHYDRO database for long-term storage and retrieval.

The District maintains both records of current and historical methodologies, and SOPs so that at any given time the conditions that were applied to a sampling event can be evaluated.

Records are maintained following the WQM SOP for Archive Records Storage and Retention (SFWMD-FIELD-SOP-022). Corrections of data and/or records follow applicable WQB SOPs, CLQM, and/or FSQM.

7.0 References:

Florida Department of Environmental Protection. Quality Assurance Rule, 62-160 Florida Administrative Code (F.A.C.)

Saunders, C. J. and Newman, S. 2017. Proposed triggers guiding year-round DPM operations of the S152 based on statistical analyses of canal water TP variation. SFWMD, May 2017.

South Florida Water Management District. Chemistry Laboratory Quality Manual (CLQM), SFWMD-LAB-QM-20##. Analytical Services Section, West Palm Beach, FL.

South Florida Water Management District. Field Sampling Quality Manual (FSQM), SFWMD-FIELD-QM-001. Water Quality Monitoring Section. West Palm Beach, FL.

South Florida Water Management District. Quality Management Plan, SFWMD-QA-QM-001. Water Quality Bureau, West Palm Beach, FL.

8.0 Revisions and Modifications

Version	Date	Section/Page	Change/Reason
00	09/20/2018	All	CMP Created for sampling at S152 for DPM.

Appendix 1: Mercury and Other Toxicants Monitoring Plan

DPM
CERPRA Permit No. XXXXXXX

There is no mercury or other toxicant monitoring associated with this project.