

City of Palm Beach Gardens
CYCLE 4 – YEAR 1
MS4 Permit No. FLS000018-004
Part V. – Monitoring Requirements; Sub-part A. –
Assessment Program

Assessment Program Objective

The purpose of this assessment program is to provide information for the City of Palm Beach Gardens to determine the overall effectiveness of the City's Stormwater Management Program (SWMP) in reducing stormwater pollutant loadings from its Municipal Separate Storm Sewer System (MS4) to receiving water bodies.

Assessment Program Components

As required by the MS4 Permit, the following parts make up this Assessment Program:

- A. **A Water Quality Monitoring Plan** – The water quality monitoring plan is intended to identify local sources where urban stormwater is adversely affecting surface water resources
- B. **A Pollutant Loading Estimate Plan** – The pollutant loading exercise is to estimate the Pollutant Loading from the MS4 contributing area, based on land uses and BMPs
- C. **An Evaluation and Response Plan** – The response plan is the plan of action to be taken based on the results from A. and B. and will be used to:
 - 1. evaluate trends in pollutants loading from the MS4
 - 2. evaluate trends in water quality (of discharge from the MS4)
 - 3. identify portions of the MS4 to be targeted for loading reduction/corrective action

Part A – Water Quality Monitoring Plan

Monitoring Locations

Based on the location of the outfalls of our MS4, 1 monitoring station has been established. The following table identifies the monitoring station, along with relevant information about each location.

MS4 Monitoring Station Table

Monitoring Station Number	Location Description	Latitude/ Longitude	Receiving Water Body	Verified Impaired?	Adopted TMDL?
C17S44	Palm Beach Gardens	903830.19/ 955552.70	C17	Yes (Dissolved Oxygen and Nutrients (Chlorophyll-a))	No

Sampling Method

The method of sample collection is in situ using a water quality monitoring instrument as a surface grab method. Water samples are collected, preserved, and stored according to SFWMD by FDEP Standard Operating Procedures.

Monitoring Parameters

Information on the group water quality sampling parameter and frequency for C17S44 is included in the group's Joint Annual Report to FDEP.

Since FDEP changed the Dissolved Oxygen criteria from mg/l to percent saturation, there has been no exceedance of the Dissolved Oxygen criteria at Site C17S44. Consequently, only nutrients will be evaluated as part of Palm Beach Gardens Assessment Report.

The parameters sampled at monitoring station C17S44 are shown in the table below.

Parameters and Sampling Table

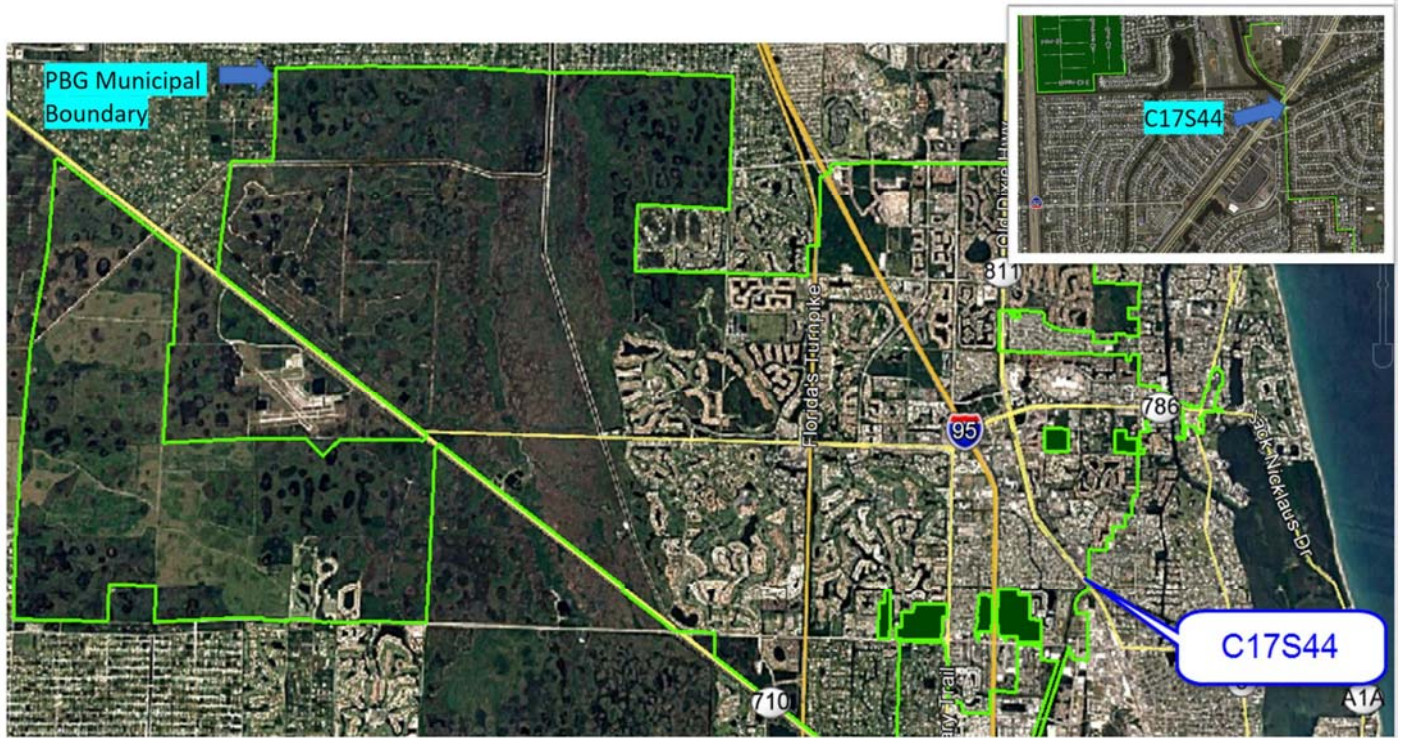
Monitoring Station #	Monitoring Parameters	Type of Monitoring	Collection Method	Sampling Frequency	Notes
C17S44	Total Nitrogen Total Phosphorus	Surface Water Total Phosphorus	Grab Method Total Phosphorus	12 times per year	South Florida Water Management District DBHYDRO site

As part of the City's Assessment Program nutrient trend graphs for this site C17S44 will be evaluated annually.

The location of the monitoring stations to be used in this Assessment Program, are shown in Figure 1.

SFWMD C17S44 site

Figure 1



LOCATION MAP OF C17S44 MONITORING LOCATION

Part B – Pollutant Loading Estimate Plan

The Palm Beach County MS4 permittee group will be developing pollutant loading estimates during the 3rd year of this permit cycle, using the SIMPLE protocol. In order to provide each permittee with pollutant loading estimates that reflect their respective MS4 areas, the group effort will provide the loading estimates “by MS4,” in addition to “by watershed” (as was done in past permit cycles). Prior to Year 3, the City of Palm Beach Gardens will participate in this effort by reviewing its MS4 contributing areas to each receiving water, and will provide updated information on the area extents and the land uses located therein. In addition, any water quality best management practices (BMPs) that are in place within the MS4 area, will be identified, along with their geospatial extent.

Information on the pollutant load estimates and event mean concentration values for various land uses is reported in the group’s Joint Annual Report (Year 3).

The group’s estimated pollutant loading results will be provided to the City of Palm Beach Gardens for use in this assessment effort.

To determine a practical estimate of the current pollutant loading, the City of Palm Beach Gardens will use the land use based pollutant loading estimates provided by the group as the starting point from which pollutant load reductions will be subtracted. The pollutant load reductions will be estimated based on the BMPs that have been put in place within the MS4 contributing areas. In this way, when future estimates are done, and potentially additional reduction measures or BMPs are put in place, the estimated pollutant loading will reflect the reductions.

Part C – Evaluation and Response Plan

Once the Assessment Program is approved by FDEP, presumably sometime during Year 2 of the permit cycle, the City of Palm Beach Gardens will extract sampling information from the selected SFWMD site from prior joint annual reports, and additional collected data from SFWMD for our use moving forward. The first annual report on the Assessment Program will be concurrent with the Year 3 Annual Report Form (March 2020).

Water quality monitoring results will be available annually, and the most recent year’s data will be compared to that which came before, with respect to our MS4. A summary of the water quality monitoring data, with respect to our MS4 will be developed and included in Assessment Program Annual Report.

The pollutant loading estimates developed during Year 3 of the permit cycle will be reviewed and adjusted based on the City’s Stormwater Management Programs (litter control, street sweeping, public education, etc.)

Receiving water trending reports/graphs for nutrients (Total Nitrogen and Total Phosphorus), as presented in the Joint Annual Report, will be reviewed, and a discussion will be included in the City of Palm Beach Gardens Annual Assessment Report.

Based on the data from the water quality monitoring and the pollutant loading estimates, an effort will be made to determine if one portion of the MS4 should be targeted for additional loading reduction efforts, or additional pollutant control measures.