Town of Jupiter Inlet Colony

NPDES Stormwater Permitting Program

Monitoring Requirements and Assessment Plan

(MS4 Permit No. FLS0000018-004, Part V, Sub-Part A)

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Assessment Program Objective

The purpose of this assessment program is to provide information for the Town of Jupiter Inlet Colony (the Colony) to determine the overall effectiveness of its 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 best management practices (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:
    a. Evaluate trends in pollutant loading from the MS4.
    b. Evaluate trends in water quality (of discharge from the MS4).
    c. Identify portions of the MS4 to be targeted for loading reduction/corrective action.

Part A – Water Quality Monitoring Plan

The Colony uses the ambient water quality data obtained through the Loxahatchee River District (LRD) for monitoring purposes as it is located within the Loxahatchee River watershed. This data is the primary monitoring approach utilized by the Colony. In addition, the Colony will also perform visual inspections to supplement analysis of the water quality data from LRD. Visual inspections of control structures (including any of the Colony's five existing outfalls) and their receiving waters provide an uncomplicated way to check for illicit discharges and any other issues with the stormwater system. Formal inspections occur monthly, while intermediary inspections are performed as required if potential hazards are observed.

Monitoring Locations and Frequency of Sampling

Based on the location of the Colony, two (2) LRD monitoring stations have been designated for use in data collection for water quality sampling. The following table identifies these monitoring stations, along with relevant information about the location.

Table 1: MS4 Monitoring Stations Table

Monitoring Station Number	Location Description	Latitude / Longitude	Type	Watershed WBID
10	Jupiter Inlet	26.945345-80.073821	Marine	Lox
20	ICW – SR 707	26.953161-80.079006	Marine	ICWW

LRD monitoring station 10 is sampled monthly while station 20 is sampled every other month (i.e. bi-monthly).

Sampling Method and Monitoring Parameters

Both monitoring station sites 10 and 20 must be sampled by boat. Sampling consists of noting physical water quality observations (including temperature, pH, conductivity, salinity, and dissolved oxygen) using a Hydrolab multiprobe and collecting water samples in an acid-washed HDPE bottle for off-site testing. The off-site testing includes analysis of ammonia, total kjeldahl nitrogen (TKN), and total phosphorus. All sample collections and procedures are completed in compliance with National Environmental Laboratory Accreditation (NELAC) requirements.

Attached is a sample of the information available from LRD, including a location map. If additional information on sampling and monitoring parameters required, it can be found in the LRD Water Quality Reports (refer to loxahatcheeriver.org) – River Keepers reports.

Part B – Pollutant Loading Estimate Plan

The Palm Beach County MS4 permittee group will be developing pollutant loading estimates during Year 3 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). During Year 3, the Colony participated in this effort by reviewing its MS4 contributing areas to the receiving water body and provided updated information on the area extents and the land uses located therein. In addition, water quality BMPs (septic tank conversions, expanded exfiltration trench system) that are in place within the MS4 area will identified along with their geospatial extent.

The group's estimated pollutant loading results will be provided to each permittee for use in individual assessment efforts.

To determine a practical estimate of the current pollutant loading, the Colony 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 additional reduction measures or BMPs are put in place, the estimated pollutant loading will reflect those reductions.

Part C – Evaluation and Response Plan

Once the Assessment Program is approved by FDEP, the Colony will utilize water quality and pollutant loading data to assess the effectiveness of the Colony's SWMPs. Water quality monitoring results will be available annually. The most recent year's data will be compared to that which came before, with respect to sampling sites 10 and 20 in the Loxahatchee River watershed. The first annual report on the Assessment Program will be concurrent with the Year 3 Annual Report form (March 2020).

The pollutant loading estimate developed during Year 3 of the permit cycle will be reviewed and adjusted based on the Colony's SWMP, which include litter control, public education, a Fertilizer Ordinance and street sweeping. Receiving water trending reports and graphs for various parameters will be reviewed and a discussion will be included in the Town's annual Assessment Report. Based on the data from the water quality monitoring and 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.

Recent Supplement Stormwater Management Improvements

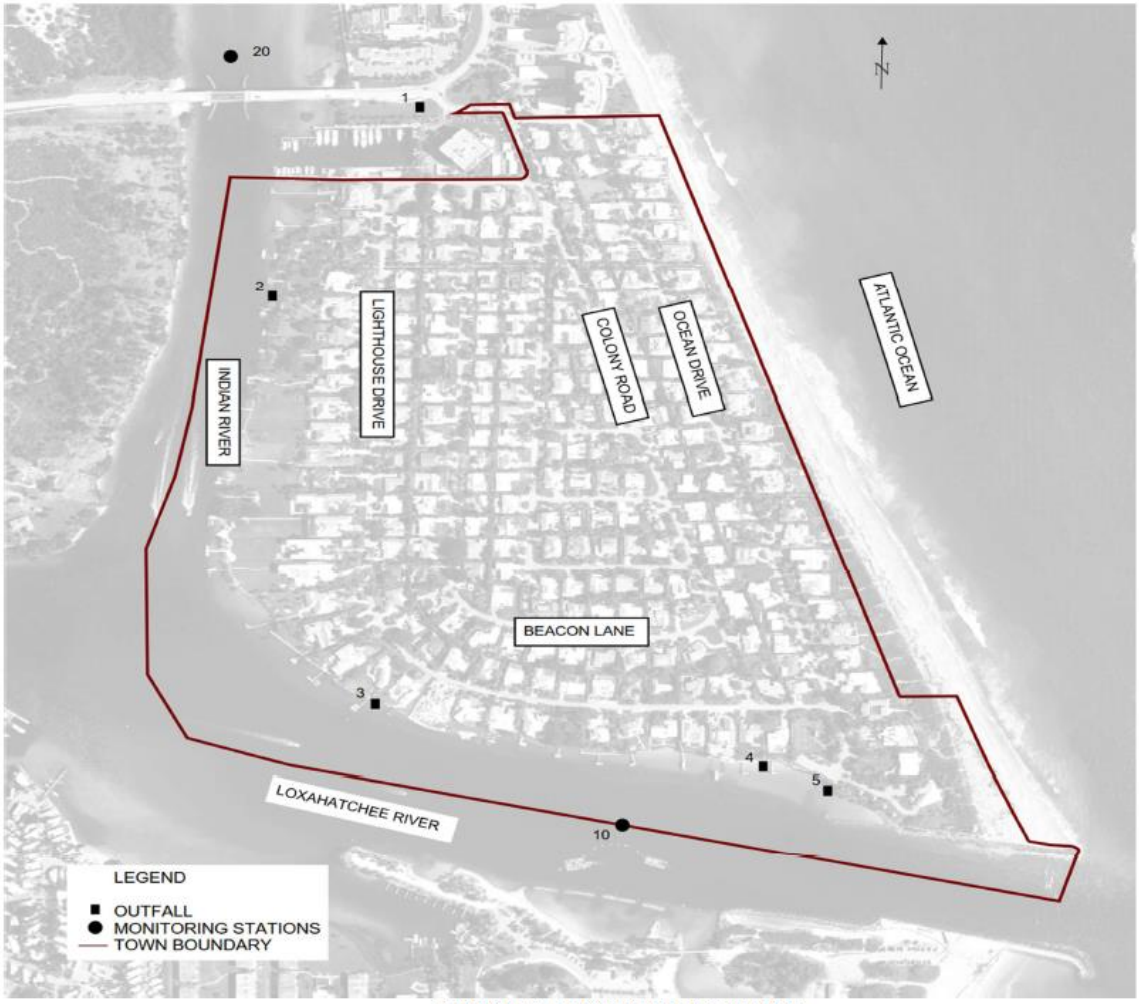
The Colony, in conjunction with LRD via an existing interlocal agreement, completed implementation of two (2) BMPs to improve water quality treatment, reduce nutrient loads and discharges into the Indian River Lagoon (South Section of the Intracoastal Waterway) at the confluent with the Jupiter Inlet and Loxahatchee River and achieve improved water quality. This major undertaking was identified as the 'Jupiter Inlet Colony Neighborhood Rehabilitation Project'. This project provided for the following improvements.

- All septic tank systems in the Colony were converted to a control sanitary sewer system to be operated and maintained by LRD. The project converted 241 properties to connections (239 single-family residential lots, the Town Hall, and the neighborhood beach club) which will significantly reduce nutrient loads while also improving water quality.

- Significant stormwater drainage improvements were also implemented, which included roadway profile adjustments, new valley gutter installation (approximately 31,200 linear feet), new exfiltration installation (approximately 5,500 linear feet) and new stormwater drainage structures (95 catch basins and 1 outfall) throughout the Colony. The stormwater system improvements also included new and replacement piping, which will significantly reduce discharges into the lagoon.

The 'Jupiter Inlet Colony Neighborhood Project' was completed in December 2017. Inspections are performed monthly to confirm maintenance of the system to ensure continued proper working order for the Colony's residents.

Figure 1: Monitoring Stations for Loxahatchee River District



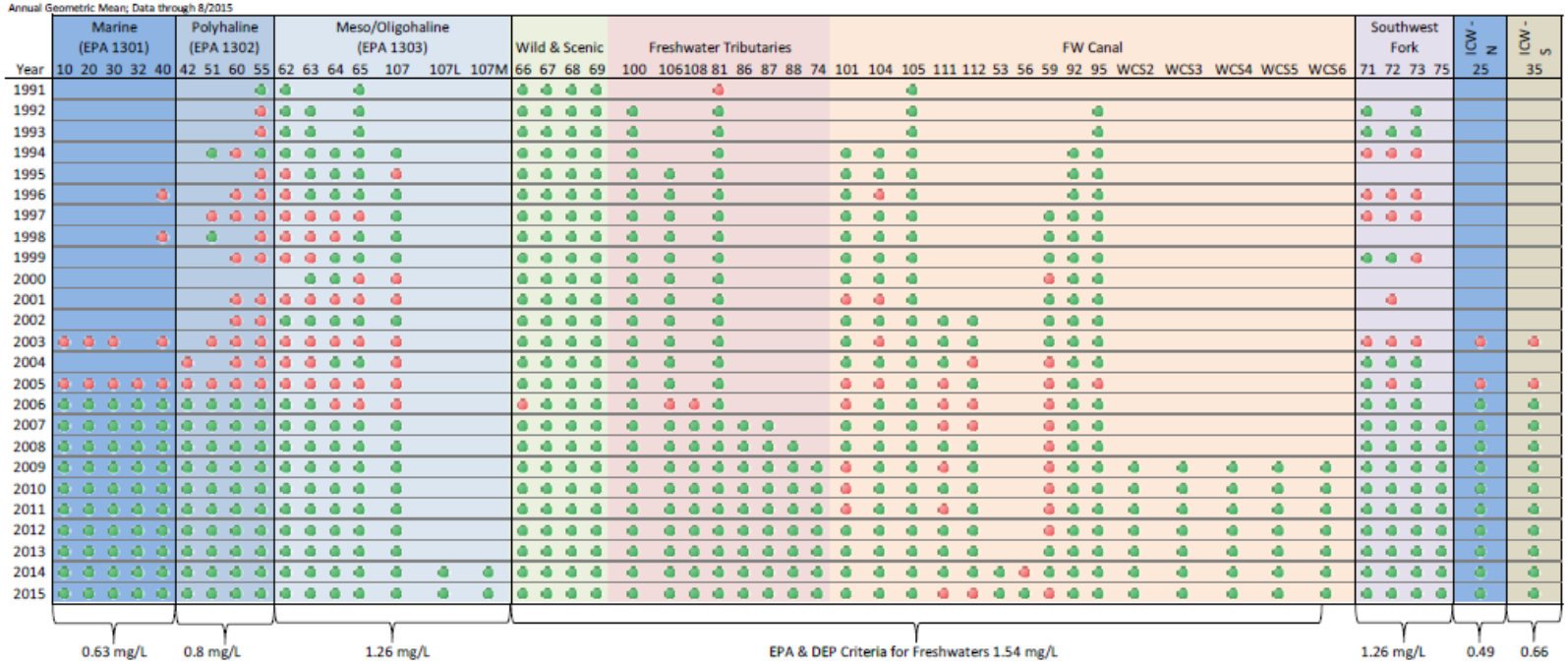
TOWN OF JUPITER INLET COLONY

Jurisdictional Boundary

Table 2: Sample Data from LRD Monitoring Stations - Nitrogen

Total Nitrogen

Annual Geometric Mean; Data through 8/2015



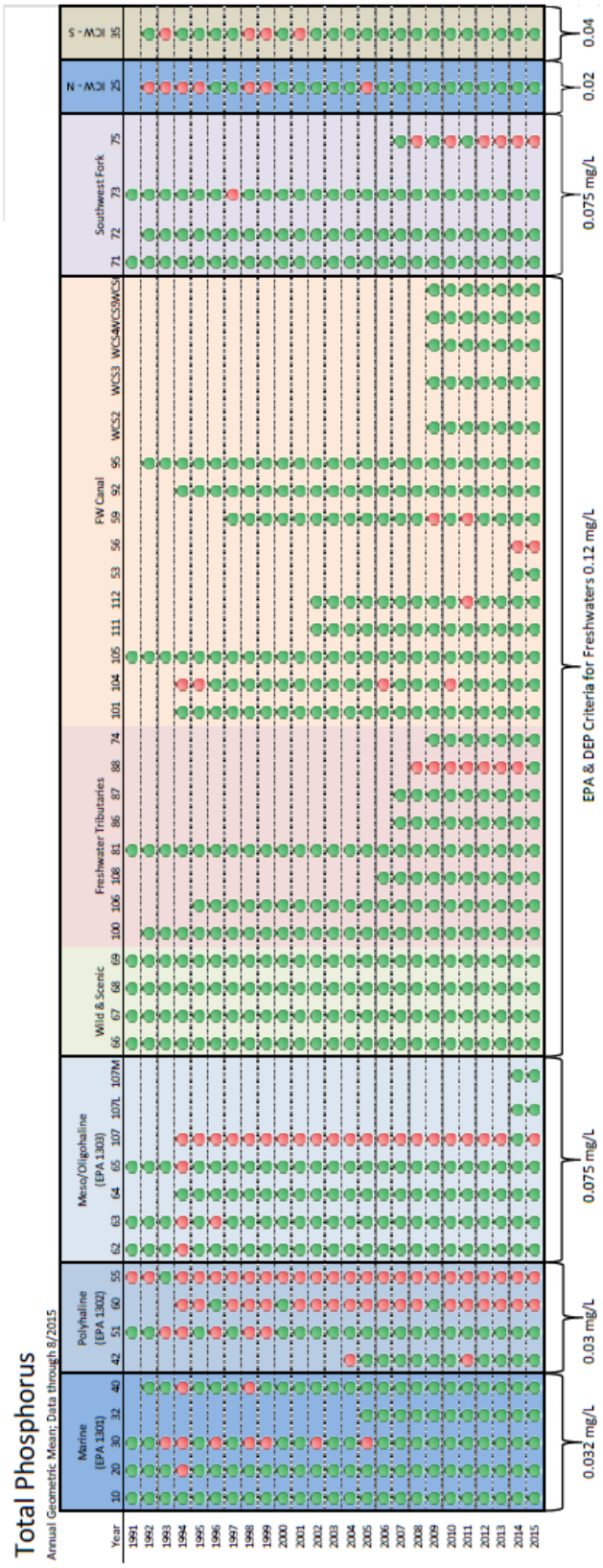


Table 3: Sample Data from LRD Monitoring Station - Phosphorus