Annual Report Form
For Individual NPDES Permits For
Municipal Separate Storm Sewer Systems
(RULE 62-624.600(2), F.A.C.)

- This Annual Report Form must be completed and submitted to the Department to satisfy the annual reporting requirements established in Rule 62-621.600, F.A.C.
- Submit this fully completed and signed form and any REQUIRED attachments by email to the NPDES Stormwater Program Administrator or to the MS4 coordinator (http://www.dep.state.fl.us/water/stormwater/npdes/contacts.htm). Files larger than 10MB may be placed on the FTP site at: ftp://ftp.dep.state.fl.us/pub/NPDES_Stormwater/. After uploading files, email the MS4 coordinator or NPDES Program Administrator to notify them the report is ready for downloading; or by mail to the address in the box at right.
- Refer to the Form Instructions for guidance on completing each section.
- **Please print or type information in the appropriate areas below.**

Submit the form and attachments to:
Florida Department of Environmental Protection
Mail Station 3585
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SECTION I. BACKGROUND INFORMATION			
A.	Permittee Name: Town of Jupiter		
B.	Permit Name: Palm Beach County MS4		
C.	Permit Number: FLS000018-004		
D.	Annual Report Year: ☐ Year 1 ☒ Year 2 ☐ Year 3 ☐ Year 4 ☐ Year 5 ☐ Other, specify Year:		
E.	Reporting Time Period (month/year): 10 / 2017 through 9 / 2018		
F.	Name of the Responsible Authority: David L. Brown		
	Title: Director of Utilities		
	Mailing Address: 210 Military Trail		
	City: Jupiter	Zip Code: 33458	County: Palm Beach
	Telephone Number: 561-741-2270	Fax Number: 561-746-2792	
	E-mail Address: davidb@jupiter.fl.us		
G.	Name of the Designated Stormwater Management Program Contact (if different from Section I.F above): David Rotar		
	Title: Utility Services Manager		
	Department: Utilities / Parks & Public Works		
	Mailing Address: 210 Military Trail		
	City: Jupiter	Zip Code: 33458	County: Palm Beach
	Telephone Number: 561-741-2705	Fax Number: 561-746-2792	
	E-mail Address: davidr@jupiter.fl.us		

SECTION II. MS4 MAJOR OUTFALL INVENTORY (Not Applicable in Year 1)	
A.	Number of outfalls ADDED to the outfall inventory in the current reporting year (insert "0" if none): 0 (Does this number include non-major outfalls? ☐ Yes ☐ No ☒ Not Applicable)
B.	Number of outfalls REMOVED from the outfall inventory in the current reporting year (insert "0" if none): 0 (Does this number include non-major outfalls? ☐ Yes ☐ No ☒ Not Applicable)
C.	Is the change in the total number of outfalls due to lands annexed or vacated? ☐ Yes ☐ No ☒ Not Applicable

SECTION III. PART V.B. ASSESSMENT PROGRAM	
A.	Provide a brief statement as to the status of water quality monitoring plan implementation. Status may include sampling frequency changes, monitoring location changes, or sampling waiver conditions. *DEP Note: If permittee participates in a collaborative monitoring plan, permittee may refer to a joint response as defined by the interlocal agreement.* Name and date of the approved plan: Group Monitoring Plan, September 8, 2016 Town of Jupiter Assessment Plan, January 9, 2019 Status: The Group Monitoring Plan is included in the Cycle 4, Year 2 Joint Annual Report Jupiter Assessment Plan is attached.
B.	Provide a brief discussion of the monitoring and loading results to date which includes a summary of the water quality monitoring data and / or stormwater pollutant loading changes from the reporting year. *DEP Note: Results must be specific to the permittee's SWMP.* Jupiter Assessment Plan is attached and provides the information requested. Please refer to the Cycle 4, Year 2 Joint Annual Report for a summary of the Group's water quality monitoring results for the reporting period.
C.	Attach a monitoring data summary as required by the permit. An analysis of the data discussing changes in water quality and/or stormwater pollutant loading from previous reporting years. *DEP Note: Analysis must be specific to the permittee's SWMP.* See Response for Section IIIB., above

SECTION IV. FISCAL ANALYSIS	
A.	Total expenditures for the NPDES stormwater management program for the current reporting year: $1,806,100
B.	Total budget for the NPDES stormwater management program for the subsequent reporting year: $2,013,729
C.	Did the current reporting year resources decrease from the previous year? Y ☐ / N ☒ If program resources decreased, provide a discussion of the impacts on the implementation of the SWMP.

SECTION V. MATERIALS TO BE SUBMITTED WITH THIS ANNUAL REPORT FORM

Only the following materials are to be submitted to the Department along with this fully completed and signed Annual Report Form (check the appropriate box to indicate whether the item is attached or is not applicable):

Attached	N/A	Required Attachments	Permit Citation	Attachment Number/Title
☐	☒	Any additional information required to be submitted in this current annual reporting year in accordance with Part III.A of your permit that is not otherwise included in Section VII below.	Part III.A	
☐	☒	An explanation of why the minimum inspection frequency in Table II.A.1.a. was not met, if applicable.	Part II.A.1	
☐	☒	A list of the flood control projects that did not include stormwater treatment and an explanation for each of why it did not (if applicable).	Part III.A.4	
☒	☐	A monitoring data summary as directed in Section III.C above and in accordance with Rule 62-624.600(2)(c), F.A.C.	Part V.B.3	Refer to Joint Report & Jupiter Assessment Report
☐	☒	YEAR 1 ONLY: An inventory of all known major outfalls and a map depicting the location of the major outfalls (hard copy or CD-ROM) in accordance with Rule 62-624.600(2)(a), F.A.C.	Part III.A.1	
☒	☐	YEAR 2: A summary review of codes and regulations to reduce the stormwater impact from development.	Part III.A.2	Technical Memorandum from Hazen & Sawyer
☐	☒	Year 3 ONLY: The estimates of pollutant loadings and event mean concentrations for each major outfall or each major watershed in accordance with Rule 62-624.600(2)(b), F.A.C.	Part V.A	
☐	☒	YEAR 3: Summary of TMDL Monitoring Results (if applicable).	Part VIII.B.2	
☐	☒	YEAR 3: Bacteria Pollution Control Plan (if applicable).	Part VIII.B.3	
☐	☒	YEAR 4: A follow-up report on plan implementation of changes to codes and regulations to reduce the stormwater impact from development.	Part III.A.2	
☐	☒	YEAR 4: A report on any amendments to the applicable legal authority (if applicable).	Part III.A.7.a	
☐	☒	YEAR 4: Permit re-application information in accordance with Rule 62-624.420(2), F.A.C. • The monitoring plan (with revisions, if applicable). • If the total annual pollutant loadings have not decreased over the past two permit cycles, revisions to the SWMP, as appropriate.	Part V.B.3 Part V.A.3	
☐	☐	YEAR 4: TMDL Supplemental SWMP (if applicable).	Part VIII.B.3	

DO NOT SUBMIT ANY OTHER MATERIALS
(such as records and logs of activities, monitoring raw data, public outreach materials, etc.)

SECTION VI. CERTIFICATION STATEMENT AND SIGNATURE

The Responsible Authority listed in Section I.F above must sign the following certification statement, as per Rule 62-620.305, F.A.C:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Authority (type or print): David L. Brown

Title: Director of Utilities

Signature: _____ Date: 2 / 8 / 2019

SECTION VII.	STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE								
A.	B.						C.	D.	E.	F.
Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity						Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
Part III.A.1	Structural Controls and Stormwater Collection Systems Operation									
	Report the current known inventory. Report the number of inspection and maintenance activities conducted for each applicable type of structure included in Table II.A.1.a, and the percentage of the total inventory of each type of structure inspected and maintained. *Note: Delete structures that are not in your MS4's inventory. The permittee may choose its own unit of measurement for each structural control to be consistent with the unit of measurement in the documentation. Unit options include: miles, linear feet, acres, etc.*									
	Type of Structure	**Number of Structures**	**Number of Inspections**	**Percent Inspected**	**Number of Maintenance Activities**	**Percent Maintained**				
	Dry retention systems									
	Underdrain filter systems									
	Exfiltration trench / French drains (lf)	4221	6	100	2	100		Lucity WO 18-000688	TOJ Stormwater Crew	Six areas have exfiltration trenches. Two needed maintenance
	Grass treatment swales (miles)									
	Dry detention systems	6	72	100		100		Invoices from Contractor / Inspections in Lucity	Terracon Services, TOJ Stormwater Crew	
	Wet detention systems	3	36	100		100		Invoices from Contractor / Inspections in Lucity	TOJ Stormwater Crew, Future Horizons	
	Detention with filtration systems									
	Alum Injection systems									
	Pollution control boxes	9	36	100	9	100		Inspections in Lucity	TOJ Stormwater Crew	
	pump stations	2	112	100	112	100		Pump Station Log/ Lucity	TOJ Stormwater Crew	
	Major outfalls	13	26	100	0	0		Inspection Report/ Lucity	TOJ Stormwater Crew	
	Weirs or other control structures									

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity				Number of Activities Performed		Documentation / Record	Entity Performing the Activity	Comments
	pipes / culverts (miles)	93.9	40	100	23	100	Lucity	TOJ Stormwater Crew Contractor	Inpections are done annually when doing structure inspections there were 40 Atlas sheets the drainage system. The number in “Inspection” indicates the number of sheets that were the lines were inpected. Number of Activities is the number of repairs that were performed on drainage lines. Sinkholes repaired, Joints wrapped
	Canals								
	Inlets / catch basins / grates	5307	5307	100	2711	100	Lucity	TOJ Stormwater Crew Contractor	There were 45 structures that were repaired the other activities are cleaning of the grates.
	Ditches / conveyance swales (miles)	59.2	2	100	12	100	Lucity	TOJ Stormwater Crew, Future Horizons, Terracon Services	The ditches are inspected twice a year.
	If the minimum inspection frequencies set forth in Table II.A.1.a. were not met, provide as an attachment an explanation of why they were not and a description of the actions that will be taken to ensure that they will be met.	☐					N/A	N/A	Met or exceeded inspections frequencies

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	N/A				

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
A.	**B.**	**C.**	**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
Part III.A.1 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Inspection and maintenance of structural components of the Town's MS4 system helps to enhance water quality. The inspections also help to identify areas that may be developing problems.				
	Limitations: None				
	SWMP revisions implemented to address limitations: None				
Part III.A.2	**Areas of New Development and Significant Redevelopment**				
	Report the number of significant development projects, including new and redevelopment, reviewed and approved by the permittee for post-development stormwater considerations.				
	Number of significant development projects reviewed	18	Energov	TOJ Stormwater	
	Number of significant development projects approved	9	Energov	TOJ Staff	
	Provide in the Year 2 Annual Report the summary report of the review activity. Provide in the Year 4 Annual Report the follow-up report on plan implementation.				
	Year 2 ONLY: Attach the summary report of the review activity	☒		Hazen & Sawyer	Technical Memorandum from Hazen & Sawyer
	Year 4 ONLY: Attach the follow-up report on plan implementation	☐			
Part III.A.2 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Works in conjunction with South Florida Water Management District requirements. Redevelopment allows for the stormwater system to be upgraded.				
	Limitations: None				
	SWMP revisions implemented to address limitations: None				
Part III.A.3	**Roadways**				
	Report on the litter control program, including the frequency of litter collection, an estimate of the total number of road miles cleaned or amount of area covered by the activities, and an estimate of the quantity of litter collected. *Note: If the permittee does not contract activities, delete CONTRACTOR activities.*				
	PERMITTEE Litter Control: Frequency of litter collection				Part of Right of Way mowing contract
	PERMITTEE Litter Control: Estimated amount of area maintained (lf)				
	PERMITTEE Litter Control: Estimated amount of litter collected (cy)				
	CONTRACTOR Litter Control: Frequency of litter collection	30	Invoices	Property Works, Duval	
	CONTRACTOR Litter Control: Estimated amount of area maintained (lf)	132,979	Lucity		
	CONTRACTOR Litter Control: Estimated amount of litter collected (cy)	0	N/A	N/A	Litter is picked up prior to cutting the grass. A count

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					is not kept
	OPTIONAL: If an Adopt-A-Road or similar program is implemented, report the total number of road miles cleaned and an estimate of the quantity of litter collected. If you do not participate in an Adopt-A-Road program, report "0".				
	Trash Pick-up Events: Total miles cleaned				Town of Jupiter does not have a program
	Trash Pick-up Events: Estimated amount of litter collected (cy)				
	Adopt-A-Road: Total miles cleaned				Town of Jupiter does not have a program
	Adopt-A-Road: Estimated amount of litter collected (cy)				
	Report on the street sweeping program, including the frequency of the sweeping, total miles swept, an estimate of the quantity of sweepings collected, and the total nitrogen and total phosphorus loadings that were removed by the collection of sweepings. If no street sweeping program is implemented, provide the explanation of why not in column F.				
	Frequency of street sweeping	Quarterly / Weekly			All Town owned curbed roads quarterly. Additional sweeping done in Dec., Jan., Feb., March
	Total miles swept	1398	Invoices	U.S. Sweeping Inc	
	Estimated quantity of sweeping material collected (cy / tons)	870	Invoices	U.S. Sweeping Inc	
	Total phosphorous loadings removed (pounds)	720	Load Reduction Excel sheet	TOJ Personnel	Calculated using FDEP Load Reduction Tool
	Total nitrogen loadings removed (pounds)	1,123	Load Reduction Excel sheet	TOJ Personnel	Calculated using FDEP Load Reduction Tool
	Report the equipment yards and maintenances shops that support road maintenance activities, and the number of inspections conducted for each facility.				
	Name of Facility	**Number of Inspections**			
	Town of Jupiter Maintenance Facility	12	Municipal Maintenance Yard Inspection Check List	Charles Jones	

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Part III.A.3 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Street sweeping has helped reduce the amount of pollutants being discharged into the stormwater system.				
	Limitations: None				
	SWMP revisions implemented to address limitations: None				
Part III.A.4	**Flood Control Projects**				
	Report the total number of flood control projects that were constructed by the permittee during the reporting period and the number of those projects that did NOT include stormwater treatment. The permittee shall provide a list of the projects where stormwater treatment was not included with an explanation for each of why it was not. Report on any stormwater retrofit planning activities and the associated implementation of retrofitting projects to reduce stormwater pollutant loads from existing drainage systems that do not have treatment BMPs.				
	Flood control projects completed during the reporting period	0	N/A	N/A	None
	Flood control projects completed that did <u>not</u> include stormwater treatment	0	N/A	N/A	None
	Stormwater retrofit projects planned/under construction	3	Town CIP Program	Jupiter Stormwater Utility	Seminole Basin Drainage improvements, Clemons & Saturn, Elsa Rd
	Stormwater retrofit projects completed	0	N/A	N/A	None
	If there were projects that did not include stormwater treatment, provide as an attachment a list of the projects and an explanation for each of why it did not.	☐	N/A	N/A	None
Part III.A.4 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: The Town continues to take a proactive approach to making improvements of the drainage system. Water quality is always taken into account.				
	Limitations: None				
	SWMP revisions implemented to address limitations: None				

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Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
Part III.A.5	**Municipal Waste Treatment, Storage, and Disposal Facilities Not Covered by an NPDES Stormwater Permit**				
	Report the applicable facilities and the number of the inspections conducted for each facility.				
	Name of Facility	**Number of Inspections**			
					Not applicable Town does not own any
Part III.A.5 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: N/A				
	Limitations: N/A				
	SWMP revisions implemented to address limitations: N/A				
Part III.A.6	**Pesticides, Herbicides, and Fertilizer Application**				
	Report the number of permittee personnel applicators and contracted commercial applicators of pesticides and herbicides who are FDACS certified / licensed. Report the number of permittee personnel who have been trained through the Green Industry BMP Program and the number of contracted commercial applicators of fertilizer who are FDACS certified / licensed.				
	PERSONNEL: FDACS public applicators of pesticides/herbicides	1	Copy of State License	Town of Jupiter Parks & Public Works	
	CONTRACTORS: FDACS commercial applicators of pesticides/ herbicides	4	Copy of State License	Terracon, Future Horizons, Property Works, Duval	
	PERSONNEL: Green Industry BMP Program training completed	0	N/A	N/A	One employee is already trained
	CONTRACTORS: FDACS certified / licensed applicators of fertilizer	3	Copy of State License	Terracon, Property Works, Duval	
	Provide a copy of the adopted ordinance with the Year 2 Annual Report. If this provision is not applicable because the permittee is not within the watershed of a nutrient-impaired water body, indicate that in Column F.				
	Year 2 ONLY: Attach copy of adopted Florida-friendly ordinance	☒	Ordinance 21-18	Town of Jupiter Staff	Florida Friendly Ordinance 21-13 passed in 2013 and attached to 3rd Term Yr 2 Annual report.

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Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
					Ordinance 21-18 is a ban on the use of fertilizer from June 1 thru Sept 30
	Report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to reduce their use of pesticides, herbicides and fertilizers including the type and number of activities conducted, the type and number of materials distributed, and the number of Web site visits (if applicable).				
	Public Education and Outreach Program	The public outreach and education plan is carried out as a joint effort by the Palm Beach County Co-permittees. Please see the Palm Beach County Joint Annual Report for the public education and outreach information.			
	Brochures/Flyers/Fact sheets distributed				
	Neighborhood presentations: Number conducted				
	Neighborhood presentations: Number of participants				
	Newspapers & newsletters: Number of articles/notices published				
	Newsletters: Number of newsletters distributed				
	Public displays (e.g., kiosks, storyboards, posters, etc.)				
	Radio or television Public Service Announcements (PSAs)				
	School presentations: Number conducted				
	School presentations: Number of participants				
	Seminars/Workshops: Number conducted				
	Seminars/Workshops: Number of participants				
	Special events: Number conducted				
	Special events: Number of participants				
	Number of visitors to stormwater-related pages				
Part III.A.6 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Making sure that all commercial applicators contracted with the Town have received training. Seasonal ban on use of fertilizers with nitrogen and phosphorus should help reduce loads to impaired parts of the Loxahatchee River				
	Limitations: None				
	SWMP revisions implemented to address limitations: None				
Part III.A.7.a	**Illicit Discharges and Improper Disposal — Inspections, Ordinances, and Enforcement Measures**				
	Report amendments in Year 4.				
	Year 4 ONLY: Attach a report on amendments to applicable legal authority	☐			
Part III.A.7.c	**Illicit Discharges and Improper Disposal — Investigation of Suspected Illicit Discharges and/or Improper Disposal**				
	Report on the proactive inspection program, including the number of inspections conducted by the permittee, the number of illicit activities found, and the number				

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	and type of enforcement actions taken.				
	Proactive inspections for suspected illicit discharges	5307	Lucity	TOJ Stormwater/ Public Works employees	Look for illicit discharges when inspecting inlets
	Illicit discharges found during a proactive inspection	0	N/A	N/A	None found
	NOV/WL/citation/fines issued for illicit discharges found during proactive inspection	0	N/A	N/A	None found
	Report on the reactive investigation program as it relates to responding to reports of suspected illicit discharges, including the number of reports received, the number of investigations conducted, the number of illicit activities found, and the number and type of enforcement actions taken.				
	Reports of suspected illicit discharges received	3	Lucity	TOJ Stormwater	
	Reactive investigations of reports of suspected illicit discharges etc.	3	Lucity	TOJ Stormwater	
	Illicit discharges etc. found during reactive investigation	2	Lucity	TOJ Stormwater	
	NOV/WL/citation/fines issued for illicit discharges etc. found during reactive investigation	0	N/A	N/A	None issued
	Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training) within the reporting year.				
	Personnel trained	42	Sign in Sheet	Town of Jupiter	Stormwater Pollution Prevention for Construction Sites,
	Contractors trained	0	N/A	N/A	No Training Provided
Part III.A.7.d	**Illicit Discharges and Improper Disposal — Spill Prevention and Response**				
	Report on the spill prevention and response activities, including the number of spills addressed.				
	Hazardous and non-hazardous material spills responded to	0	N/A	N/A	None reported
	Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training) within the reporting year.				
	Personnel trained	0	N/A	N/A	Training was provided last year
	Contractors trained	0	N/A	N/A	No training provided

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Part III.A.7.e	**Illicit Discharges and Improper Disposal — Public Reporting**				
	Report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to encourage the public reporting of suspected illicit discharges and improper disposal of materials, including the type and number of activities conducted, the type and number of materials distributed, and the number of Web site visits (if applicable).				
	Public Education and Outreach Program	The public outreach and education plan is carried out as a joint effort by the Palm Beach County Co-permittees. Please see the Palm Beach County Joint Annual Report for the public education and outreach information.			
	Brochures/Flyers/Fact sheets distributed				
	Neighborhood presentations: Number conducted				
	Neighborhood presentations: Number of participants				
	Newspapers & newsletters: Number of articles/notices published				
	Newsletters: Number of newsletters distributed				
	Public displays (e.g., kiosks, storyboards, posters, etc.)				
	Radio or television Public Service Announcements (PSAs)				
	School presentations: Number conducted				
	School presentations: Number of participants				
	Seminars/Workshops: Number conducted				
	Seminars/Workshops: Number of participants				
	Special events: Number conducted				
	Special events: Number of participants				
	Number of visitors to stormwater-related pages				
Part III.A.7.f	**Illicit Discharges and Improper Disposal — Oils, Toxics, and Household Hazardous Waste Control**				
	Report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to encourage the proper use and disposal of oils, toxics, and household hazardous waste, including the type and number of activities conducted, the type and number of materials distributed, the amount of waste collected / recycled / properly disposed, and the number of Web site visits (if applicable).				
	Public Education and Outreach Program	The public outreach and education plan is carried out as a joint effort by the Palm Beach County Co-permittees. Please see the Palm Beach County Joint Annual Report for the public education and outreach information.			
	Brochures/Flyers/Fact sheets distributed				
	Neighborhood presentations: Number conducted				
	Neighborhood presentations: Number of participants				
	Newspapers & newsletters: Number of articles/notices published				
	Newsletters: Number of newsletters distributed				
	Public displays (e.g., kiosks, storyboards, posters, etc.)				
	Radio or television Public Service Announcements (PSAs)				
	School presentations: Number conducted				

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	School presentations: Number of participants				
	Seminars/Workshops: Number conducted				
	Seminars/Workshops: Number of participants				
	Special events: Number conducted				
	Special events: Number of participants				
	Storm sewer inlets newly marked/replaced				
	Number of visitors to stormwater-related pages				
Part III.A.7.g	**Illicit Discharges and Improper Disposal — Limitation of Sanitary Sewer Seepage**				
	Report on the type and number of activities undertaken to reduce or eliminate SSOs and inflow/ infiltration, the number of SSOs or inflow / infiltration incidents found and the number resolved, and the name of the owner of the sanitary sewer system within the permittee's jurisdiction. Report only the SSOs and inflow / infiltration incidents into the MS4.				
	Owner of the sanitary sewer system	Loxahatchee River District			
	Activity to reduce/eliminate SSOs and I&I: (description)				Town is not responsible for the sanitary sewer system
	Activity to reduce/eliminate SSOs and I&I: (description)				
	SSO incidents discovered				
	SSO incidents resolved				
	Inflow / infiltration incidents discovered				
	Inflow / infiltration incidents resolved				
Part III.A.7 Summary	For activities required by Part III.A.7: Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Inspection of structures allows for detection of illicit discharge				
	Limitations: Duplication of reporting Sanitary Sewer Overflows, this is already required by FDEP of the operator of the sanitary sewer system.				
	SWMP Revisions implemented to address limitations: Remove the duplication of reporting.				
Part III.A.8.a	**Industrial and High-Risk Runoff — Identification of Priorities and Procedures for Inspections**				
	Report on the high-risk facilities inventory, including the type and total number of high risk facilities and the number of facilities newly added each year. Report on the high-risk facilities inspection program, including the number of inspections conducted and the number and type of enforcement actions taken.				

Type of Facility	**Number of Facilities**	**Number of Inspections**	**Enforcement Actions**			
Operating municipal landfills	**0**	N/A	N/A			
Hazardous waste treatment, storage, disposal and recovery (HWTSDR) facilities	**0**	N/A	N/A			

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE							
A.	**B.**		**C.**		**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**		**Number of Activities Performed**		**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	EPCRA Title III, Section 313 facilities (TRI)	**1**	1	0	EPA database/Lucity inspection of structures	TOJ Stormwater Staff	Facility has EPA permit
	Facilities determined as high risk by the permittee	**0**	N/A	N/A	N/A	N/A	No facilities to our knowledge
Part III.A.8.b	**Industrial and High-Risk Runoff — Monitoring for High Risk Industries**						
	Report the number of high risk facilities sampled.						
	High risk facilities sampled		0		N/A	N/A	No sampling done
Part III.A.8 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.						
	Strengths: None identified						
	Limitations: Duplication when EPA and FDEP permits are required with annual reporting						
	SWMP revisions implemented to address limitations: Remove duplication from NPDES requirement						
Part III.A.9.a	**Construction Site Runoff — Site Planning and Non-Structural and Structural Best Management Practices**						
	Report the number of permittee and private pre-construction site plans reviewed for stormwater, erosion, and sedimentation controls, and the number approved.						
	PERMITTEE SITES: Construction site plans reviewed		2		Energov	Town of Jupiter	
	PERMITTEE SITES: Construction site plans approved		2		Energov	Town of Jupiter	
	PRIVATE SITES: Construction site plans reviewed		9		Energov	Town of Jupiter	
	PRIVATE SITES: Construction site plans approved		7		Energov	Town of Jupiter	
	Report the number of development permit applicants notified of the ERP and CGP, and the number of applicants who confirmed ERP and CGP coverage.						
	Notified of ERP stormwater permit requirements		11		Energov	Town of Jupiter	
	Confirmed ERP coverage		11		Energov	Town of Jupiter	
	Notified of CGP stormwater permit requirements		11		Energov	Town of Jupiter	
	Confirmed CGP coverage		4		Energov	Town of Jupiter	Only 4 meet requirements needing CGP
Part III.A.9.b	**Construction Site Runoff — Inspection and Enforcement**						
	Report on the inspection program for privately-operated and permittee-operated construction sites, including the number of active construction sites during the reporting year, the number of inspections of active construction sites, the percentage of active construction sites inspected, and the number and type of enforcement actions / referrals taken.						
	PERMITTEE SITES: Active construction sites		2				
	PERMITTEE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs		43		NPDES Compliance Inspection Report	Town of Jupiter Emplyees	Elsa Road, Cinquez Park (Dog Park)

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE						
A.	**B.**		**C.**	**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**		**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	PERMITTEE SITES: Percentage of active construction sites inspected		100			
	PRIVATE SITES: Active construction sites		7			
	PRIVATE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs		125	Lucity	Town of Jupiter Employees	
	PRIVATE SITES: Percentage of active construction sites inspected		100			
	Enforcement Action		0	N/A	N/A	N/A
Part III.A.9.c	**Construction Site Runoff — Site Operator Training**					
	Report the type of training activities, the number of inspectors, site plan reviewers and site operators trained (both in-house and outside training).					
		DEP Certification	**Annual Training**			
	Permittee construction site inspectors	7	5	TOJ Sign in sheet video	Town of Jupiter	
	Permittee construction site plan reviewers		3	TOJ Sign in sheet video	Town of Jupiter	
	Permittee construction site operators		0	N/A	N/A	We do not have operators of construction sites
Part III.A.9 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.					
	Strengths: Training of new inspectors or reviewers is important.					
	Limitations: Annual training of personnel is not necessary and is time consuming					
	SWMP revisions implemented to address limitations: Reduce from annual training for Government entity employees to Biennial due to limited resources of the cities.					

SECTION VIII. CHANGES TO THE STORMWATER MANAGEMENT PROGRAM (SWMP) ACTIVITIES (Not Applicable in Year 4)		
A.	**Permit Citation/ SWMP Element**	**Proposed Changes to the Stormwater Management Program Activities Established as Specific Requirements Under Part III.A of the Permit (Including the Rationale for the Change) — REQUIRES DEP APPROVAL PRIOR TO CHANGE IF PROPOSING TO REPLACE OR DELETE AN ACTIVITY.**
		N/A
B.	**Permit Citation/ SWMP Element**	**Changes to the Stormwater Management Program Activities NOT Established as Specific Requirements Under Part III.A of the Permit (Including the Rationale for the Change)**
		N/A

SECTION IX. TMDL Status Report

A. YEAR 1 Provide a table summarizing the status of the TMDL process. Include a list of prioritized TMDLs and their monitoring and implementation schedule; and include the Identification number of the outfall prioritized for TMDL monitoring.

WBID Number	Segment/ Waterbody/ Basin	Pollutant of Concern	TMDL DEP / EPA	Percent Reduction (WLA)	Priority Rank	Priority Outfall	Monitoring Summary / BPCP Due Date	Supplemental SWMP Due Date
3226C	SW Fork of Loxahatchee River	Fecal	☒ / ☐	N/A	1	N/A	(*Year 3 AR*)	(*Year 4 AR; N/A) if BPCP*)
			☐ / ☐					
			☐ / ☐					

B. YEAR 3 and annually thereafter, provide a summary of the estimated load reductions that have occurred for the pollutant(s) of concern being discharged from the MS4 to the TMDL water body during the reporting period and cumulatively since the date the Supplemental SWMP was implemented.

Year 3: Submit a Monitoring data summary or BPCP (if applicable).

Year 4: Submit a Supplemental SWMP (if applicable).

WBID Number	Pollutant of Concern	Monitoring Summary / BPCP Submitted	Supplemental SWMP Submitted	Projected load reductions OR Actual load reductions to date
3266C	Bacteria	(*Year 3 AR*)	(*Year 4 AR; N/A if BPCP*)	

C. Provide a brief statement as to the status of TMDL implementation according to Part VIII.B of the permit (e.g. status of monitoring to validate WLA):

Town is working on RAP with FDEP.

January 31, 2019

To: David Rotar / Town of Jupiter

From: Chris Guth, PE / Federico & Associates

Copy: David Brown, PE / Town of Jupiter
Eric Stanley, PE / Hazen
Rob Taylor, PE / Hazen

Town of Jupiter NPDES MS4 Permit – Annual Report

Monitoring and Pollutant Loading Report - Final

Introduction

An assessment program was developed as part of the Cycle 4, Year 1 annual report to assist in determining the overall effectiveness of the Town of Jupiter (Town) Stormwater Management Program (SWMP) in reducing stormwater pollutant loadings, to the Maximum Extent Practicable (MEP), from its Municipal Separate Storm Sewer System (MS4) to receiving water bodies. The monitoring and pollutant loading report is a summary of the data collected as part of the assessment program and is discussed in detail throughout this report.

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

Part 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.

Part 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.

Part C – An Evaluation and Response Plan – The response plan is the plan of action to be taken based on the results from Parts A and B and will be used to:

a. Evaluate trends in pollutant loadings 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

Part A Water Quality Monitoring Plan

1. Review of Water Quality Monitoring Plan

As part of the Town's Water Quality Monitoring Plan, ambient water quality data collectively obtained through a joint program by the Palm Beach County MS4 permittees (Permit No. FLS000018-003) are being used. In addition to the ambient water quality monitoring stations, the Town is also utilizing additional monitoring locations which have been placed in areas that represent centralized collection zones for major stormwater outfalls and thus characterize water quality conditions in the watershed.

In addition to the combination of ambient water quality data collected through the joint program and the additional monitoring locations being utilized by the Town at strategic points throughout the system, a short-term monitoring plan is being implemented in the upstream reaches of the Jones Creek Watershed to assist in identifying the source(s) of the elevated fecal bacteria levels often observed in Jones Creek. Sample locations are adjusted based on the obtained results in order to hone in on the area(s) of the Jones Creek watershed that are most problematic.

1.1 Monitoring Locations

A total of six (6) MS4 monitoring locations have historically been utilized by the Town. Two (2) of those locations represent sites currently monitored under the Joint MS4 Program with the remaining four (4) being selected by the Town to provide additional detail on observed water quality impairments. A seventh monitoring location is broadly known as the Jones Creek Watershed (JCWS) and is comprised of multiple individual sampling points. The individual locations used for sampling are depicted in **Figure 1-1**. The focus area for the JCWS sampling is shown in purple hatch in **Figure 1-2**.

Figure 1-1: Additional Short-Term Monitoring Locations in Upstream Reaches of Jones Creek. Locations are collectively referred to as JCWS in the Assessment Plan.

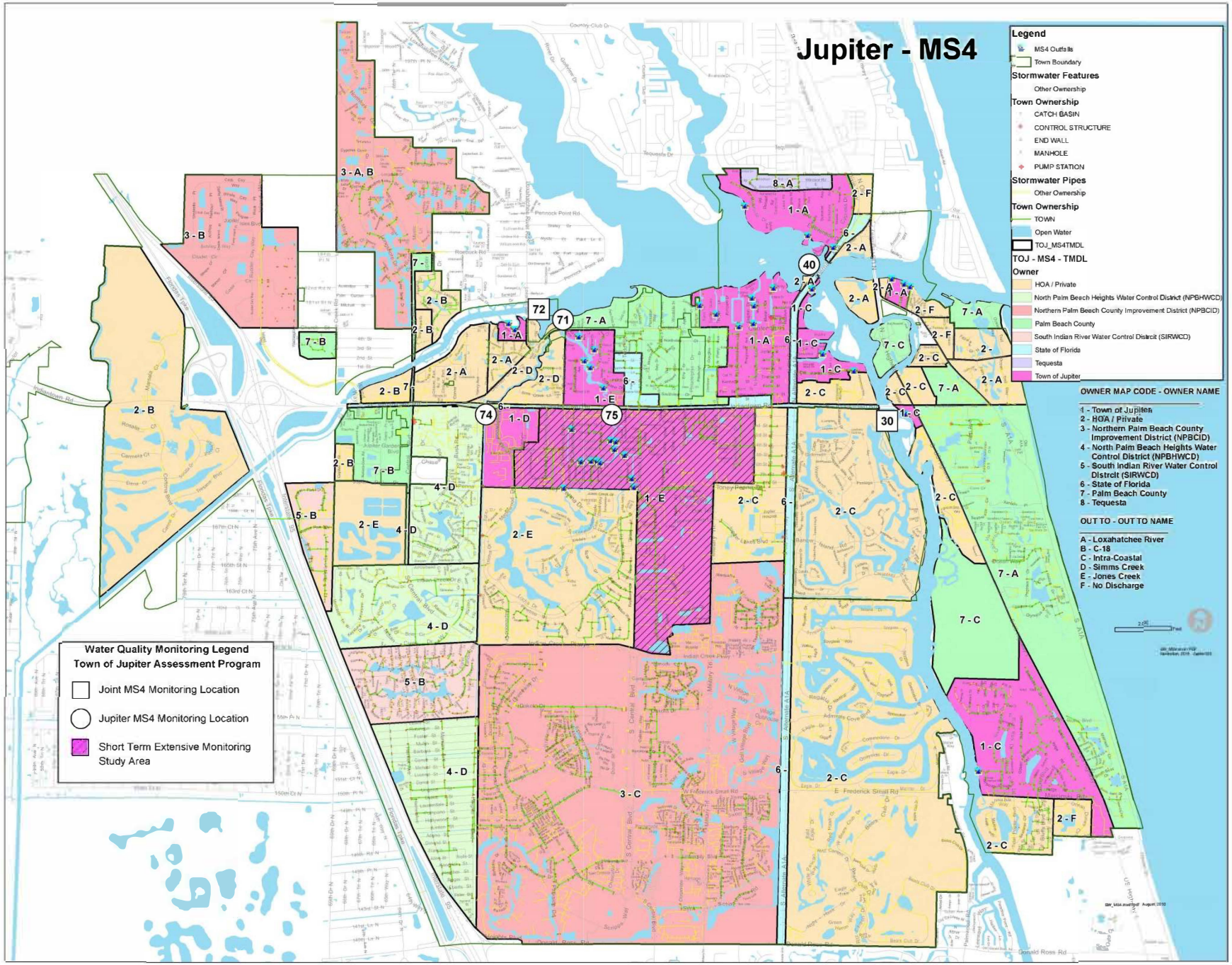

Figure 1-2: Town of Jupiter MS4 Boundaries and Water Quality Monitoring Stations

2. Data Analysis

Due to the Fecal Coliform Total Maximum Daily Load (TMDL) developed for the Southwest Fork of the Loxahatchee River and the historical exceedances in bacteria levels observed in the upstream reaches of Jones Creek, bacteria levels will be the focus of the data analysis to follow. However, samples that were collected from the previously described monitoring locations were tested for the parameters listed in **Table 2-1**. Of particular importance are Total Nitrogen (TN), Total Phosphorous (TP), and Chlorophyll α due to Loxahatchee River Reasonable Assurance Plan (RAP) currently in the development phase.

Table 2-1: MS4 Monitoring Parameters Table

Parameters	Field Analysis	Laboratory Analysis
Alkalinity		X
Chlorophyll α		X
Color		X
Conductivity (salinity)	X	
Dissolved Oxygen	X	
Enterococci (marine only)		X
Fecal Coliform		X
Nitrate/Nitrite		X
Organic Nitrogen		X
Orthophosphorus		X
pH	X	
Temperature	X	
Total Kjeldahl Nitrogen (TKN)		X
Total Ammonia		X
Total Nitrogen (TN)		X
Total Phosphorous (TP)		X
Total Organic Carbon (TOC)		X
Total Suspended Solids (TSS)		X

2.1 Fecal Coliform Bacteria

Fecal Coliform bacteria counts are problematic within the Town's MS4 as evidenced by the fact that a fecal bacteria TMDL has been developed for the Southwest Fork of the Loxahatchee River. The criteria for class II waters, such as the Southwest Fork, are summarized in **Table 2-2**.

Table 2-2: Applicable Water Quality Standards for Fecal Coliform Bacteria

Governing Criteria	Description
Class II Water Body (per 62-302.530 F.A.C)	Median Most Probable Number (MPN) shall not exceed 14 counts/100 milliliters (mL)
	MPN shall not exceed 43 counts/100 mL in more than 10% of samples
	MPN shall not exceed 800 counts/100 mL on any one day
Loxahatchee River Southwest Fork TMDL	MPN shall not exceed 43 counts/100 mL in any one sampling event

Fecal Coliform bacteria counts measured at each of the permanent water quality monitoring stations are provided in **Figure 2-1**. The single sample limits of 43 counts/100 mL and 800 counts/100 mL for the TMDL and general Class II Waters, respectively, are included for comparison purposes.

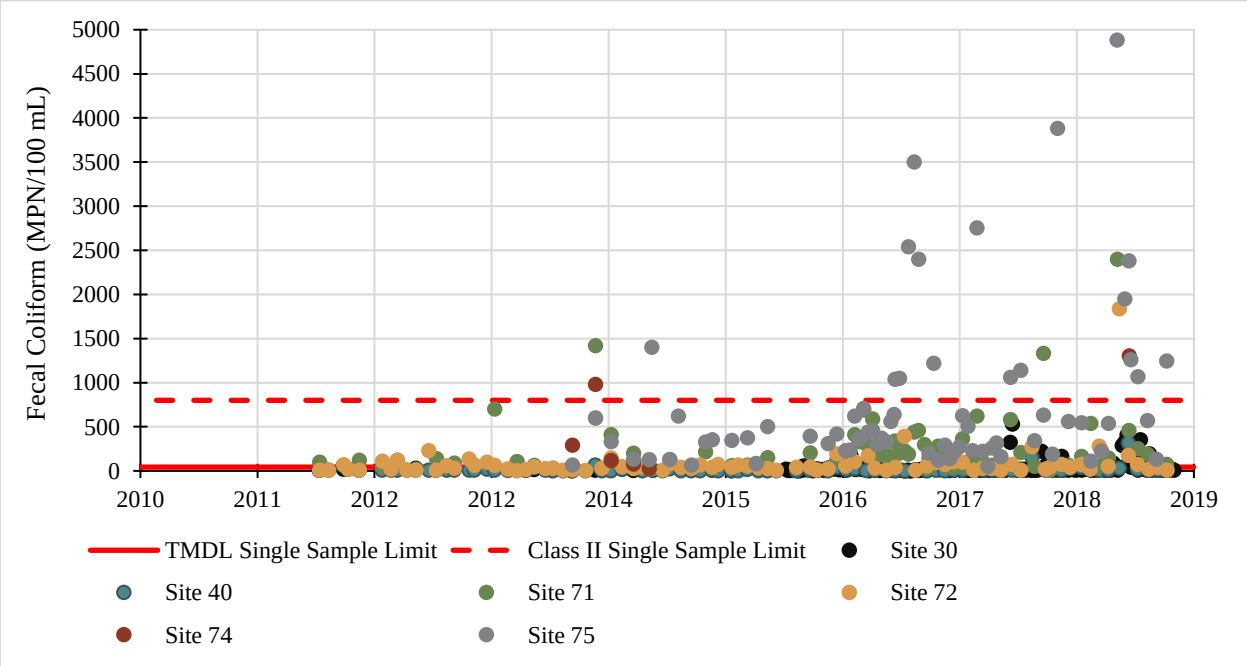

Figure 2-1: Fecal Coliform Bacteria Counts at the Permanent Water Quality Monitoring Locations

The frequency of exceeding the 800 count/100 mL Class II water criteria has generally increased since 2010 and this pattern continues when looking at the entire record of data (only data from 2010 and later included for presentation purposes). A summary of total exceedances of the TMDL single sample limit and the Class II single sample limit is presented in **Table 2-3**.

Table 2-3: Summary of Fecal Coliform Bacteria Exceedances

Station	Collection Period (MM/YY)	Total Samples (n)		Quantity of Samples >43 counts/100 mL (% of samples)		Quantity of Samples >800 counts/100 mL (% of samples)	
		2016 and Later	Total	2016 and Later	Total	2016 and Later	Total
30	01/91 – 10/18	15	158	1 (7%)	16 (10%)	0 (0%)	0 (0%)
40	08/92 – 10/18	34	226	3 (9%)	22 (10%)	0 (0%)	0 (0%)
71	08/92 – 10/18	49	192	47 (96%)	168 (88%)	3 (6%)	7 (4%)
72	02/92 – 10/18	33	228	31 (94%)	161 (71%)	3 (9%)	9 (4%)
74	07/09 – 10/18	50	101	46 (92%)	85 (84%)	10 (20%)	10 (10%)
75	09/07 – 10/18	53	110	53 (100%)	110 (100%)	15 (28%)	22 (20%)

Exceedances of both criteria are most commonly observed in the upstream reaches of Jones and Sims Creek (Stations 75 and 74, respectively). The monitoring locations near the confluence of Jones and Sims Creek and the Southwest Fork of the Loxahatchee River are similar in quality when evaluating the frequency of exceedances compared to both the TMDL and Class II water quality criteria. In contrast, Stations 30 and 40 both show Fecal Coliform levels which meet the general Class II water quality criteria for samples collected and exceed the Southwest Fork TMDL limit of 43 counts/100 mL at a much less frequent rate than other sampling locations. It should be noted that monitoring stations 30 and 40 are outside of WBID 3226C, which is covered by the fecal coliform TMDL. The frequency of fecal coliform levels exceeding the TMDL limit of 43 counts/100 mL were included for comparison purposes but measurements exceeding this amount do not represent water quality that is not in compliance with the water quality standards.

Due to the frequent impairments observed at water quality monitoring station 75 (upstream reach of Jones Creek), additional short-term sampling was conducted in an effort to identify the contaminant source(s). The locations of the additional monitoring locations are depicted in previously presented **Figure 1-2**, and the results from the samples collected at those locations are included in **Figure 2-2**.

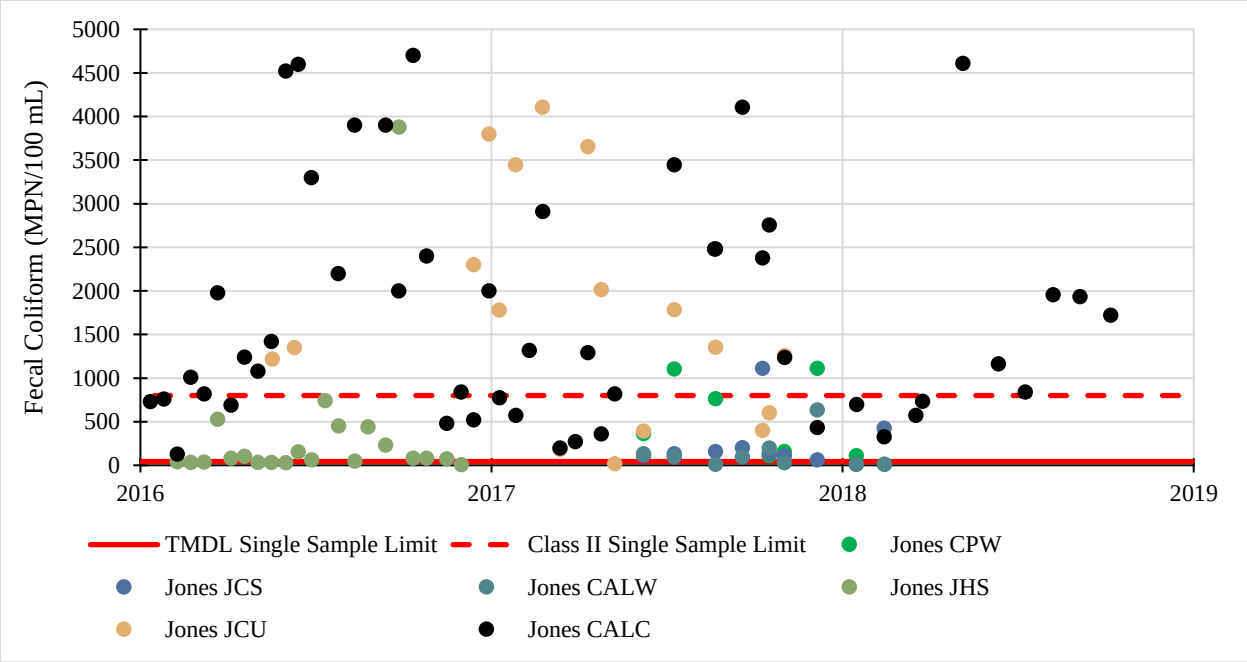

Figure 2-2: Fecal Coliform Levels from Short Term Sampling in Jones Creek Headwaters

Note: Two samples from Q1 2016 collected from Jones JHS measured 50,000 and 75,000 counts/100 mL due to localized sewer leak (not shown). Three (3) samples collected from Jones JCU during 2017 ranging from 5,794 to 24,196 counts/100 mL (not shown).

A total of 73 samples have been collected from the short-term sampling locations in the headwaters of Jones Creek with 24 (33%) of those exceeding the 800 counts/100 mL criteria and 59 (81%) exceeding the 43 counts/100 mL TMDL limit.

The additional monitoring when coupled with other available data such as rainfall, tide, and other water quality parameters has yet to allow for pinpointing the source(s) of Fecal Coliform bacteria. The Town will continue to monitor water quality in the headwaters of Jones Creek in an effort to further isolate the source(s) to allow for more efficient corrective actions.

2.2 Nutrients

While exceedances are more commonly observed with Fecal Coliform bacteria compared to other parameters within the Town's MS4, nutrients remain an important water quality metric that is tracked by the Town as part of the continuous monitoring performed within the MS4 and the short-term monitoring performed in the headwaters of Jones Creek. Furthermore, the Town has been an active participant in the Loxahatchee River RAP currently being developed. A brief review of nutrient concentrations within the limits of the Town's MS4 is provided below.

Total Nitrogen

Total Nitrogen (TN) concentrations are evaluated for compliance based on the comparison to an annual geometric mean (AGM) limit of 1.26 mg/L for the water quality monitoring located within the Southwest Fork or waterbodies which discharge to it. Stations 30 and 40 are located within the Lower Loxahatchee River which has a criterion that the TN AGM concentration not exceed 0.63 mg/L. AGMs recorded since 2010 are summarized in **Table 2-4** for the six permanent monitoring stations. The TN concentrations measured as part of the short-term sampling in Jones Creek are provided in **Figure 2-3**.

When comparing the water quality data collected at the permanent monitoring stations to the AGM criteria it is clear concentrations are commonly in compliance throughout the Town's monitoring network. Only one exceedance is observed (Station 74) from 2010 to present. The period of record for the short-term monitoring stations, and therefore the number of samples per year, differ from station to station. Therefore, a direct comparison to the AGM is not entirely appropriate and instead a comparison between the single sample concentrations and the AGM is provided.

All four (4) of the individual sample concentrations collected at the CPW sampling locations and three of the four individual samples collected from the CALW sampling location exceeded the AGM criteria. Both of these monitoring stations collect runoff from a highly industrial area. Furthermore, 66% of the concentrations of the single samples collected from the JCS station exceeded the AGM while exceedances were also observed at a lesser frequency at the other short-term monitoring locations. The single sample concentrations measured at the permanent monitoring locations (not shown) do not exceed the TN AGM with nearly as high of a frequency with only 4.4% of the total single samples collected since 2010 exceeding their respective AGM limits. This decrease in exceedances may be attributed to mixing/dilution and/or uptake by aquatic vegetation between the short-term sampling locations at the headwaters of the watershed and the permanent sampling locations located closer to the confluence with the Southwest Fork.

Table 2-4: Total Nitrogen AGM

Monitoring Station ID	Total Nitrogen Compliance									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	Samples (n)
30	0.291	0.274	0.237	0.232	0.244	0.200	0.262	0.597	0.327	4
40	0.202	0.279	0.212	0.206	0.219	0.246	0.275	0.265	0.333	10
71	0.421	0.436	0.389	0.409	0.411	0.449	0.498	0.411	0.469	4
72	0.462	0.582	0.492	0.481	0.549	0.548	0.703	0.741	0.706	10
74	1.160	1.067	1.207	0.927	0.993	1.032	1.404	1.249	1.157	4
75	0.781	0.577	0.708	0.471	0.667	0.617	0.644	0.670	0.601	4

Notes: 1. Based on samples collected at the permanent water quality monitoring stations.

2. Red entries represent values that exceed the AGM limit. Compliance at Stations 30 and 40 is based on comparison with the Lower Loxahatchee NNC (0.63 mg/L) while all other stations are compared to the Southwest Fork NNC (1.26 mg/L).

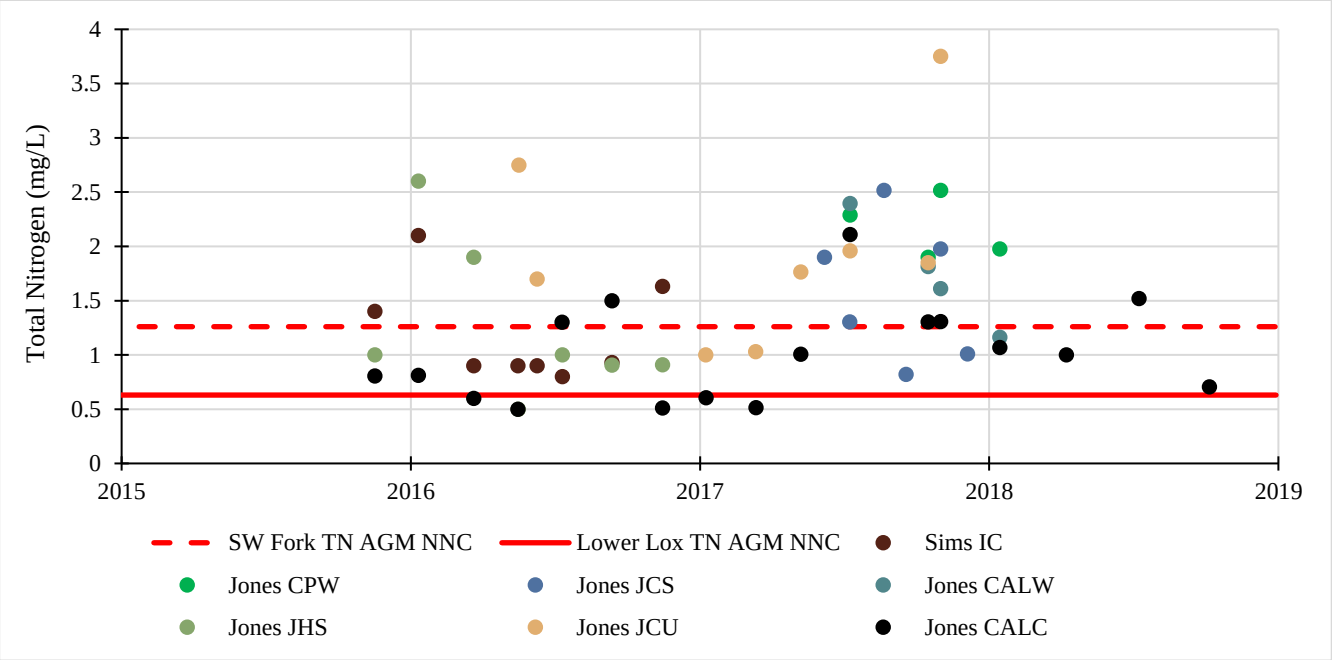

Figure 2-3: TN Concentrations Measured at the Jones Creek Short-term Monitoring Stations

Total Phosphorus

Total Phosphorus (TP) concentrations are evaluated for compliance based on the comparison to an AGM limit of 0.075 mg/L for stations within or adjacent to the Southwest Fork and a limit of 0.032 mg/L for Stations 30 and 40 located in the Lower Loxahatchee River. AGMs recorded since 2010 are summarized in **Table 2-5** for the six permanent monitoring stations. The TN concentrations measured as part of the short-term sampling in Jones Creek are provided in **Figure 2-4**.

TP concentrations exceed the AGM criteria at only two (2) of the six (6) permanent water quality monitoring stations with the impacted stations being the upstream reach of Jones Creek and the upstream reach of Sims Creek. Exceedances are commonly observed at those two locations from 2010 to present. Recent trends appear to show increasing concentrations at Station 74 and decreasing trends at Station 75.

Despite the upstream reach of Jones Creek (Station 75) meeting the AGM criteria in 2017 and 2018, single sample concentrations measured at the headwaters of the basin commonly exceed the AGM criteria. The Town has performed rigorous analyses of the short-term sampling results coupling the concentrations with other parameters such as rainfall and tide but a strong correlation between concentrations and other conditions has yet to be established. The Town will continue to monitor the upstream reaches of Jones Creek and modify the sampling locations as appropriate in an attempt to more accurately locate the source(s) of phosphorus being discharged to the creek. Much of the loading is likely a nonpoint source from the community surrounding Jones Creek. Many of the yards for the homes abut the canal bank and therefore pet waste and improper fertilizer applications may be contributing to the observed exceedances.

Table 2-5: Total Phosphorus AGM

Monitoring Station ID	Total Phosphorus Compliance									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	Samples (n)
30	0.028	0.024	0.024	0.022	0.022	0.025	0.022	0.025	0.029	4
40	0.014	0.015	0.018	0.014	0.013	0.013	0.019	0.021	0.020	10
71	0.047	0.045	0.036	0.046	0.044	0.046	0.040	0.033	0.041	4
72	0.035	0.033	0.040	0.036	0.038	0.039	0.037	0.033	0.036	10
74	0.061	0.052	0.049	0.085	0.077	0.084	0.071	0.086	0.106	4
75	0.098	0.072	0.102	0.079	0.088	0.087	0.075	0.067	0.069	4

Notes: 1. Based on samples collected at the permanent water quality monitoring stations.

2. Red entries represent values that exceed the AGM limit. Compliance at Stations 30 and 40 is based on comparison with the Lower Loxahatchee NNC (0.032 mg/L) while all other stations are compared to the Southwest Fork NNC (0.075 mg/L).

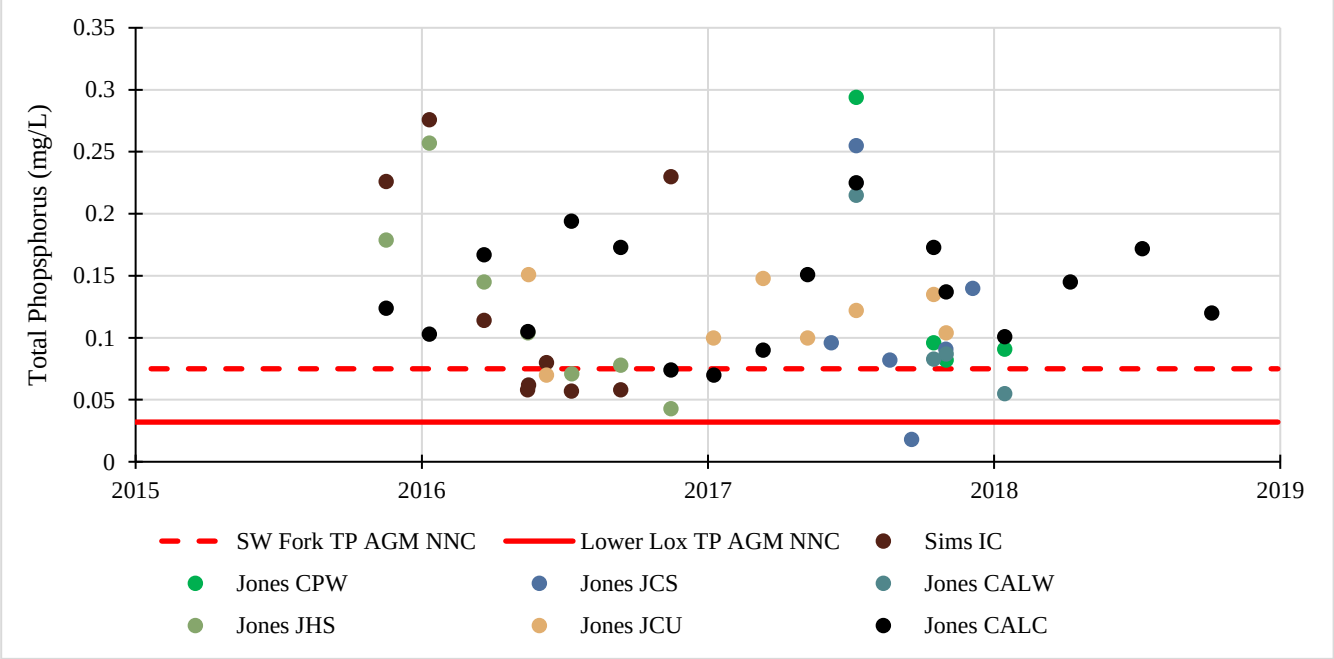

Figure 2-4: TP Concentrations Measured at the Jones Creek Short-term Monitoring Stations

2.3 Chlorophyll α

The Chlorophyll α AGM criteria is 5.5 ug/L for stations located within or adjacent to the Southwest Fork and 1.8 ug/L for Stations 30 and 40 located in the Lower Loxahatchee. The AGMs calculated at each of the permanent water quality monitoring stations within the Town's MS4 from 2010 to present are provided in **Table 2-6**. Exceedances occur regularly at monitoring stations located within the Town's MS4 with on one station being in compliance for one year between 2010 and present.

The short-term sampling being performed in the headwaters of Jones Creek is primarily for identifying the source(s) of Fecal Coliform bacteria as well as TP and TN (where applicable). As expected, single sample Chlorophyll α concentrations commonly exceed the AGM limit of 5.5 ug/L in the headwaters of Jones Creek resulting in the frequent exceedances observed at the permanent monitoring stations. The short-term Chlorophyll α concentration data are provided in **Figure 2-5**.

The consistent exceedances of the Chlorophyll α AGMs are a driving factor for the development of the Loxahatchee River RAP. Stakeholders within the Loxahatchee River watershed (including the Town) are in the process of identifying projects and/or programs to help reduce nutrient and Chlorophyll α concentrations in order to achieve compliance with the respective AGMs. The Town continues to work closely with the Florida Department of Environmental Protection (FDEP) in the RAP development process.

Table 2-6: Chlorophyll α AGM

	Chlorophyll α Compliance									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Monitoring Station ID	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	AGM (mg/L)	Samples (n)
30	5.45	3.90	3.95	3.12	3.94	3.93	3.93	2.93	4.33	8
40	2.42	2.55	2.54	1.52	1.97	2.38	2.71	2.07	2.86	13
71	9.96	6.52	8.18	9.17	7.21	6.94	8.43	5.30	6.21	5
72	14.77	8.97	10.53	9.81	10.00	10.28	9.79	6.08	6.47	10
74	18.31	9.46	10.64	15.85	17.54	12.25	12.57	15.77	25.18	5
75	16.43	6.05	8.84	7.30	8.54	9.21	8.26	5.90	10.83	5

Notes: 1: Based on samples collected at the permanent water quality monitoring stations.

2: Red entries represent values that exceed the AGM limit. Compliance at Stations 30 and 40 is based on comparison with the Lower Loxahatchee NNC (1.8 ug/L) while all other stations are compared to the Southwest Fork NNC (5.5 ug/L).

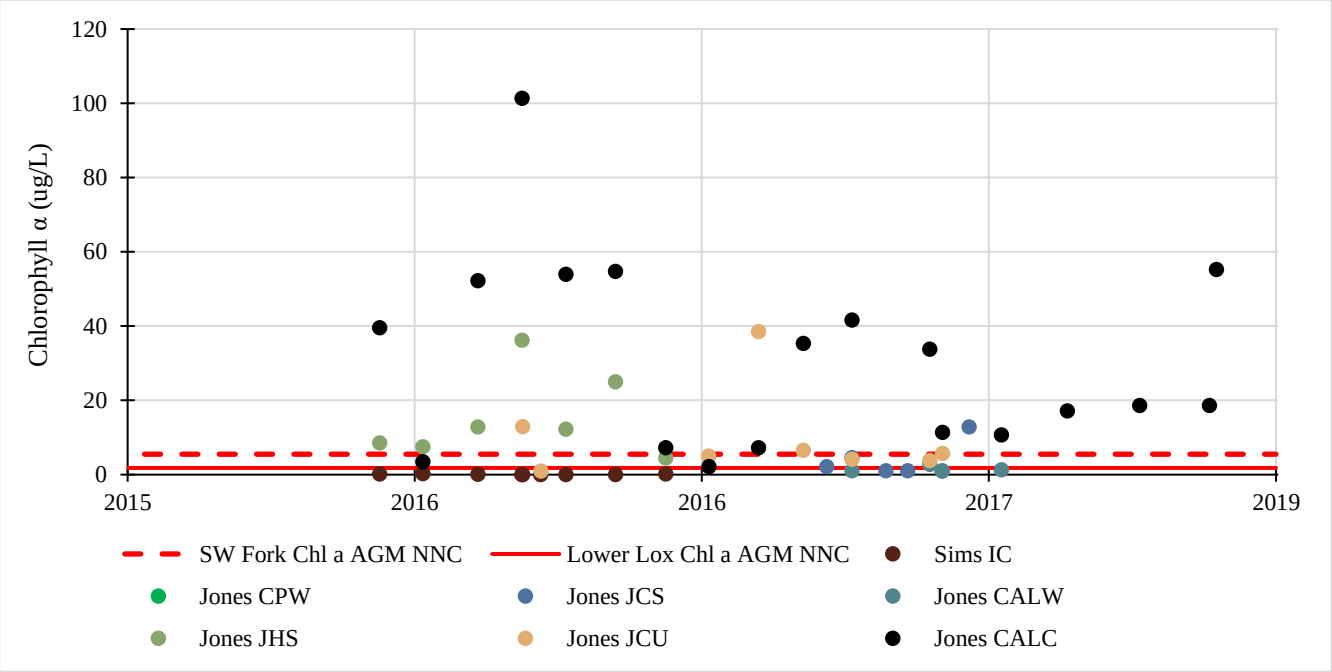

Figure 2-5: Chlorophyll α Concentrations Measured at the Jones Creek Short-term Monitoring Stations

3. Conclusions

Fecal Coliform bacteria continue to be problematic throughout the Town's MS4 as evidenced by frequent exceedances of the single sample limit prescribed in the TMDL, in addition to frequent exceedances of the less stringent Class II single sample limit. In contrast, TN concentrations are generally in compliance with the AGM criteria throughout the MS4 and TP concentrations often exceed the limit in the Jones and Sims Creek upstream monitoring stations but are in compliance throughout the rest of the MS4.

While nutrient concentrations are not elevated across the entire MS4, Chlorophyll α concentrations nearly always exceed the limit at each monitoring station. Elevated Chlorophyll α levels could be partially attributed to excessive nutrient loadings accelerating algae growth within the receiving waterbody.

Through the completion of the Jones and Sims Creek Water Quality Master Plan, which involved an in-depth review of available water quality, hydrologic, and meteorological data, the Town has been proactive in addressing the identified water quality concerns. As part of the master plan, a series of programmatic/public education efforts were outlined with the purpose being to reduce the loading associated with nonpoint sources within both basins. The Town continues to enforce the fertilizer ordinance to reduce the likelihood of excessive nutrient loads being discharged to the receiving waterbodies and also continues public education efforts related to water quality within the MS4. Other programmatic efforts such as pet waste control measures or new projects having the sole purpose of improving water quality are still being evaluated in order to ensure the effectiveness of such measures is optimized based on the best available water quality data. Depending on analyses stemming from collection of additional water quality data, implementation of additional programmatic or structural efforts may be started by Year 4 of this permit cycle. However, the timing of implementation is dependent on correlations being observed being contaminations and source(s) within the basin.

In addition to the work already completed, the Town continues to implement water quality improvement features in projects whenever possible. Many of these projects will be incorporated in the Loxahatchee River RAP being developed by FDEP as a means of achieving the loading reduction targets necessary for the basin. The timing of the RAP development is uncertain and dependent on modeling being completed by FDEP and input from the numerous stakeholders throughout the RAP boundary. It should be expected that the RAP be finalized by Year 4 of this permit cycle.

Part B – Pollutant Loading Estimate Plan

The Palm Beach County MS4 permittee group will be developing pollutant loading estimates during the 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 done in past permit cycles). Prior to Year 3, the Town of Jupiter 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.

In accordance with the MS4 Permit, pollutant load estimates for the following parameters must be developed once during each permit cycle: Biochemical Oxygen Demand (BOD5), Copper (Cu), Total Nitrogen (TN), Total Phosphorous (TP), Total Suspended Solids (TSS), Zinc (Zn). The group's estimated pollutant loading results will be provided to each permittee for use in this assessment effort.

To determine a practical estimate of the current pollutant loading, the Town of Jupiter 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 (such as street sweeping) 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

A summary of the water quality and associated trends within the Town of Jupiter MS4 is provided in Part A of this report. Of the different areas within the MS4, the Jones and Sims Creek watersheds continue to be the areas that will be targeted for loading reduction/corrective action. This will be achieved through continued sampling and analysis of sampling results in order to increase the effectiveness of future programs and projects to be implemented.

Current programs currently being implemented by the Town of Jupiter have been effective and it is anticipated they will continue to be effective as the Town continues to keep the programs in the annual budget. Two examples of programs which result in significant reductions in nutrient loadings discharged to the receiving water bodies are the street sweeping and swale rehabilitation programs. For example, approximately 900 metric tons of material were collected in the past year from the street sweeping program.

Hazen *Technical Memorandum*

January 10, 2019

To: David Rotar / Town of Jupiter

From: Tara VanEyk, PE
Eric Stanley, PE

Copy: David Brown, PE / Town of Jupiter
Rob Taylor, PE / Hazen

Town of Jupiter NPDES MS4 Permit – Annual Report
Part III.A.2 Summary Report - Final

Introduction

The NPDES MS4 Cycle 4 permit requires that the Town of Jupiter (Town) review their land development regulations and local codes to assess potential changes/revisions that may be incorporated to encourage and improve stormwater management practices related to new development and redevelopment activities during Year 2 of their permit. The purpose of this report is to provide a review of the Town's current land development procedures and local codes aimed at reducing the impact of stormwater discharges from new development/redevelopment, in order to provide a framework for potential improvements.

The evaluation herein was performed with the following objectives (Section 1):

- Review of the Town of Jupiter's current regulations and development guidelines, including:
  - Palm Beach County MS4 NPDES Permit Requirements
  - Town of Jupiter Code of Ordinances, and adopted Ordinances to be codified
  - Town of Jupiter Comprehensive Plan (CP) (Enacted Feb. 10, 1990; Amended as of Sept. 20, 2018) and applicable Plan Amendments
  - Town of Jupiter Utilities Guide for Development – Design and Construction Standards for Water and Stormwater (Revised November 2018)
- Outline the current codes, regulations and programs which are in place to reduce stormwater impacts (Section 1).
- Outline techniques/procedures for future incorporation into the regulations that may augment stormwater management practices (Section 2).
- Provide a plan/framework for incorporating proposed changes (Section 3).

1. Town of Jupiter's Current Requirements

The Town has already made many strides towards improving stormwater management practices related to new development and redevelopment activities. In addition to existing robust stormwater provisions within their municipal ordinance, CP, and development guidelines, the Town also has the following programs and practices in place which demonstrates the Town's commitment to stormwater management and the associated goal of low impact development (LID):

- The Town has a Natural Resources Division that works to *protect* Jupiter's significant natural resources, including development review (commercial and residential), vegetation protection (upland and wetland vegetation), and assistance to the Code Compliance and the Neighborhood Program divisions.
- On August 31, 2004, the Town approved a land acquisition bond referendum to establish the Jupiter Open Space Program. Its purpose is to preserve environmentally sensitive lands and lands for open spaces. Additional program funds are also raised from county and state sources.
- On September 17th, 2014, the Town became a Silver Certified Green Local Government through the Florida Green Building Coalition.
- The Town has been a designated Tree City USA for over 20 years.

The FDEP MS4 Permitting Resource Manual recommended that each section of the Land Development Code should be reviewed to identify possible impediments to using newer, more sustainable techniques such as "Low Impact Design" or "LID". From Ecology's Phase I Municipal Stormwater Permit Appendix 1 - Minimum Technical Requirements for New Development and Redevelopment, formal draft LID requirement language released October 19, 2011: "LID is a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design."

The following section provides a review of the Town of Jupiter's current regulations and development guidelines that were reviewed to identify current stormwater and associated LID practices.

1.1 Town of Jupiter Code of Ordinances

1.1.1 Town Code Review Summary

As part of the Year 2 Annual Report requirements of the NPDES MS4 Cycle 4 permit, review of the Town's land development codes was performed in order to identify the current codes, regulations and programs in place that facilitate mitigation of stormwater impacts. Based on a review of the Code's Subpart B Land Development Regulations and adopted Ordinances to be codified, multiple guidelines related to land development / redevelopment are specified. These guidelines work to address an overall reduction in stormwater impacts related to said development, as follows:

- Upholds the goals/requirements of the Town's CP, discussed in Section 3 herein, and specifies the frequency with which the CP shall be reviewed by Planning and Zoning
- Maintains exceptional buffer area requirements and vegetation preservation
- Specifies Green Space minimum requirements per Zoning District.
- Takes steps to incorporate use of pervious surfaces in land development
- Allows for optional cluster development (also termed planned unit development, PUD), which provides both the developer and jurisdiction flexibility in designing projects in a manner that increases opportunities to employ LID techniques.
- Requires use of Best Management Practices (BMPs) in the proper use of fertilizers, as described further in Section 2 herein.
- Establishes Green Building Program which provides incentives in the form of waivers from the Town's land development regulations to new development/redevelopment projects that achieve green building certification
- Outlines development bonus programs, in the way of increased density, building height, etc., at the discretion of the town council, to promote various improvements such as dedication of land, pedestrian oriented improvements, public amenities, etc.

1.1.2 Recently Adopted Ordinances Promoting Enhanced Stormwater Management

1.1.2.1 Ordinance No. 21-13: Florida Friendly Landscaping Ordinance

The Town of Jupiter has established Ordinance No. 21-13, whereby Chapter 23 of the Town Code, entitled "Landscaping" was amended to create a new Article V, entitled Florida-Friendly Fertilizer Use. This Ordinance requires use of BMPs in the proper use of fertilizers by any applicator. Regulations are imposed on use of fertilizers, which will:

- Require training and licensing requirements for fertilizer applicators,
- Establish Prohibited Application Period
- Specify allowable fertilizer application rates and methods, fertilizer free zones, and exemptions
- Require use of BMPs to minimize negative environmental effects associated with excessive nutrients in the Town's natural and constructed stormwater conveyances, rivers, creeks, canals, lakes, estuaries and other water bodies.

This Ordinance adheres to the intent of the Palm Beach County MS4 Permit and the principals of the Florida Yards and Neighborhoods program.

1.1.2.2 Ordinance No. 21-18

Ordinance No. 21-18, adopted but not yet codified, is a follow-up to Ordinance 21-13, amending Chapter

23 “Landscaping” to prohibit the application of fertilizers from June 1 through September 30 as a BMP to mitigate adverse impacts on the water quality of water bodies in the Town. Certain exemptions and severability are provided for.

1.1.3 Recently Adopted Ordinances Promoting Enhanced Stormwater Management

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This Ordinance, scheduled to take effect on January 1, 2019, adheres to the intent of the Palm Beach County MS4 Permit and the principals of the Florida Yards and Neighborhoods program.

1.1.3.3 Ordinance 5-16 Green Building Program

Ordinance 5-16 adopted a Green Building Program to provide green building standards which promote sustainable construction for new development and redevelopment projects. The intent of the program is to provide incentives in the form of waivers from the Town’s land development regulations to new development/redevelopment projects that achieve green building certification. The number of waivers to be approved shall be commensurate with the number of green building standards incorporated into the buildings and the certification level achieved.

Some of the green certification requirements that are outlined in the Ordinance that aim to improve stormwater management include:

- New development projects shall obtain a silver certification level, and redevelopment approvals shall obtain the minimum certification level from FGBC or the USGBC.
- For all green building applications, the following criteria from a completed FGBC or USGBC official certification checklist for a green building project that exceeds the requirements of the code shall be counted towards justifying any requested waivers pursuant to Section 27-1833:
  - Enhanced onsite treatment of stormwater
  - Drought tolerant plantings

This Ordinance was executed in January 2017.

1.1.4 Specific Locations in the Code

Table 1-1 details various portions of the Code, Subpart B Land Development Regulations, that address stormwater / drainage requirements related to land development and redevelopment that are aimed at overall mitigation in stormwater impacts to water quality.

Table 1-1: Town of Jupiter Code of Ordinances Review Summary

Article	Section/ Division	Current Procedure / Actions in Place to Reduce Stormwater Impacts
Subpart B Land Development Regulations, Chapter 22 – Flood Prevention and Protection		
Article II – Administration General	Section 22-26 – 22-51, 22-86, 22-87, 22-149	• Regulates development in flood hazard areas • Manages alteration of flood hazard areas, watercourses, and shorelines to minimize impact of development on the natural and beneficial functions of the floodplain
Subpart B Land Development Regulations, Chapter 23 – Landscaping		
Article III – Design Standards	Section 23-71 Green Space Standards	• Establishes minimum requirements for green space areas to improve water quality, facilitate aquifer recharge, reduce stormwater runoff and prevent soil erosion/sedimentation
Article V – Florida Friendly Fertilizer Use	Section 22-123 – 22-135	• Requires BMPs outlined in the Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries • Establishes allowable fertilizer application rates and methods, fertilizer-free zones, and exemptions
Subpart B Land Development Regulations, Chapter 25 – Subdivision and Land Improvement Regulations		
Article IV – Required Improvements	Section 25-119 Drainage	• Developer shall provide facilities needed to drain land development to positive outlets that can be legally maintained in permanent use or to a public system of adequate capacity which discharges into positive outlets. • Wherever technically feasible, storm sewers and treatment facilities shall be provided to control stormwater quality by providing onsite percolation and/or detention or any other appropriate treatment facilities for stormwater

Article	Section/ Division	Current Procedure / Actions in Place to Reduce Stormwater Impacts
Article V – Design Standards and Construction Requirements	Division 3 - Drainage	• Shall reference stormwater management system requirements, Article VI of Chapter 20
Subpart B Land Development Regulations, Chapter 26 – Vegetation and Environmental Preservation		
Article III – Preservation and Removal Requirements	Multiple sections	• Outlines minimum requirements for maintaining preserve areas, native vegetation, and environmentally sensitive lands. • Defines tree protection / removal / relocation regulations • Regulates protection against stormwater runoff during and after clearing
Subpart B Land Development Regulations, Chapter 27 – Zoning		
Article I – IN GENERAL	Section 27-5 – Intent	• Zoning regulations set forth in the Code are made in accordance with the Town's CP • Designed to ▪ Provide for adequate public facilities and utilities ▪ Preserve the natural resources and storm drainage
Article V. – Development Plans	Division 2 – CP	• Code reinforces the Town's CP • CP shall be reviewed by Planning and Zoning at least once each year
Article V. – Development Plans	Division 3 – Development Site Plan	• Specifies the requirements for site plan applications for development include stormwater plans
Article VI. – Districts and District Regulations	Division 7 – Conservation Preservation District	Site Plan Requirements • Development adjacent to environmentally sensitive areas shall not use such areas for discharge or retention of on-site drainage, which result in adverse or negative change in quality • As outlined by the CP, environmentally sensitive areas shall have minimum 50-ft buffer area encompassing entire perimeter.
Article VI. – Districts and District Regulations	Division 8 – Conservation Restricted District	Site Plan Requirements • Development adjacent to environmentally sensitive areas shall not use such areas for discharge or retention of on-site drainage, which result in adverse or negative change in quality • As outlined by the CP, environmentally sensitive areas shall have minimum 50-ft buffer area encompassing entire perimeter.
Article VI. – Districts and District Regulations	Division 9 – Conservation Restricted / Limited District (CR/L)	Sec 27-138 – Intent • Implement provisions of the Town's CP to ensure consistency between plan and the implementing of land development regulations
Article VI. – Districts and District Regulations	Sec 27-741 Optional Cluster Development	• Intent is to offer option of design flexibility in order to encourage imaginative functional, high quality development planning while conserving environmentally sensitive lands and open space. • Outlines approval process and overall development criteria

Article	Section/ Division	Current Procedure / Actions in Place to Reduce Stormwater Impacts
		• Sets no minimum lot size nor distance between structures; however Master Plans shall exhibit a total open space of at least 35% of buildable area
Article VI. – Districts and District Regulations	Sec 27-743 – General Requirements	• Outlines site planning techniques required, such as: ▪ Elimination of exotic plants ▪ Xeriscape landscape techniques ▪ Use of native plant materials ▪ Clustering of development to avoid excess land clearing ▪ Micrositing techniques for buildings/ improvements.
Article VI. – Districts and District Regulations	Sec 27-747 – Site Plan Standards	• Specifies use of pervious surfaces: ▪ All parking areas, trails, and roads shall be pervious surfaces. Impervious surfaces may be allowed to accommodate characteristics of a specific site
Article VI. – Districts and District Regulations	Division 14 – Inlet Village Zoning District	• Allows for alternative parking surfaces such as rock, gravel, or grass-crete, to be approved, provided Town requirements for stormwater quality are met
Article VI. – Districts and District Regulations	Division 23 – U.S. One / Intracoastal Waterway Corridor Zoning District	Sec 27-1491 – Architectural Design Standards • Provides parking structure regulations promoting vegetated green roofs ▪ Parking structures shall not count toward overall lot coverage if 100% of roof is covered by intensive vegetation including trees, shrubs, and ground cover that transitions into the at-grade green spaces
Article VIII – Planned Unit Development (PUD)	Division 1 and Division 2	• Provides incentives for Planned Unit Development (PUD), promoting benefits such as: ▪ Preservation of natural features and scenic areas ▪ Meaningful integration of green space and recreation areas ▪ Conservation of natural resources • Outlines green space requirements for PUD
Article IX – Infill and Redevelopment	Division 5 – Exempt Activities and Incentives	Sec 27-1830 – Incentives for Redevelopment • Property owners who propose to redevelop, upgrade or renovate existing property: ▪ If proposing increase in impervious area, shall improve stormwater quality and quantity to the more stringent SFWMD requirements or Town's current level of service standards
Article XI – Supplementary District Regulations	Division 18 – Green Building Program	Program in place which promotes green building standards for all new development and redevelopment projects (See Adopted Ordinance 5-16 herein). • Criteria such as enhanced on-site treatment of stormwater and drought tolerant plants may be used toward requested waivers

1.2 Town of Jupiter, Florida Comprehensive Plan

The Town of Jupiter developed the CP, enacted in 1990, to guide, administer, and standardize the Town's planning, zoning and development goals and requirements. The CP is regularly maintained and updated. In general, the CP (Amended as of September 20, 2018) outlines requirements and procedures for land development / redevelopment that shall be enforced by local governmental agencies and adhered to by private entities, which work to shape proposed development that is protective of public health and the environment.

1.2.1 Town CP Review Summary

Based on a review of the Sept. 2018 CP, multiple guidelines related to land development / redevelopment are specified. These guidelines work to address an overall reduction in stormwater impacts related to said development, as follows:

- Upholds the required Flood Protection Level of Service (LOS), per the Town of Jupiter Code of Ordinances
- Promotes green design theories and techniques
- Encourages preservation of open space, greenways, blueways, wildlife corridors and native vegetation, fundamental in achieving native vegetation retention and Low Impact Development (LID) goals.
- Establishes requirements for buffer zones to preserve water quality of surface waters
- Specifies maintenance of stormwater management ordinance, minimizing degradation of surface waters through treatment of stormwater runoff.
- Specifies enforcement of land development/redevelopment requirements
- Specifies coordination of all drainage activities between multiple governmental entities and private developers through active and regular communication and monitoring.
- Reinforces support of and adherence to other local state programs, such as the Loxahatchee River Management Plan.
- Outlines Community Investment Program (CIP) that adheres to the goals/requirements of the CP.

1.2.2 Specific Locations in the CP

Table 1-2 details portions of the CP that address stormwater / drainage requirements related to land development and redevelopment that are aimed at overall mitigation in stormwater impacts.

Table 1-2: Town of Jupiter Comprehensive Plan Review Summary

Town of Jupiter Comprehensive Plan	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
Future Land Use Element (FLUE), Ordinance No. 11-16	Managed Growth	Objectives and Policies 1.1: • Continue to implement Land development regulations to encourage future growth that meets established level of service standards
- Future Land Use Element (FLUE), Ordinance No. 11-16	Land Development Regulations	Objectives and Policies 1.3: • Maintain land development regulations that are consistent with and implement CP, which address drainage and stormwater management • Ensure development orders and permits are not issued which result in reduction of the level of service • Residential densities in CP shall not exceed 6 units per gross acre except under specified conditions and shall by no acceptable means exceed 15 dwelling units per acre. • Town shall make provisions for residential density bonus to encourage enlightened and imaginative approaches to site design that preserves environmentally sensitive areas, creates additional open space, or results in reduced infrastructure. • All proposed development projects shall submit an environmental assessment report as part of site plan approval process
Future Land Use Element (FLUE), Ordinance No. 11-16	Economic Development	Objectives and Policies 1.4: • Development orders for future development and redevelopment activities shall be issued only in areas possessing the appropriate Future Land Use designation and that are consistent with the goals, objectives and policies of the CP
Conservation Element (CE), Ordinance No. 11-16	Environmentally Sensitive Areas	Objectives and Policies 1.1: • Implement program/standards to protect environmentally sensitive areas from adverse impacts of urban development Objectives and Policies 1.2: • Assist SFWMD and DEP in protecting the Loxahatchee Slough/River Corridor • Properties abutting Loxahatchee River Corridor shall implement an overall stormwater management plan consistent with federal, state, regional, water management district and county requirements • Ensure groundwater and surface water inflow shall not degrade existing water quality or hydrology

Town of Jupiter Comprehensive Plan	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
Conservation Element (CE), Ordinance No. 11-16	Surface Water Resources	Objectives and Policies 1.4: • The quality of the Town's surface water shall be maintained at appropriate levels, per F.A.C. • The Town's stormwater management practices shall be directed by the Stormwater Management Plan. Town shall maintain and update Stormwater Management Plan. • Town requires new development to preserve permanent open space buffer zones of natural vegetation along waterways and within the floodplain. • Town supports Loxahatchee River Management Plan • Runoff from Streets and yards should be controlled to prevent flooding in adjacent areas or pollution of water bodies ▪ Construct catchment basins at storm sewer outfalls to prevent silt/pollutants from entering water areas. ▪ French drains may be considered acceptable stormwater runoff drainage practice ▪ Town will continue program of upgrading the drainage systems of each basin. • Parking facilities shall be located away from the bodies of water and their runoff controlled • Town shall require unique environmental characteristics be incorporated in overall site design • Dredging/filling of submerged wetland shall be prohibited in land development, unless permitted by appropriate state/federal agencies. • Buffer zones of vegetation should be established between any urban area of development and adjacent waterway • Turbidity control mechanisms shall be used to protect water quality in areas adjacent to construction activities
Conservation Element (CE), Ordinance No. 11-16	Habitats and Wildlife	Objectives and Policies 1.5: • Town will encourage site planning and development practices that conserve wooded areas and maximize design using native vegetation • Town requires new developments to install greater than 50% of the landscape in natural vegetation • Development adjacent to wetlands shall be designed to have no impact on the wetland system(s).

Town of Jupiter Comprehensive Plan	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
		• Buffer zones of native upland edge vegetation shall be provided and maintained around wetland and deep water habitats constructed/preserved on new development sites. ▪ Minimum 10 sf of buffer per linear foot of wetland/deepwater habitat ▪ No less than 50 percent of total shoreline is buffered by minimum width of 10 feet. • Development of non-wetland areas shall preserve minimum 25% open space. • Environmentally sensitive land shall be preserved for open space, passive recreation uses, traffic mitigation, flood protection and environmental enhancement
Conservation Element (CE), Ordinance No. 11-16	Flood Prone Areas	Objectives and Policies 1.6: • Town shall enforce adopted Flood Zone Ordinance and maintain requirements • No development will be approved in flood hazard areas • Town shall prevent construction of flood barriers that unnaturally divert flood hazards to other lands • Filling, grading and mineral extraction within 100-year flood prone area is prohibited
Conservation Element (CE), Ordinance No. 11-16	Greenways and Blueways	Objectives and Policies 1.9: • Provide a linked open space program to conserve greenways, blueways and wildlife corridors • Provide incentives that encourage developers to provide linkages • Amend Town Code to make consideration of greenways and wildlife a component of development review approval process. • Allow for off-site mitigation to create and enhance greenways according to specified Town's Blueways and Greenways Map
Conservation Element (CE), Ordinance No. 11-16	Green Design	Objectives and Policies 1.10: • Encourage effective green design theories and techniques for new development / redevelopment such as: ▪ Sustainable site development ▪ Water efficiency including stormwater runoff ▪ Sustainable materials including alternate paving materials • Town will maintain and amend land development regulations to promote green design theories and techniques and provide incentives

Town of Jupiter Comprehensive Plan	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
		• By December 2019, Town will strive to upgrade its current Florida Green Building Coalition certification to Gold • Town will adopt land development regulations to allow community gardens
Coastal Management Element (CME), Ordinance No. 11-16	Estuarine Environmental Quality	Objectives and Policies 1.4: • Town shall maintain surface and stormwater management ordinance, minimizing degradation of surface waters through treatment of stormwater runoff. • Retrofitting of substandard public drainage systems shall occur during repair, expansion, or redevelopment activities. • Specified treatments shall include, at a minimum, and apply to both existing and new systems: ▪ Maximum feasible onsite retention ▪ Establishment of littoral zones in lake management systems and wetlands ▪ Use of grassy swales for filtration
Infrastructure Element (IE), Ordinance No. 1-15	Future Public Facility Needs	Objectives and Policies 1.3: • Town will maintain and update stormwater master plan. Plan shall meet the requirements of the NPDES administered by EPA, and includes: Analysis of: ▪ Identification of Drainage Facilities ▪ Identification of Geographic Service Areas ▪ Facility design capacity analysis ▪ Current demand ▪ Levels of Service ▪ Facility capacity analysis / condition and maintenance ▪ General performance, adequacy, and impact on natural resources ▪ Stormwater impacts to quality of receiving waters Planning for: ▪ System-wide approach to drainage planning ▪ Requirements for drainage basin retrofitting as a stipulation of redevelopment approval. Drainage facility design standards for minimizing impact of stormwater runoff to receiving water • Town will maintain/update land development regulations ▪ Provide for adequate drainage facilities in accordance with allowable discharge criteria consistent with FAC Chapter 62-25.

Town of Jupiter Comprehensive Plan	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
		▪ Stormwater management systems exempt from SFWMD permitting requirements shall be designed so that post-development runoff volumes do not exceed pre-development runoff volumes • Town shall, through Utilities Department, coordinate all drainage activities. Active and regular communication and monitoring is required with multiple governmental entities and private developers
Infrastructure Element (IE), Ordinance No. 1-15	Planning for Public Utilities	Objectives and Policies 1.4: • Level of Service Standards for drainage facilities shall be used as the basis for determining availability of facility capacity and demand generated by development: ▪ Projects shall be designed/operated so that offsite discharges meet State water quality standards per FAC 62-25. ▪ Apply appropriate peak demand coefficients for each facility and type of development.
Infrastructure Element (IE), Ordinance No. 1-15	Protection of Natural Groundwater Recharge Areas	Objectives and Policies 1.6: • Protect and enhance natural recharge areas and drainage features to assure adequate supply of recharge water • Town shall continue to actively enforce development stormwater drainage requirements • Town shall continue efforts to increase retention/detention capacity of drainage basins in order to reduce stormwater outfall runoff to Loxahatchee River and increase groundwater aquifer recharge potential • If area is to be developed, Town shall require retrofitting of existing stormwater outfall system to provide for greater retention/detention
Capital Improvements Element (CIE), Ordinance No. 7-18	Development Coordination and Regulation Objective and Policies	Objectives and Policies 1.2: • Town shall coordinate land-use decisions and fiscal resources with CIP schedule that maintains adopted level of service standards • Town shall use adopted level-of-service standards in reviewing the impacts of new and redevelopment ▪ Projects shall be designed/operated so that offsite discharges meet State water quality standards per FAC 62-25.

Town of Jupiter Comprehensive Plan	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
Adopted Community Investment Program (CIP) (FY 2019-2023)	Project S1201: SW Management System Redevelopment Grants	• Provide funding to local businesses to assist with redevelopment that includes stormwater improvements, which must ▪ Reduce flooding impacts and enhance stormwater runoff quality for parcel to be redeveloped
Adopted Community Investment Program (CIP) (FY 2019-2023)	Multiple Projects	• Alleviate nuisance flooding, improve levels of service for drainage, enhance stormwater runoff quality
Intergovernmental Coordination Element (ICE), Ordinance No. 7-18	-	• Establish process of coordination/collaboration between Palm Beach County, other municipalities, counties, the region, and the State.

1.3 Town of Jupiter Utilities Guide for Development

The Town of Jupiter Utilities Guide for Development (Guide) details the procedures, design and construction standards that dictate the compliance of all proposed construction and reinstitutes the goals of the CP. The Guide is regularly maintained and updated. The intent of the Construction Standards and Details is to establish minimum guidelines that the development sector and government can follow, to help prevent future degradation of the environment by stormwater runoff and to minimize the occurrence of flooding.

1.3.1 Town Guide Review Summary

Based on a review of the Guide (Revised November 2018), multiple guidelines related to stormwater impacts of land development / redevelopment are specified. These guidelines work to address an overall reduction in stormwater impacts related to said development, as follows:

- Supports the Code of the Town of Jupiter
- Establishes minimum standards for compliance and specifies that in the event of conflicting criteria with overlapping agencies/jurisdictions, the most stringent regulation shall govern
- Defines the Flood Protection Level of Service (LOS) Standards
- Specifies the use of Best Management Practices (BMPs) in engineering practices
- Presents specific Construction Standards and Details to be used in the design of stormwater systems.
- Provides detailed Stormwater Submittal Checklist outlining all agency permits, engineering plans, specifications, and drainage analyses required for Town permitting review.
- Provides for enforcement against undesirable actions which could result in degradation of water quality

1.3.2 Specific Locations in the Guide

Table 1-3 details portions of the Guide that address stormwater / drainage requirements related to land development and redevelopment that are aimed at overall mitigation in stormwater impacts to water quality.

Table 1-3: Town of Jupiter Utilities Guide for Development Design and Construction Standards Review Summary

Town of Jupiter Guide for Development	Section	Current Procedure / Actions in Place to Reduce Stormwater Impacts
Section IV Stormwater	Design and Plan Review	• Engineering practices and principals employed shall be consistent with the Town Code
Section IV Stormwater	Design and Plan Review	• Engineering practices and principals employed shall use BMPs
Section IV Stormwater	Design and Plan Review	• Defines Flood Protection LOS • Defines drainage calculation requirements
Section IV Stormwater	Design and Plan Review	• Land development projects shall be provided with a positive drainage outfall. If deemed impossible, recovery of system storage / drainage capacity must be documented to satisfaction of Utilities Director
Section IV Stormwater	Design and Plan Review	• Runoff in excess of the capacity of swales and gutters shall be diverted and carried away in storm sewers, outfall-ditches, or by other means separate from the roads and streets.
Section IV Stormwater	Exfiltration Trenches	• Shall be used for water quality purposes only • Required stormwater runoff shall be accommodated through retention/detention, green space, and allowable discharge
Section IV Stormwater	Land Development	• Filling of property may be done as needed, with an approved drainage system. Compliance with all state, federal and local regulations is required. • Land development shall comply with Town of Jupiter Code and Utilities Guide
Appendix C	Construction Standards and Details	• Design details for stormwater systems, swales, sodding, stormwater turbidity barriers, exfiltration trenches
Appendix D	Stormwater Submittal Checklist	• Submit drainage calculations • Identification and analysis of potential downstream impacts due to development is required • Submit SFWMD permit and all applicable permits • Submit NPDES permit for projects over 1 acre or larger • Submit Pollution Prevention Plan

2. Recommendations to Augment Stormwater Management Program

2.1 Current Regulations and Programs

As described previously, the Town of Jupiter has already made great strides in developing, incorporating and implementing many practices in their stormwater management program aimed at controlling stormwater impacts from development, some of which are reiterated below:

- Defining the Flood Protection Level of Service (LOS) Standards and enforcing said standards.
- Promoting use of BMPs, green design theories and techniques, including the adoption of a Green Building Program.
- Encouraging preservation of open space, greenways, blueways, wildlife corridors and native vegetation, fundamental in achieving native vegetation retention and LID goals. The area's nine largest parks and designated natural areas total 1,126 acres of open land. This land is part of our stormwater management system – natural areas that store rain water and protect the community and recharge the groundwater aquifer.
- Ensuring the establishment of buffer zones of vegetation between areas of development and adjacent waterway.
- Implementing and enforcing Florida-Friendly Fertilizer Use BMP to mitigate adverse impacts on the water quality of water bodies in the Town.
- The Town has a Natural Resources Division that works to protect Jupiter's significant natural resources, including development review (commercial and residential), vegetation protection (upland and wetland vegetation), and assistance to the Code Compliance and the Neighborhood Program divisions.
- On August 31, 2004, the Town approved a land acquisition bond referendum to establish the Jupiter Open Space Program. Its purpose is to preserve environmentally sensitive lands and lands for open spaces. Through this program, the Town of Jupiter has acquired 104 acres of designated Open Space properties (in addition to over 400 acres of preserve land already in public ownership and an additional 800 acres of town and county parks).
- On September 17th, 2014, the Town became a Silver Certified Green Local Government through the Florida Green Building Coalition.
- The Town has been a designated Tree City USA for over 20 years.
- The Town of Jupiter Stormwater Utility department actively leverages grant opportunities through the Loxahatchee River Preservation Initiative.
- Due to its proximity to the Loxahatchee River, which was Florida's first federally designated wild and scenic river, the Town has always been environmentally focused. Total Maximum Daily Load (TMDL) water quality limitations are under development to protect the river, and the Town is

working with other stakeholders in the river basin to develop a Reasonable Assurance Plan (RAP) for submission to the FDEP.

- The street sweeping program has grown by 74% since 2012. This increase is the result of two factors, the first being the assumption of maintenance within neighborhood equity communities and secondly, the increase in frequency of sweeping during four winter months of the year when oak leaves are most problematic.

2.2 Enhancement of Current Codes/Programs

As part of the Year 2 Annual Report requirements of the NPDES MS4 Cycle 4 permit, review of the Town's land development codes was performed in order to evaluate the potential for techniques/procedures that may be incorporated into the regulations in an effort to augment their stormwater management practices. The Town of Jupiter is continually updating its development practices standards. While the Town does not currently have any specific plans for implementing changes, it will continue to proactively manage stormwater in accordance with LID principles by updating land development regulations and local codes as necessary.

3. Plan for Implementing Changes

While the Town does not currently have any specific plans for implementing changes, the following steps are suggested to implement the recommended changes to the Town's comprehensive plan, land development codes, and guidance documents as they arise:

- Revise the Town of Jupiter Utilities Guide for Development to include any proposed changes.
- Prepare and recommend to the planning commission and Town council, any proposed amendments to the Comprehensive Plan that will facilitate the additional goals / refinements.
- Once CP Amendments are approved, the CP shall be implemented by the adoption and enforcement of revisions to the applicable land development regulations in the Code. Develop ordinances that will be reviewed for codification.
- Submit a follow up report on status of new Ordinances (none proposed at this time) within Year 4 Annual Report.

ORDINANCE NO. 21-18

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF JUPITER AMENDING CHAPTER 23, ENTITLED "LANDSCAPING", TO PROHIBIT THE APPLICATION OF FERTILIZERS FROM JUNE 1 THROUGH SEPTEMBER 30 AS A BEST MANAGEMENT PRACTICE TO MITIGATE ADVERSE IMPACTS ON THE WATER QUALITY OF WATER BODIES IN THE TOWN; PROVIDING FOR EXEMPTIONS; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, pursuant to Section 303(d) of the federal Clean Water Act and the resulting Florida Impaired Waters Rule (Chapter 62-303, Florida Administrative Code), the Florida Department of Environmental Protection (FDEP) has classified specific water bodies in Palm Beach County (the County) as "impaired" as a result of the presence of excessive nutrients; and

WHEREAS, portions of the Loxahatchee River have been classified as impaired and the Town is proactively taking measures to reduce nutrient loadings within the river to mitigate this impairment; and

WHEREAS, nutrient pollution is one of America's most widespread costly and challenging environmental problems and is caused by excess nitrogen and phosphorus in the water; and

WHEREAS, excess nutrients in the water cause algae to grow faster than the water's ecosystem can handle, depleting oxygen in the water and leading to fish kills; and

WHEREAS, some algae blooms are harmful to humans because they produce toxins and bacterial growth that can make humans sick when they drink or come into contact with the water polluted by toxins and bacterial growth, or when they consume fish or shellfish in polluted waters; and

WHEREAS, nutrient pollution can be attributed to instances where surface water runoff leaves developed residential neighborhoods, commercial centers, industrial areas, golf courses and other lands within the Town via natural and artificial stormwater conveyances and is dumped into natural water bodies within the Town; and

WHEREAS, phosphorus and nitrogen, are the primary nutrients associated with the degradation of surface water, and are commonly the primary components of fertilizers which are applied to turf and landscape materials; and

WHEREAS, the quality of creeks, lakes, wetlands, and the Loxahatchee River is important to environmental, economic, and recreational prosperity and to the health, safety, and welfare of the residents and visitors of the Town; and

WHEREAS, algae blooms and the accelerated growth of aquatic weeds in the Town water bodies and elsewhere in the Treasure Coast Region have heightened community concerns about water quality and the eutrophication of surrounding waters; and

WHEREAS, this ordinance is part of a regulatory program to address nonpoint sources of nutrient pollution which is scientifically based, and economically and technically feasible; and

WHEREAS, in the process of adoption of this ordinance, Town Council of the has considered scientific information, including from the Department of Environmental Protection, the Department of Agriculture and Consumer Services, and the University of Florida Institute of Food and Agricultural Sciences.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF JUPITER, FLORIDA, THAT

Section 1. Sec. 23-123 of the Town Code, entitled "Definitions" is hereby amended as follows:

Sec. 23-123. – Definitions.

Applicator means any person who applies fertilizer to turf or landscape plants.

Specialized Turf means areas of grass used for athletic fields, activity fields, parks, golf course practice and play areas, cemeteries and other similar areas.

Specialized Turf Manager means a person responsible for fertilizer or directing the fertilization of "specialized turf" as defined above.

Section 2. Sec. 23-127 of the Town Code, entitled "Timing of Fertilizer Applications" is hereby amended as follows:

Sec. 23-127. – Timing of fertilizer applications.

(1) No Applicator shall apply fertilizers containing nitrogen and/or phosphorus to turf and/or landscape plants during the prohibited application period or to saturated soils.

(2) Fertilizer containing nitrogen and/or phosphorus shall not be applied before seeding or sodding a site, and shall not be applied for the first 30 days after seeding or sodding, except when hydro-seeding for temporary or permanent erosion control in an emergency situation (wildfire, etc.), or in accordance with the stormwater pollution prevention plan for that site.

(3) No fertilizer containing nitrogen or phosphorus shall be applied between June 1 and September 30 as well as any other Prohibited Application Period.

Section 3. Sec. 23-132 of the Town Code, entitled "Exemptions" is hereby amended as follows:

Sec. 23-132. – Exemptions.

The provisions set forth herein shall not apply to:

(a) Bona fide farm operations as defined in the Florida Right-to-Farm Act, F.S. § 823.14.

(b) Other properties not subject to or covered under the Florida Right-to-Farm Act that have pastures used for grazing livestock.

(c) Any lands used for bona fide scientific research, including, but not limited to, research on the effects of fertilizer use on urban stormwater, water quality, agronomics, or horticulture.

(d) Vegetable gardens provided they are not within 10 feet of any water body and/or wetland.

(e) Yard waste compost, mulches or other similar materials that are primarily organic in nature and are applied to improve the physical condition of the soil.

(f) Reclaimed or Irrigation Quality (IQ) water used for irrigation.

(g) All golf course landscaping which shall meet the provisions of the Florida Department of Environmental Protection document, *"Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses"* when applying fertilizer to the golf course practice and play areas.

(h) For all other Specialized Turf Areas, the Specialized Turf Managers which shall use their best professional judgement and apply the concepts and principles embodied in the *Florida Green BMPs*, to maintain the health and function of their Specialized Turf Areas.

(i) Fertilizer applications performed by a Commercial Fertilizer Applicator who possesses a valid limited certification for urban landscape commercial fertilizer application from the Florida Department of Agricultural and Consumer Services or possesses evidence of completion of the Florida Department of Environmental Protection Florida-Friendly Best Management Practices for Protection of Water Resources Training Program.

Section 4. Severability

If any section, paragraph, sentence, clause, phrase, or word of this Ordinance is for any reason held by a Court of competent jurisdiction to be unconstitutional, inoperative, or void, such holding shall not affect the remainder of this Ordinance.

Section 5. Codification

The provisions of this Ordinance shall become and be made a part of the Town of Jupiter Code. The sections of this Ordinance may be renumbered or relettered to accomplish such, and the word "ordinance" may be changed to "section", "article", or other appropriate word.

Section 6. Effective Date

The provisions of this Ordinance shall take effect on January 1, 2019.

ORDINANCE NO. 21-18

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WHEREAS, pursuant to Section 303(d) of the federal Clean Water Act and the resulting Florida Impaired Waters Rule (Chapter 62-303, Florida Administrative Code), the Florida Department of Environmental Protection (FDEP) has classified specific water bodies in Palm Beach County (the County) as "impaired" as a result of the presence of excessive nutrients; and

WHEREAS, portions of the Loxahatchee River have been classified as impaired and the Town is proactively taking measures to reduce nutrient loadings within the river to mitigate this impairment; and

WHEREAS, nutrient pollution is one of America's most widespread costly and challenging environmental problems and is caused by excess nitrogen and phosphorus in the water; and

WHEREAS, excess nutrients in the water cause algae to grow faster than the water's ecosystem can handle, depleting oxygen in the water and leading to fish kills; and

Upon First Reading this 20th day of September, 2018, the foregoing Ordinance was offered by Councilor Ilan Kaufer, who moved its adoption. The motion was seconded by Vice-Mayor Ron Delaney, and upon being put to a roll call vote, the vote was as follows:

	AYE	NAY
MAYOR TODD R. WODRASKA	X	
VICE-MAYOR RON DELANEY	X	
COUNCILOR ILAN KAUFER	X	
COUNCILOR JIM KURETSKI	X	
COUNCILOR WAYNE R. POSNER	X	

Upon Second Reading this 4th day of October, 2018 the foregoing Ordinance was offered by Vice-Mayor Ron Delaney, who moved its adoption. The motion was seconded by Councilor Ilan Kaufer, and upon being put to a roll call vote, the vote was as follows:

	AYE	NAY
MAYOR TODD R. WODRASKA	X	
VICE-MAYOR RON DELANEY	X	
COUNCILOR ILAN KAUFER	X	
COUNCILOR JIM KURETSKI	X	
COUNCILOR WAYNE R. POSNER	X	

The Mayor thereupon executed Ordinance 21-18 on this 9th day of October, 2018.

TOWN OF JUPITER, FLORIDA

ATTEST:

BY: _____
TODD R. WODRASKA
MAYOR

_____
SALLY M. BOYLAN, MMC
TOWN CLERK

(TOWN SEAL)

_____
THOMAS J. BAIRD, ESQ.
Approved as to form and legal sufficiency