



# 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/](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**

<b>A.</b>	Permittee Name: <b>Town of Manalapan</b>		
<b>B.</b>	Permit Name: <b>Palm Beach County MS4</b>		
<b>C.</b>	Permit Number: <b>FLS000018-004</b>		
<b>D.</b>	Annual Report Year: <input type="checkbox"/> Year 1 <input type="checkbox"/> Year 2 <input type="checkbox"/> Year 3 <input checked="" type="checkbox"/> Year 4 <input type="checkbox"/> Year 5 <input type="checkbox"/> Other, specify Year:		
<b>E.</b>	Reporting Time Period (month/year): <b>10 / 2019 through 9 / 2020</b>		
<b>F.</b>	Name of the Responsible Authority: <b>Linda Stumpf</b>		
	Title: <b>Town Manager</b>		
	Mailing Address: <b>600 South Ocean Boulevard</b>		
	City: <b>Manalapan</b>	Zip Code: <b>33462</b>	County: <b>Palm Beach</b>
	Telephone Number: <b>(561) 585-9477</b>		Fax Number: <b>(561) 585-9498</b>
E-mail Address: <b>lstumpf@manalapan.org</b>			
<b>G.</b>	Name of the Designated Stormwater Management Program Contact (if different from Section I.F above): <b>Kimberli Kile, E.I., Engenuity Group, Inc.</b>		
	Title: <b>Project Engineer</b>		
	Department: <b>Engineering</b>		
	Mailing Address: <b>1280 N. Congress Avenue, Suite 101</b>		
	City: <b>West Palm Beach</b>	Zip Code: <b>33409</b>	County: <b>Palm Beach</b>
Telephone Number: <b>(561) 655-1151</b>		Fax Number: <b>(561) 832-9390</b>	
E-mail Address: <b>kkile@engenuitygroup.com</b>			

**SECTION II. MS4 MAJOR OUTFALL INVENTORY (Not Applicable in Year 1)**

<b>A.</b>	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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable)
<b>B.</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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable)
<b>C.</b>	Is the change in the total number of outfalls due to lands annexed or vacated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable

**SECTION III. PART V.B. ASSESSMENT PROGRAM**

A.	<p>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. <i>DEP Note: If permittee participates in a collaborative monitoring plan, permittee may refer to a joint response as defined by the interlocal agreement.</i></p> <p>Name and date of the approved plan: <b>5/15/2018 (via email)</b></p> <p>Status: <b>The monitoring program is carried out jointly by the PBC permittees. See the PBC Joint Annual Report. The information relevant to the permittee's outfalls is addressed within the Annual Assessment Report documents provided herewith.</b></p>
B.	<p>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. <i>DEP Note: Results must be specific to the permittee's SWMP.</i></p> <p><b>See attached Annual Assessment Report and Permittee's Year 3 Pollutant Loading report</b></p>
C.	<p>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. <i>DEP Note: Analysis must be specific to the permittee's SWMP.</i></p> <p><b>See attached Annual Assessment Report and Permittee's Year 3 Pollutant Loading report</b></p>

**SECTION IV. FISCAL ANALYSIS**

A.	Total expenditures for the NPDES stormwater management program for the current reporting year: \$9,646
B.	Total budget for the NPDES stormwater management program for the subsequent reporting year: \$5,450
C.	<p>Did the current reporting year resources decrease from the previous year? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/></p> <p>If program resources decreased, provide a discussion of the impacts on the implementation of the SWMP.</p>

**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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	An explanation of why the minimum inspection frequency in Table II.A.1.a. was not met, if applicable.	Part II.A.1	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	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	See Joint Annual Report and attached Assessment Report
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 2: A summary review of codes and regulations to reduce the stormwater impact from development.	Part III.A.2	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 3: Summary of TMDL Monitoring Results (if applicable).	Part VIII.B.2	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 3: Bacteria Pollution Control Plan (if applicable).	Part VIII.B.3	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	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	See Land Development Regulations (LDRs) Report
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 4: A report on any amendments to the applicable legal authority (if applicable).	Part III.A.7.a	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	YEAR 4: Permit re-application information in accordance with Rule 62-624.420(2), F.A.C. <ul style="list-style-type: none"> <li>The monitoring plan (with revisions, if applicable).</li> <li>If the total annual pollutant loadings have not decreased over the past two permit cycles, revisions to the SWMP, as appropriate.</li> </ul>	Part V.B.3 Part V.A.3	See Joint Annual report for re-application information
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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): Linda Stumpf

Title: Town Manager

Signature: 

Date: 1 18 2021

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	
<b>Part III.A.1</b>	<b>Structural Controls and Stormwater Collection Systems Operation</b>									
	<p>Report the current known inventory.</p> <p>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.</p> <p><i>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.</i></p>									
	<b>Type of Structure</b>	<b>Number of Structures</b>	<b>Number of Inspections</b>	<b>Percent Inspected</b>	<b>Number of Maintenance Activities</b>	<b>Percent Maintained</b>				
	<b>Inlets / catch basins / grates</b>	12	3	100	2	100	NPDES Stormwater System Maintenance Inspection Checklist	Building Department Staff	Maintenance performed when needed	
	<b>Ditches / conveyance swales (miles)</b>	15840 (LF)	3	100	0	100	Roadways Maintenance Schedule	Building Department Staff	Maintenance performed when needed	
	<input type="checkbox"/>									
	<p>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.</p>									

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.				
	<b>Strengths: Simple catch basin and swale system with no major flooding.</b>				
	<b>Limitations: None.</b>				
	<b>SWMP revisions implemented to address limitations: None.</b>				
Part III.A.2	<b>Areas of New Development and Significant Redevelopment</b>				
	Report the number of significant development projects, including new and redevelopment, reviewed and approved by the permittee for post-development stormwater considerations.				
	<b>Number of significant development projects reviewed</b>	0	Email on File	Building Department Staff	No significant redevelopment projects have been reviewed nor approved
	<b>Number of significant development projects approved</b>	0	Email on File	Building Department 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.				
	<b>Year 2 ONLY: Attach the summary report of the review activity</b>	<input type="checkbox"/>			
	<b>Year 4 ONLY: Attach the follow-up report on plan implementation</b>	<input checked="" type="checkbox"/>	LDRs Report	Planner	
Part III.A.2 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	<b>Strengths: There has been no significant redevelopment in the Town.</b>				
	<b>Limitations: None</b>				
	<b>SWMP revisions implemented to address limitations: None.</b>				
Part III.A.3	<b>Roadways</b>				
	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. <i>Note: If the permittee does not contract activities, delete CONTRACTOR activities.</i>				
	<b>PERMITTEE Litter Control: Frequency of litter collection</b>	Daily	Roadway Maintenance Schedule	Building Department and Town Residents	Town Staff collects the litter as needed. Residents maintain their own areas.
	<b>PERMITTEE Litter Control: Estimated amount of area maintained (lf)</b>	5.34 (mi)	ROW Maps	Building Dept.	None
	<b>PERMITTEE Litter Control: Estimated amount of litter collected (cy)</b>	Less than 1 bag per month	Roadway Maintenance Schedule and Litter Control Program	Building Department	The litter is collected when seen, but is not measured.

**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
	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	0			
	Trash Pick-up Events: Estimated amount of litter collected (cy)	0			
	Adopt-A-Road: Total miles cleaned	0			
	Adopt-A-Road: Estimated amount of litter collected (cy)	0			
	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	0	ROW Map and Litter control Program SOP	No Activity Performed	DOT maintains South Ocean Blvd. (main road). The Town's inside Roads do not have curb and gutter
	Total miles swept	0	ROW Map and Litter control Program SOP	No Activity Performed	None
	Estimated quantity of sweeping material collected (cy / tons)	0	ROW Map and Litter control Program SOP	No Activity Performed	None
	Total phosphorous loadings removed (pounds)	0	ROW Map and Litter control Program SOP	No Activity Performed	None
	Total nitrogen loadings removed (pounds)	0	ROW Map and Litter control Program SOP	No Activity Performed	None
	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			
	The Town of Manalapan does not have any of these facilities	0	2030 Comprehensive Plan	Town	The Town is primarily a Residential Community and does not have any of these facilities

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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.3 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	<b>Strengths: FDOT maintains South Ocean Blvd and there is continuous litter control performed by the Town Staff.</b>				
	<b>Limitations: None.</b>				
	<b>SWMP revisions implemented to address limitations: None.</b>				
Part III.A.4	<b>Flood Control Projects</b>				
	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.				
	<b>Flood control projects completed during the reporting period</b>	0	FY 2019/2020 Proposed Budget & 2030 Comprehensive Plan	Town / Building Department	None for the reporting year
	<b>Flood control projects completed that did <u>not</u> include stormwater treatment</b>	0	FY 2019/2020 Proposed Budget & 2030 Comprehensive Plan	Town / Building Department	None for the reporting year
	<b>Stormwater retrofit projects planned/under construction</b>	0	FY 2019/2020 Proposed Budget & 2030 Comprehensive Plan	Town / Building Department	None for the reporting year
	<b>Stormwater retrofit projects completed</b>	0	FY 2019/2020 Proposed Budget & 2030 Comprehensive Plan	Town / Building Department	None for the reporting year
	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.	<input type="checkbox"/>			
Part III.A.4 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	<b>Strengths: No flooding on property of Town of Manalapan.</b>				
	<b>Limitations: None.</b>				
	<b>SWMP revisions implemented to address limitations: None.</b>				

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
<b>Part III.A.5</b>	<b>Municipal Waste Treatment, Storage, and Disposal Facilities Not Covered by an NPDES Stormwater Permit</b>				
	Report the applicable facilities and the number of the inspections conducted for each facility.				
	<b>Name of Facility</b>	<b>Number of Inspections</b>			
	<b>The Town of Manalapan does not have any of these facilities</b>	0	2030 Comprehensive Plan	Town	The Town is primarily a Residential Community and does not have any of these facilities
<b>Part III.A.5 Summary</b>	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	<b>Strengths: There are no municipal waste treatment, storage, or disposal facilities located within the Town</b>				
	<b>Limitations: None</b>				
	<b>SWMP revisions implemented to address limitations: None.</b>				
<b>Part III.A.6</b>	<b>Pesticides, Herbicides, and Fertilizer Application</b>				
	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.				
	<b>PERSONNEL: FDACS public applicators of pesticides/herbicides</b>	0	Email on File	Applied by contractors	
	<b>CONTRACTORS: FDACS commercial applicators of pesticides/ herbicides</b>	1	FDAS certificate & Certificate of Insurance	One PA Smith, Inc.	
	<b>PERSONNEL: Green Industry BMP Program training completed</b>	0	Email on File	None	No fertilizers are applied
	<b>CONTRACTORS: FDACS certified / licensed applicators of fertilizer</b>	1	Email on File	Vulcan Pest Control	
	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.				
	<b>Year 2 ONLY: Attach copy of adopted Florida-friendly ordinance</b>	<input type="checkbox"/>			
	Report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to encourage citizens 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).				
	<b>Public Education and Outreach Program</b>	The public outreach and education plan is carried out as a joint effort by			



SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
		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	1	Brochure	Town of Manalapan	Brochures are constantly available in the Town's lobby
Part III.A.6 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	<b>Strengths: Licensed contractor is applying pesticides.</b>				
	<b>Limitations: None.</b>				
	<b>SWMP revisions implemented to address limitations: None.</b>				
Part III.A.7.a	<b>Illicit Discharges and Improper Disposal — Inspections, Ordinances, and Enforcement Measures</b>				
	Report amendments in Year 4.				
	Year 4 ONLY: Attach a report on amendments to applicable legal authority	<input type="checkbox"/>			No changes in legal authority
Part III.A.7.c	<b>Illicit Discharges and Improper Disposal — Investigation of Suspected Illicit Discharges and/or Improper Disposal</b>				
	Report on the proactive inspection program, including the number of inspections conducted by the permittee, the number of illicit activities found, and the number and type of enforcement actions taken.				
	Proactive inspections for suspected illicit discharges	3	NPDES Stormwater System Maintenance Inspection Checklist	Building Department	
	Illicit discharges found during a proactive inspection	0	NPDES Stormwater System Maintenance Inspection Checklist	Building Department	None during this reporting period
	NOV/WL/citation/fines issued for illicit discharges found during proactive inspection	0	Violation Notice	Building/Police Department	None during this reporting period
	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	0	Email on File	Building/Police Department	None during this reporting period

<b>SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE</b>					
<b>A.</b>	<b>B.</b>	<b>C.</b>	<b>D.</b>	<b>E.</b>	<b>F.</b>
<b>Permit Citation/ SWMP Element</b>	<b>Permit Requirement/Quantifiable SWMP Activity</b>	<b>Number of Activities Performed</b>	<b>Documentation / Record</b>	<b>Entity Performing the Activity</b>	<b>Comments</b>
	<b>Reactive investigations of reports of suspected illicit discharges etc.</b>	0	Email on File	Building/Police Department	None
	<b>Illicit discharges etc. found during reactive investigation</b>	0	Email on File	Building/Police Department	None during this reporting period
	<b>NOV/WL/citation/fines issued for illicit discharges etc. found during reactive investigation</b>	0	Violation Notice	Building/Police Department	None during this reporting period
	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.				
	<b>Personnel trained</b>	1	PBCO NPDES Sign-In Sheet	PBCO NPDES	Kimberli Kile
	<b>Contractors trained</b>	0	Email on File	Town	
<b>Part III.A.7.d</b>	<b>Illicit Discharges and Improper Disposal — Spill Prevention and Response</b>				
	Report on the spill prevention and response activities, including the number of spills addressed.				
	<b>Hazardous and non-hazardous material spills responded to</b>	0	Email on File	Town / Fire Department	
	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.				
	<b>Personnel trained</b>	1	PBCO NPDES Sign-In Sheet	PBCO NPDES	Kimberli Kile
	<b>Contractors trained</b>	0	Email on File	Town	
<b>Part III.A.7.e</b>	<b>Illicit Discharges and Improper Disposal — Public Reporting</b>				
	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).				
	<b>Public Education and Outreach Program</b>	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.			
	<b>Brochures/Flyers/Fact sheets distributed</b>	1	Brochure	Town of Manalapan	Brochures are constantly available in the Town's lobby
<b>Part III.A.7.f</b>	<b>Illicit Discharges and Improper Disposal — Oils, Toxics, and Household Hazardous Waste Control</b>				
	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).				
	<b>Public Education and Outreach Program</b>	The public outreach and education plan is carried out as a joint effort by			

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
	Brochures/Flyers/Fact sheets distributed			the Palm Beach County Co-permittees. Please see the Palm Beach County Joint Annual Report for the public education and outreach information.			
				0	Email on File	Town of Manalapan	
<b>Part III.A.7.g</b>	<b>Illicit Discharges and Improper Disposal — Limitation of Sanitary Sewer Seepage</b>						
	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.						
	<b>Owner of the sanitary sewer system</b>			Individual Private Septic Tanks / Lake Worth Utilities			
	<b>Activity to reduce/eliminate SSOs and I&amp;I: (description)</b>			0	Email on File	Town	
	<b>Activity to reduce/eliminate SSOs and I&amp;I: (description)</b>			0	Email on File	Town	
	<b>SSO incidents discovered</b>			0	Email on File	Town	
	<b>SSO incidents resolved</b>			0	Email on File	Town	
	<b>Inflow / infiltration incidents discovered</b>			0	Email on File	Town	
	<b>Inflow / infiltration incidents resolved</b>			0	Email on File	Town	
<b>Part III.A.7 Summary</b>	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.						
	<b>Strengths: Primarily individual private septic tanks. Lake Worth Utilities provides sanitary sewer connections to La Coquille Villas, Eau Palm Beach, Plaza Del Mar, and the homes on Ocean Lane</b>						
	<b>Limitations: N/A</b>						
	<b>SWMP Revisions implemented to address limitations: N/A</b>						
<b>Part III.A.8.a</b>	<b>Industrial and High-Risk Runoff — Identification of Priorities and Procedures for Inspections</b>						
	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.						
	<b>Type of Facility</b>	<b>Number of Facilities</b>	<b>Number of Inspections</b>	<b>Enforcement Actions</b>			
	<b>Operating municipal landfills</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Solid Waste Facility Inventory Report printout from DEP</b>	<b>Engenuity Group, Inc.</b>	<b>None</b>

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	
	Hazardous waste treatment, storage, disposal and recovery (HWTSDR) facilities			0	0	0	website Hazardous Waste Facility Inventory Report printout from DEP website	Engenuity Group, Inc.	None
	EPCRA Title III, Section 313 facilities (TRI)			0	0	0	Toxics Release Inventory (TRI) printout from EPA website	Engenuity Group, Inc.	None
	Facilities determined as high risk by the permittee			0	0	0	Superfund (CERCLIS) printout from EPA website	Engenuity Group, Inc.	None
<b>Part III.A.8.b</b>	<b>Industrial and High-Risk Runoff — Monitoring for High Risk Industries</b>								
	Report the number of high risk facilities sampled.								
	High risk facilities sampled			0		2030 Comprehensive Plan	Town	The Town is primarily a Residential Community and does not have any high risk facilities	
<b>Part III.A.8 Summary</b>	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.								
	<b>Strengths: The Town of Manalapan does not have any of these facilities</b>								
	<b>Limitations: None.</b>								
	<b>SWMP revisions implemented to address limitations: None.</b>								
<b>Part III.A.9.a</b>	<b>Construction Site Runoff — Site Planning and Non-Structural and Structural Best Management Practices</b>								
	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			0		Email on File / Site Plan Review Procedures	Building Department	No plans were reviewed	
	PERMITTEE SITES: Construction site plans approved			0		Email on File / Site Plan Review Procedures	Building Department	None	

<b>SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE</b>						
<b>A.</b>	<b>B.</b>	<b>C.</b>	<b>D.</b>	<b>E.</b>	<b>F.</b>	
<b>Permit Citation/ SWMP Element</b>	<b>Permit Requirement/Quantifiable SWMP Activity</b>	<b>Number of Activities Performed</b>	<b>Documentation / Record</b>	<b>Entity Performing the Activity</b>	<b>Comments</b>	
	<b>PRIVATE SITES: Construction site plans reviewed</b>	0	Email on File / Site Plan Review Procedures	Building Department	No plans were reviewed	
	<b>PRIVATE SITES: Construction site plans approved</b>	0	Email on File / Site Plan Review Procedures	Building Department	None	
	Report the number of development permit applicants notified of the ERP and CGP, and the number of applicants who confirmed ERP and CGP coverage.					
	<b>Notified of ERP stormwater permit requirements</b>	0	Email on File / SFWMD ERP Search / Site Plan Review Procedures	Building Department	None	
	<b>Confirmed ERP coverage</b>	0	Email on File / SFWMD ERP Search / Site Plan Review Procedures	Building Department	None	
	<b>Notified of CGP stormwater permit requirements</b>	0	Email on File / SFWMD ERP Search / Site Plan Review Procedures	Building Department	None	
	<b>Confirmed CGP coverage</b>	0	Email on File / SFWMD ERP Search / Site Plan Review Procedures	Building Department	None	
	<b>Part III.A.9.b</b>	<b>Construction Site Runoff — Inspection and Enforcement</b>				
	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.					
		<b>PERMITTEE SITES: Active construction sites</b>	0	Construction Site Inspection	Building Department	None
	<b>PERMITTEE SITES: Pre-, During, and Post inspections of active construction sites for E&amp;S and waste control BMPs</b>	0	Construction Site Inspection	Building Department	None	
	<b>PERMITTEE SITES: Percentage of active construction sites inspected</b>	0	Construction Site Inspection	Building Department	No construction sites for this reporting	

<b>SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE</b>						
<b>A.</b>	<b>B.</b>		<b>C.</b>	<b>D.</b>	<b>E.</b>	<b>F.</b>
<b>Permit Citation/ SWMP Element</b>	<b>Permit Requirement/Quantifiable SWMP Activity</b>		<b>Number of Activities Performed</b>	<b>Documentation / Record</b>	<b>Entity Performing the Activity</b>	<b>Comments</b>
	<b>PRIVATE SITES: Active construction sites</b>		0	Construction Site Inspection	Building Department	period None
	<b>PRIVATE SITES: Pre-, During, and Post inspections of active construction sites for E&amp;S and waste control BMPs</b>		0	Construction Site Inspection	Building Department	No construction sites for this reporting period
	<b>PRIVATE SITES: Percentage of active construction sites inspected</b>		0	Construction Site Inspection	Building Department	No construction sites for this reporting period
	<b>Enforcement Action</b>		0	Violation Notice	Building Department	None
<b>Part III.A.9.c</b>	<b>Construction Site Runoff — Site Operator Training</b>					
	Report the type of training activities, the number of inspectors, site plan reviewers and site operators trained (both in-house and outside training).					
		<b>DEP Certification</b>	<b>Annual Training</b>			
	<b>Permittee construction site inspectors</b>	1	1	PBCO NPDES Sign-In Sheet	PBCO NPDES	Kimberli Kile
	<b>Permittee construction site plan reviewers</b>		0	Email on File	Building Department	
	<b>Permittee construction site operators</b>		0	Email on File	Building Department	
<b>Part III.A.9 Summary</b>	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.					
	<b>Strengths: No issues. Weekly inspections are performed by a Building Department Official</b>					
	<b>Limitations: None.</b>					
	<b>SWMP revisions implemented to address limitations: None.</b>					

**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) — <b>REQUIRES DEP APPROVAL PRIOR TO CHANGE IF PROPOSING TO REPLACE OR DELETE AN ACTIVITY.</b>
		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
	N/A			<input type="checkbox"/> / <input type="checkbox"/>				(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				
	N/A		(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):  <b>No discharge to a TMDL WBID at the time of permit issuance.</b>								



## Town of Manalapan

# Cycle 4, Year 4 Water Quality Monitoring Assessment Report

### Objective

The purpose of this Report is to provide information for the Town of Manalapan to determine the overall effectiveness of its Stormwater Management Program (SWMP) in reducing stormwater pollutant loadings from its Municipal Separate Storm Sewer System (MS4) to receiving water bodies.

### Assessment Report Components

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

- A. A Water Quality Monitoring Plan – The water quality monitoring plan is intended to identify local sources where urban stormwater is adversely affecting surface water resources
- B. A Pollutant Loading Estimate/Results – The pollutant loadings and results are reported and discussed.
- C. Conclusion – The response plan is the plan of action to be taken based on the results from A. and B. and will be used to identify portions of the MS4 to be targeted for loading reduction/corrective action

### Part A –Water Quality Monitoring Program

Currently, the joint NPDES program in Palm Beach County collects ambient water quality data at several monitoring sites based on the location of major outfalls and TMDL's within the County. For the Water Quality Monitoring Plan, the Town of Manalapan is proposing to use the ambient water quality data provided by the joint program from site LWL-13.

### Monitoring Locations

Since the Town of Manalapan does not own any major outfalls within the MS4, the one (1) monitoring station closest to the Town's MS4 that collects data for the joint program has been selected. The following figure and table identifies this monitoring station, along with relevant information about the location.





Figure 1 – LWL-13 Monitoring Station



Table 1 - MS4 Monitoring Station

Monitoring Station Number	Location Description	Latitude/Longitude	Receiving Water Body
LWL-13	This former DEP station (28010783) is located at the Ocean Ave Causeway in the Town of Lantana, on south side of the bridge, West of the ICW and East of the Marina and public boat ramp.	26.35025/-80.00246	Intracoastal Waterway (South) (ICWW-S) / Lake Worth Lagoon (Southern Segment) (LWL-S)

### Monitoring Results

The primary concern that FDEP has regarding the stormwater permitting program is related to nutrients and what impacts are created by excess nutrients entering into the stormwater system. The Town of Manalapan has evaluated nutrient monitoring results at the location in Table 1. The main nutrients of concern are Total Nitrogen (TN), Total Phosphorus (TP) and Chlorophyll-A (a surrogate for nutrient enrichment).

The acceptable annual geometric mean concentrations of Total Nitrogen (TN) and Total Phosphorus (TP) present in the ICWW-S watershed per the FDEP are less than or equal to 0.59 mg/l and less than or equal to 0.05 mg/l, respectively. The acceptable concentration of Chlorophyll-A is less than or equal to 5.70 ug/l.

Based on the recorded monitoring data provided on the PBCO NPDES website, water quality monitoring results for the last 16 years (2004-2020) are provided graphically in Figures 2, 3, and 4 for TN, TP and Chlorophyll-A, respectively.

### Nutrient Trends

The Mann-Kendall Test was used to evaluate the long-term TN, TP, and Chlorophyll-A statistical trends of the LWL-13 monitoring station and is described in the Cycle 4, Year 4 Joint Annual Report prepared by Mock-Roos as follows:

Surface water quality values can have variability driven by seasonal fluctuation, flow variation, changes in watershed, precipitation variation, and other independent variables. Statistical analysis can be used to determine if changes in water quality are part of this variability or if the changes represent a significant water quality trend. The Mann-Kendall Test has been accepted by many governmental agencies as a robust method to evaluate water quality data statistically for trends over time. In this report, the



Mann-Kendall Test (M-K) is used to identify surface water quality trends in the nutrient data for each water quality monitoring site. The M-K works well with data that has seasonal variations, violates assumptions of normality required for other regressions, and is resistant to outliers. The M-K can detect monotonic trends that do not double back on themselves. The analysis provides a Kendall Tau that is resistant to power-transforms. This is to say the Kendall Tau for a raw data set, or the same data set transformed would result in the same value. The M-K Test uses a ranked method of analysis. The M-K results contain a Kendall Tau value that is a measurement of the monotonic relationship between X and Y, in this analysis time and concentration. Kendall Tau is a ranked-based correlation measure, therefore, the scale it is evaluated on differs from non-ranked-based correlation measures such as R. Tau will have lower values than other correlation measures such as R. A strong correlation similar to  $R = 0.9$ , would be equivalent to  $\text{Tau} = 0.7$ . Kendall Tau can be calculated by the following formula:

$$\tau = \frac{S}{\frac{n(n-1)}{2}}$$

In the formula above, the Kendall (S) value is calculated by subtracting the number of "discordant pairs" M, or the pairs that have y (concentration) decreasing as x (time) increases (this is called "M"), from the number of "concordant pairs" where y increases with x (these are called "P"). Kendall S can be written in the form  $S = P - M$ . It should be noted that due to the possible number of comparisons available to compare P and M if all comparisons are increasing Tau would equal one and if all comparisons are decreasing Tau would equal -1. Sen's Slope (also called Theil slope) estimator " $\hat{b}_1$ " is closely related to Kendall's S and Tau. Sen's Slope can be calculated by the following formula for x and y values:

$$\hat{b}_1 = \text{median} \frac{(Y_j - Y_i)}{(X_j - X_i)} \text{ for all } i < j \text{ and } i = 1, 2, \dots, (n-1), \quad j = 2, 3, \dots, n.$$

Thus, Kendall Tau, Kendall S, and Sen's Slope all indicate the direction of the trend. To determine if a trend is significant a p-value must be tested against the null hypothesis " $H_0$ " that  $\text{Tau} = 0$ . For small sample sized or data pairs, these values can be pulled from a table of p-values based on Kendall S, Kendall Tau, and the number of data pairs "n". When the n is greater than 10 it is more appropriate that the p-value be approximated by a normal distribution  $Z_s$  test statistic.

$$\sigma_s = \sqrt{\left(\frac{n}{18}\right) \cdot (n-1) \cdot (2n+5)} \quad , \quad Z_s = \begin{cases} S - 1/\sigma_s & \text{if } S > 0 \\ 0 & \text{if } S = 0 \\ S + 1/\sigma_s & \text{if } S < 0 \end{cases}$$

S was defined previously as the Kendall S value.  $Z_{\text{crit}}$  is the value of  $\alpha/2$ , where  $\alpha$  is the selected significance level. The  $H_0$  is rejected when  $|Z_s| > Z_{\text{crit}}$ . M-K analysis can be used to see the slope and direction of a trend regardless of significances. Though it may be



useful to see this trend as a potential indicator of the direction of data. It must be emphasized that rejection of the  $H_0$  means there is not enough evidence available to conclude that there is a trend or no trend. An alternative statement of this would be there is not enough evidence to say that the trend is any different than the null hypothesis. For additional information on Kendall Tau, the USGS "Statistical Methods in Water Resources" By D.R. Helsel and R.M. Hirsch, provides examples and narrative on the topic.

Table 2 summarizes the long-term statistical trend interpretation data of the LWL-13 monitoring site spanning from year 2004 to 2020 (extracted from Table 5-11 of the Cycle 4, Year 4 PBC Joint Annual Report). Figures 2, 3, and 4 below graphically display both the raw nutrient concentration monitoring data and the statistical trend line (Sen's Slope) produced by the Mann-Kendall Test for the LWL-13 monitoring station.

Table 2 – Statistical Water Quality Trend Interpretation of LWL-13 Monitoring Site

	<b>Date Range</b>	<b>Tau</b>	<b>Slope<sup>1</sup></b>	<b>Selected P-Value<sup>2</sup></b>	<b>Statistical Trend Interpretation<sup>3</sup></b>
<b>Total Nitrogen</b>	2004-2020	-0.238523	-0.000039	< 0.0001	Significant Decreasing Trend
<b>Total Phosphorous</b>	2004-2020	-0.227294	-0.000002	0.000141	Significant Decreasing Trend
<b>Total Chlorophyll-A</b>	2004-2020	-0.070164	-0.000125	0.148290	Decreasing Trend

<sup>1</sup> Even if the p-value is determined to be statistically significant, the result may not be ecologically significant. For example, if a trend is statistically significantly declining (negative trend) but the slope is near 0, then it may not be realistic to assume that an improvement in water quality reductions in TN or TP may positively impact the ecological system in a measurable way. A negative slope is an indication of a decreasing trend, while a positive slope is an indication of an increasing trend.

<sup>2</sup> Series with serial correlation (as per autocorrelation analysis results) used the p-value adjusted for serial correlation.

<sup>3</sup> If the p-value is less than 0.05, then a decreasing trend may suggest an improvement in water quality, and an increasing trend may suggest a decline in water quality.



## LWL-13 Long-Term Total Nitrogen (TN) Concentration Data and Statistical Trend for the ICWW-S Watershed

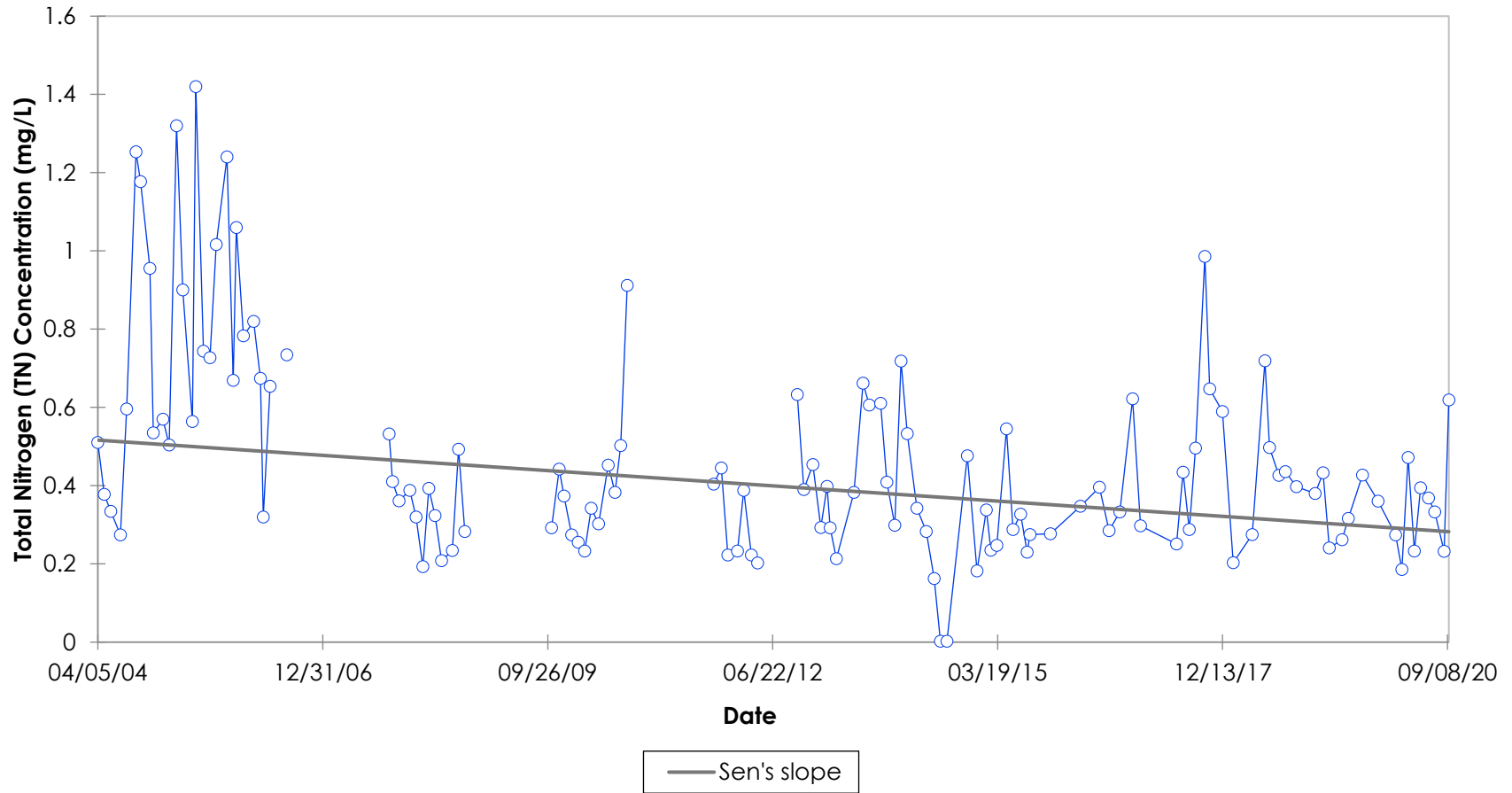


Figure 2 – LWL-13 Long-Term Total Nitrogen (TN) Concentration Data and Statistical Trend for the ICWW-S Watershed

Source: PBCO NPDES Website (<http://www.pbc-npdes.org/monitoring.asp?menu=JointMenu>)



## LWL-13 Long-Term Total Phosphorous (TP) Concentration Data and Statistical Trend for the ICWW-S Watershed

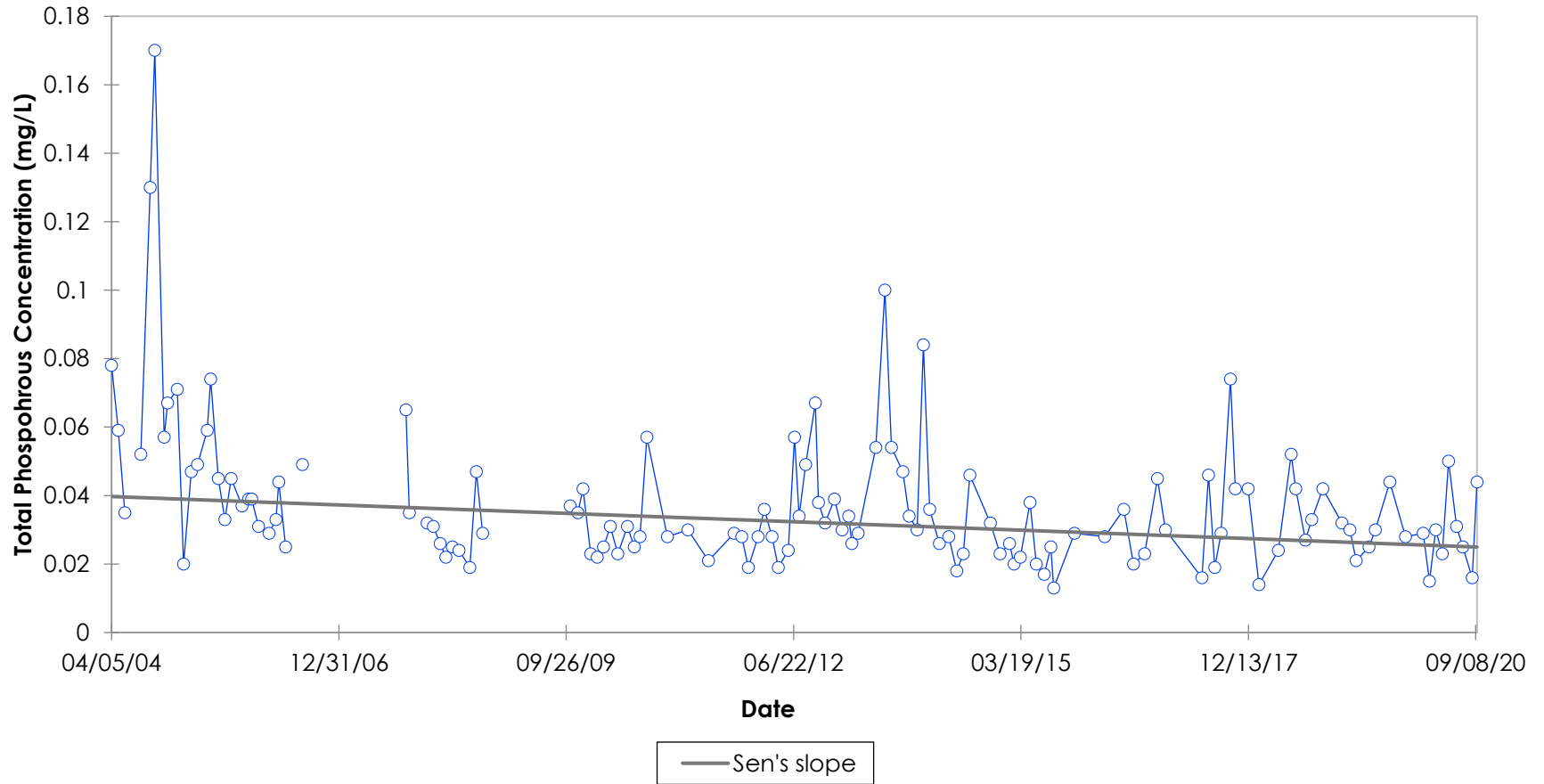


Figure 3 – LWL-13 Long-Term Total Phosphorous (TP) Concentration Data and Statistical Trend for the ICWW-S Watershed

Source: PBCO NPDES Website (<http://www.pbco-npdes.org/monitoring.asp?menu=JointMenu>)



## LWL-13 Long-Term Chlorophyll-A Concentration Data and Statistical Trend for the ICWW-S Watershed

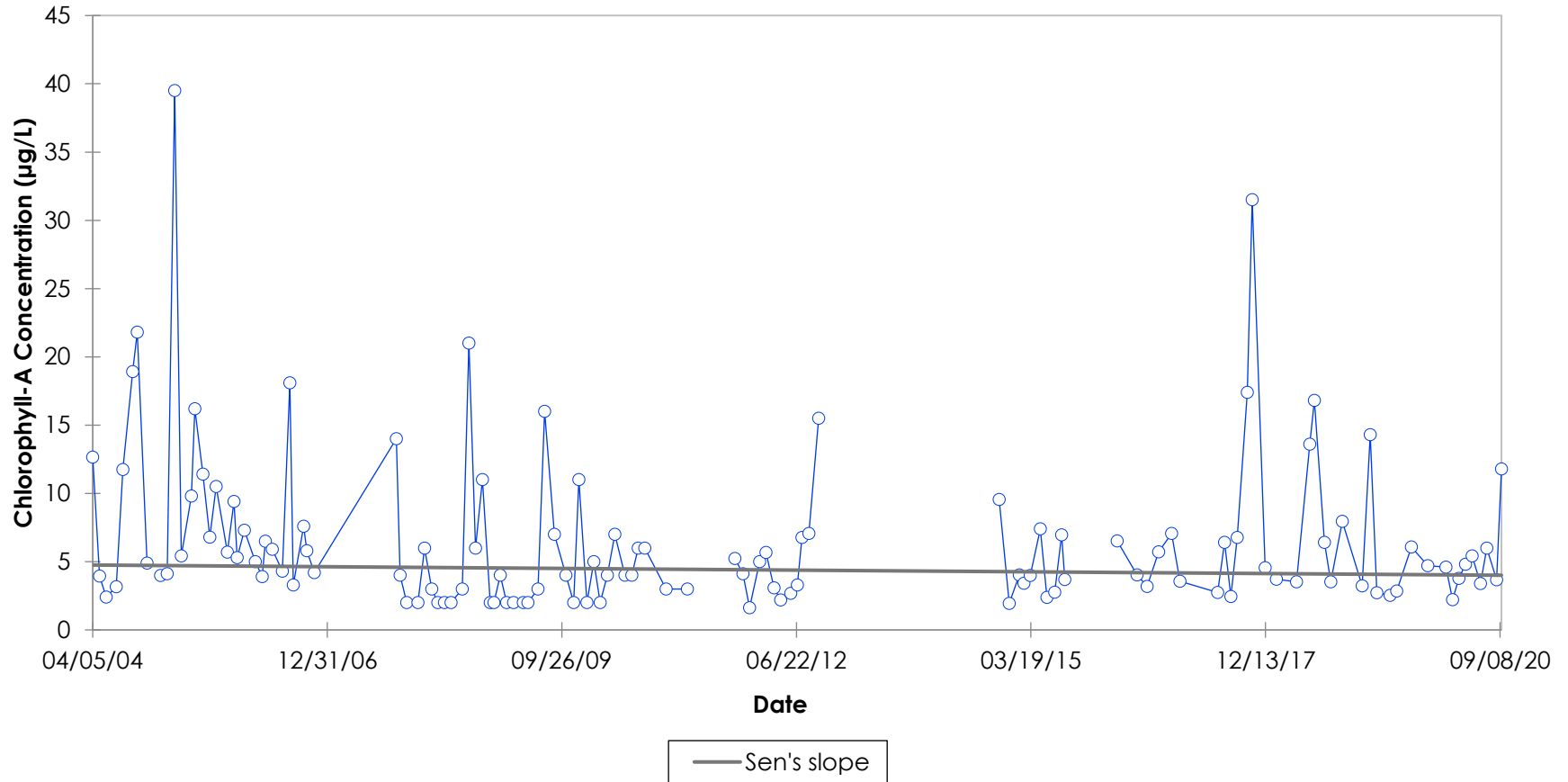


Figure 4 - LWL-13 Long-Term Chlorophyll-A Concentration Data and Statistical Trend for the ICWW-S Watershed

Source: PBCO NPDES Website (<http://www.pbc-npdes.org/monitoring.asp?menu=JointMenu>)



## Part B – Pollutant Loading Estimates/Results

The municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) Cycle 4 permit, issued September 8, 2016, requires in PART V. – Monitoring Requirements that average annual pollutant loading, and event mean concentration (EMC) estimates be provided for six (6) parameters. The six (6) parameters identified are: 1) five-day biochemical oxygen demand (BOD<sub>5</sub>); 2) total copper (Cu); 3) Total nitrogen (TN); 4) total phosphorus (TP); 5) total suspended solids (TSS); and, 6) total zinc (Zn), all in the unit of mg/l. It is assumed by the FDEP that pollutant loading generated within a watershed flows through MS4 outfalls and directly affects the receiving bodies. An option is provided in the permit to provide the average annual pollutant loading estimates based on major outfalls watersheds since the pollutant loading estimates for permit Cycles 1 through 3 were provided on a watershed basis, it was agreed with the FDEP that the Cycle 4 loading estimates would also be provided on a watershed basis. In addition to meeting the requirements of the permit, modeling the average annual pollutant loading generated by a watershed or a MS4's watershed can assist in planning for future improvements in stormwater quality treatment, regulations or stormwater management.

The Town of Manalapan lies in the Intracoastal Waterway (South) (ICWW-S)/Lake Worth Lagoon (Southern Segment) (LWL-S) watershed. The pollutant loading data related to the Lake Worth Lagoon will be used to represent the Town of Manalapan. All six (6) parameters are analyzed and graphed in the Cycle 4, Year 3 'Summary of Average Annual Pollutant Loading Model Activities' report (2019) for all of the watersheds including the Lake Worth Lagoon Watershed (See Figures 3-8, pgs. 20-23) prepared by Mock-Roos for the co-permittees reference. All parameters indicate decreases between the Cycle 3, Year 3 and Cycle 4, Year 3 reporting period within the Lake Worth Lagoon watershed.

Pollutant loadings for the Manalapan MS4 are also reported in the 'Summary of Average Annual Pollutant Loading Model Activities' report cited above. Pollutant loadings for all six (6) parameters are reported for year 2013 (Table 26, p. 39 of the report) and 2018 (Table 27, p. 40 of the report) and, specifically, for the Town of Manalapan MS4 below in Table 3.

The Town of Manalapan has in place stormwater management programs that reduces the nutrient loading into the ICWW-S/LWL-S. These programs include maintenance of conveyance swales, catch basins, public education (brochures and flyers for public distribution, MS4 group activities and an adopted Fertilizer Ordinance). The public education component alone allows a further 6% reduction in pollutant loadings reported in Table 6 below.





Table 3  
Pollutant Loadings (lbs/year)  
-Town of Manalapan-  
Lake Worth Lagoon

<b>Parameter</b>	<b>BOD<sub>5</sub></b>	<b>TSS</b>	<b>TP</b>	<b>CU</b>	<b>ZN</b>	<b>TN</b>
<b>2013 Loads</b>	1,570	6,052	227	5	11	6,713
<b>2018 Loads</b>	1,531	5,719	225	5	11	6,704
<b>Other Reduction (Less 6%, rounded, per public education)</b>	(107)	(504)	(11)	(.3)	(1.2)	(299)
<b>Total Amount</b>	1,439	5,376	211	4.7	10.3	6,302
<b>Percent (%) Reduction</b>	5.2%	5.3%	5.7%	6.0%	6.0%	5.9%

Sources: Tables 26 (p.39) and 27 (p.40) of the "Summary of Average Annual Pollutant Loading Model activities" Report (2019) by Mock-Roos.

Reductions in pollutant loadings for the six (6) parameters in the Town of Manalapan MS4 indicate significant reductions between 2013 and 2018.

### Part C – Conclusion

The Town of Manalapan's stormwater management programs are effective in reducing nutrient loadings. This is supported by the water quality monitoring program (both FDEP and the MS4 group information) and pollutant loading information. At this time there is no need to develop further stormwater management programs.



## Town of Manalapan

### Cycle 4, Year 4 - Land Development Regulations Review Follow-up Report

An internal review of the Town of Manalapan's Code of Ordinances and Land Development Regulations was required as part of the Cycle 4, Year 2 Annual Report per the Palm Beach County NPDES MS4 Permit, specifically Part III.A.2 of the Annual Report Form For Individual NPDES Permits For Municipal Separate Storm Sewer Systems. Table 1 contains all of the code sections that were reviewed, a brief description of the code, and the recommended improvements to the code/regulation to further reduce stormwater impacts of new development or significant redevelopment, if any. Appendix A is the complete verbiage of the code sections listed in Table 1, extracted from the Town's Code of Ordinances at the time of the Cycle 4, Year 2 review, dated November 6, 2018.

Table 1 – Review of Local Codes for Cycle 4, Year 2 Annual Report

<b><u>CODE SECTION</u></b>	<b><u>TITLE</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>REVIEWED</u></b>	<b><u>RECOMMENDED IMPROVEMENTS</u></b>
50.38	INDUSTRIAL ACTIVITY	Any discharge into the stormwater system in violation of any applicable federal, state, county, town or other law, rule, regulation or permit is prohibited.	X	No revisions to code at this time.
50.39	ILLICIT DISCHARGES	Except as set forth under division (C) of this section or in accordance with a valid NPDES permit, any discharge to the stormwater system that is not composed entirely of stormwater is prohibited.	X	No revisions to code at this time.
50.40	SPILLS AND DUMPING	Except as set forth under Section 50.39(C) of this subchapter or in accordance with a valid NPDES permit, any discharge to	X	No revisions to code at this time.



		the stormwater system that is not composed entirely of stormwater is prohibited.		
50.42	INSPECTIONS AND MONITORING	Whenever necessary to make an inspection exists any condition constituting a violation of any discharge	X	No revisions to code at this time.
153.108	SITE IMPROVEMENTS, UTILITIES AND LIMITATIONS	All proposed new development shall be reviewed to determine that Such proposals are consistent with the need to minimize flood damage and will be reasonably safe from flooding; all public utilities and facilities such as sewer, gas, electric, communications, and water systems are located and constructed to minimize or eliminate flood damage; and adequate drainage is provided to reduce exposure to flood hazards; in Zones AH and AO, adequate drainage paths shall be provided to guide floodwaters around and away from proposed structures.	X	No revisions to code at this time.
50.36	PURPOSE AND INTENT	The purpose of this subchapter is to promote the health, safety and general welfare of the inhabitants of the Town. This subchapter is intended to comply with applicable federal and	X	No revisions to code at this time.



		state law and regulations regarding water quality.		
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Per Table 1, no revisions, additional techniques, or improvements were proposed during the Year 2 review. At this time, the Town employs an outside company, Hy-Bryd Inc., to act as their Building Official and perform reviews of any proposed development or redevelopment to ensure code compliance.

Codes indexed under the Chapter 50 subsection "Stormwater Control" were adopted on April 27, 1993 and have remained unchanged according to the municode.com library.

Upon reviewing the changes to the Code of Ordinances since Cycle 4, Year 2 (FY 2017/2018) to present, it should be noted that two modifications which aid in limiting potential stormwater impacts were implemented in the Code of Ordinances Supplement 3, dated November 26, 2019. *Section 151.060 – Ground Floor Area; Lot coverage; Roof Pitch* (under subsection *R1-A Residential Low Density*) was modified to specify applicability to single family dwelling unit lots located on both the East and West side of Highway A1A. A new *Section, 151.460 – Lot Coverage* (under subsection *C2 General Commercial*), was added to the Code to mandate that commercial development shall be limited by lot coverage and is not to exceed consisting of less than 35% green space. Appendix B is the comprehensive verbiage of the new/modified code sections above, extracted from the Town's Code of Ordinances Supplement 3, dated November 26, 2019, with the alterations highlighted.

It should also be noted that per the Code of Ordinances *Chapter 151 - Zoning*, the Town bounds impervious lot coverage at a maximum of 65% for all zoning districts. Maintaining a certain percentage of pervious area on all lots throughout the Town promotes stormwater to percolate down and recharge the aquifer, and in turn requires less underground stormwater structures and pipe networks to convey runoff.

To conclude, the Town's Code and Regulations required no changes or improvements according to the review in Cycle 4, Year 2, however, two amendments were provided in 2019 to further prevent potential adverse impacts of stormwater and maintain the public health, safety, and welfare throughout the Town.



# Appendix A

Supplement 1 – 11/6/2018

## STORMWATER CONTROL

## § - 50.35 TITLE.

This subchapter shall be known as "Town of Manalapan Initial Stormwater Control Ordinance," and may be so cited.

(Ord. 167, passed 4-27-93)

## § - 50.36 PURPOSE AND INTENT.

The purpose of this subchapter is to promote the health, safety and general welfare of the inhabitants of the Town. This subchapter is intended to comply with applicable federal and state law and regulations regarding water quality.

(Ord. 167, passed 4-27-93)

## § - 50.37 DEFINITIONS.

For the purpose of this subchapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

*AUTHORIZED OFFICIAL.* Any employee or agent of the Town authorized in writing by the Director to administer or enforce the provisions of this subchapter.

*COUNTY.* Palm Beach County, Florida.

*DIRECTOR.* The Utilities Director of the Town or such other person or position that the Town Manager may designate to serve in the position of Director under this subchapter.

*DISCHARGE.* Any direct or indirect entry of any solid, liquid or gaseous matter.

*PERSON.* Any natural individual, corporation, partnership, institution, or other entity.

*SITE OF INDUSTRIAL ACTIVITY.* Any area or facility used for manufacturing, processing or raw materials storage, as defined under 40 CFR 122.26(a)(14) of regulations of the U.S. Environmental Protection Agency, as amended.

*STORMWATER.* Any stormwater runoff, and surface run-off and drainage.

*STORMWATER SYSTEM.* The conveyances or system of conveyances owned by the Town and used for collecting, storing, and transporting stormwater but not including any facilities intended to be used in accordance with applicable law for collecting and transporting sanitary or other wastewater.

*TOWN.* The Town of Manalapan, Palm Beach County, Florida.

(Ord. 167, passed 4-27-93)

§ - 50.38 INDUSTRIAL ACTIVITY.

- (A) *Prohibitions.* Any discharge into the stormwater system in violation of any applicable federal, state, county, town or other law, rule, regulation or permit is prohibited.
- (B) *Specific Prohibitions.* By adoption of industrial activity stormwater regulations or by issuance or industrial activity stormwater permits, or both, the Director may impose reasonable limitations as to the quality of stormwater (including without limitation the designation of maximum levels of pollutants) discharged into the stormwater system from sites of industrial activity. Any promulgation of such regulations and issuance of permits by the Director shall be in accordance with applicable law.
- (C) *Administrative Orders.* The Director may issue an order to any person to immediately cease any discharge determined by the Director to be in violation of any provision of this subchapter, or in violation of any regulation or permit issued hereunder.
- (D) *NPDES Permits.* Any person who holds a National Pollutant Discharge Elimination System (NPDES) permit shall provide a copy of such permit to the Director no later than the latter of: Sixty (60) calendar days after the effective date of this subchapter or sixty (60) calendar days after issuance.

(Ord. 167, passed 4-27-93)

**Cross reference—** Penalty, see [Section 10.99](#)

§ - 50.39 ILLICIT DISCHARGES.

- (A) *General Prohibitions.* Except as set forth under division (C) of this section or in accordance with a valid NPDES permit, any discharge to the stormwater system that is not composed entirely of stormwater is prohibited.
- (B) *Specific Prohibitions.* Any discharge to the stormwater system containing any sewage, industrial waste or other waste materials, or containing any materials in violation of applicable federal, state, county, town, or other laws, rules, regulations, orders or permits, is prohibited.
- (C) *Authorized Exceptions.* Unless the Director determines that it is not properly managed or otherwise is not acceptable, the following discharges are exempt from the general prohibition set forth under Division (A) of this section: flows from firefighting, water line flushing and other contributions from potable water sources, landscape irrigation and lawn watering, irrigation water, diverted stream flows, rising ground-waters, direct infiltration to the stormwater system, uncontaminated pumped groundwater, foundation and footing drains, water from crawl space pumps, air conditioning condensation, springs, individual residential car washings, flow from riparian habitats and wetlands, and dechlorinated swimming pool contributions.
- (D) *Illicit Connections.* No person may maintain, use or establish any direct or indirect connection to

the stormwater system that results in any discharge in violation of this subchapter. This prohibition is retroactive and applies to connections made in the past, regardless of whether made under a permit, or other authorization, or whether permissible under laws or practices applicable or prevailing at the time the connection was made.

- (E) *Administrative Order.* The Director may issue an order to any person to immediately cease any discharge, or any connection to the stormwater system, determined by the Director to be in violation or any provision of this subchapter, or in violation of any regulation or permit issued hereunder.

(Ord. 167, passed 4-27-93)

**Cross reference—** Penalty, see Section 10.99

#### § - 50.40 SPILLS AND DUMPING.

- (A) *General Prohibitions.* Except as set forth under Section 50.39(C) of this subchapter or in accordance with a valid NPDES permit, any discharge to the stormwater system that is not composed entirely of stormwater is prohibited.
- (B) *Specific Prohibitions.* Any discharge to the stormwater system containing any sewage, industrial waste or other waste materials, or containing any materials in violation of applicable federal, state, county, town, or other laws, rules, regulations, orders or permits, is prohibited.
- (C) *Notification of Spills.* As soon as any person has knowledge of any discharge to the stormwater system in violation of this subchapter, such person shall immediately notify the Director by telephoning, and if such person is directly or indirectly responsible for such discharge, then such person shall also take immediate action to ensure the containment and clean up of such discharge and shall confirm such telephone notification in writing to the Director at the Town Hall within three (3) calendar days.
- (D) *Administrative Order.* The Director may issue an order to any person to immediately cease any discharge, or connection to the stormwater system, determined by the Director to be in violation of any provision of this subchapter, or in violation of any regulation or permit issued hereunder.

(Ord. 167, passed 4-27-93)

**Cross reference—** Penalty, see Section 10.99

#### § - 50.41 ENFORCEMENT.

- (A) *Injunctive Relief.* Any violation of any provision of this subchapter, or of any regulation or order issued hereunder, shall be subject to injunctive relief it necessary to protect the public health, safety or general welfare.
- (B) *Continuing Violation.* A person shall be deemed guilty of a separate violation for each and every day during any continuing violation of any provision of this subchapter, or of any regulation or



permit issued hereunder.

- (C) *Enforcement Actions.* The Director may take all actions necessary, including the issuance of notices of violation, the filing of court actions and/or referral of the matter to the Town Code Enforcement Board to require and enforce compliance with the provisions of this subchapter and with any regulation or permit issued hereunder.

(Ord. 167, passed 4-27-93)

#### § - 50.42 INSPECTIONS AND MONITORING.

- (A) *Authority For Inspections.* Whenever necessary to make an inspection to enforce any of the provisions of this subchapter, or regulation or permit issued hereunder, or whenever an Authorized Official has reasonable cause to believe there exists any condition constituting a violation of any of the provisions of this subchapter, or regulation or permit issued hereunder, any Authorized Official may enter any property, building or facility at any reasonable time to inspect the same or to perform any duty related to enforcement of the provisions of this subchapter or any regulations or permits issued hereunder; provided that if such property, building or facility is occupied, such Authorized Official shall first present proper credentials and request permission to enter, and if such property, building or facility is unoccupied, such Authorized Official shall make a reasonable effort to locate the owner or other person having charge or control of the property, building or facility, and shall request permission to enter. Any request for permission to enter made hereunder shall state that the owner or person in control has the right to refuse entry, and that in such event that entry is refused, the Authorized Official may enter to make inspection only upon issuance of a search warrant by a duly authorized magistrate or order by any court of competent jurisdiction. If the owner or person in control refuses permission to enter after such request has been made the Authorized Official is hereby authorized to seek assistance from any court of competent jurisdiction in obtaining entry. Routine or area-wide inspections shall be based upon such reasonable selection processes as may be necessary to carry out the purposes of this subchapter, including but not limited to random sampling and sampling in areas with evidence of stormwater contamination, non-stormwater discharges or similar factors.
- (B) *Authority For Monitoring and Sampling.* Any Authorized Official may establish on any property such devices as are necessary to conduct sampling or metering of discharges to the stormwater system. During any inspections made to enforce the provisions of this subchapter or regulations or permits issued hereunder, any Authorized Official may take any samples deemed necessary.
- (C) *Requirements For Monitoring.* The Director may require any person engaging in any activity or owning any property, building or facility (including but not limited to a site of industrial activity) to undertake such reasonable monitoring of any discharge(s) to the stormwater system and to furnish periodic reports.

(Ord. 167, passed 4-27-93)

§ - 153.108 SITE IMPROVEMENTS, UTILITIES AND LIMITATIONS.

- (A) *Minimum requirements.* All proposed new development shall be reviewed to determine that:
- (1) Such proposals are consistent with the need to minimize flood damage and will be reasonably safe from flooding;
  - (2) All public utilities and facilities such as sewer, gas, electric, communications, and water systems are located and constructed to minimize or eliminate flood damage; and
  - (3) Adequate drainage is provided to reduce exposure to flood hazards; in Zones AH and AO, adequate drainage paths shall be provided to guide floodwaters around and away from proposed structures.
- (B) *Sanitary sewage facilities.* All new and replacement sanitary sewage facilities, private sewage treatment plants (including all pumping stations and collector systems), and on-site waste disposal systems shall be designed in accordance with the standards for onsite sewage treatment and disposal systems in Chapter 64E-6, F.A.C. and ASCE 24 Chapter 7 to minimize or eliminate infiltration of floodwaters into the facilities and discharge from the facilities into flood waters, and impairment of the facilities and systems.
- (C) *Water supply facilities.* All new and replacement water supply facilities shall be designed in accordance with the water well construction standards in Chapter 62-532.500, F.A.C. and ASCE 24 Chapter 7 to minimize or eliminate infiltration of floodwaters into the systems.
- (D) *Limitations on sites in regulatory floodways.* No development, including but not limited to site improvements, and land disturbing activity involving fill or regrading shall be authorized in the regulatory floodway unless the floodway encroachment analysis required in Section 153.048(A) of this chapter demonstrates that the proposed development or land disturbing activity will not result in any increase in the base flood elevation.
- (E) *Limitations on placement of fill.* Subject to the limitations of this chapter, fill shall be designed to be stable under conditions of flooding including rapid rise and rapid drawdown of floodwaters, prolonged inundation, and protection against flood-related erosion and scour. In addition to these requirements, if intended to support buildings and structures (Zone A only), fill shall comply with the requirements of the Florida Building Code.
- (F) *Limitations on sites in coastal high hazard areas (Zone V).* In coastal high hazard areas, alteration of sand dunes and mangrove stands shall be permitted only if such alteration is approved by the Florida Department of Environmental Protection and only if the engineering analysis required by Section 153.048(D) of this chapter demonstrates that the proposed alteration will not increase the potential for flood damage. Construction or restoration of dunes under or around elevated buildings and structures shall comply with Section 153.109(H) of this chapter.

(Ord. 308, passed 3-27-12; Am. Ord. 324, passed 6-24-14)



## Appendix B

Supplement 3 – 11/26/2019

§ - 151.060 GROUND FLOOR AREA; LOT COVERAGE; ROOF PITCH.

(A) *Ground floor area* . No single-family dwelling shall have a ground floor square foot area less than two thousand (2,000) square feet and no dwelling unit shall have a floor square foot area less than one thousand four hundred (1,400) square feet. In computing square foot area hereunder, open or screened porches shall be given fifty (50) percent credit of their actual square foot area. The total ground floor area of any building plus any accessory structure on any lot shall not exceed two-thirds ( $\frac{2}{3}$ ) of the building area.

(B) *Lot coverage* . Lot coverage shall not exceed thirty-five (35) percent regardless of which side of Highway A1A the single family dwelling is located.

('81 Code, § 5.71) (Ord. 97, passed 4-26-76; Am. Ord. 122, passed 5-30-81; Am. Ord. 148, passed 5-26-87; Am. Ord. 212, passed 2-25-03; Am. Ord. 342, passed 11-17-15; Am. Ord. No. 367, passed 6-20-19)

**Cross reference**— Penalty, see Section 151.681

§ - 151.460 LOT COVERAGE.

*Lot coverage*. Commercial development shall be limited by lot coverage. Lot coverage for commercial uses shall not exceed thirty-five (35) percent.

(Am. Ord. No. 368, passed 9-24-19)

**Editor's note**— Am. Ord. No. 368, § 2, adopted September 24, 2019, amended § 151.460 in its entirety to read as herein set out. Former § 151.460, pertained to ground floor area; lot coverage; permitted square footage; roof pitch, and derived from '81 Code, § 5.71) (Ord. 97, passed 4-26-76; Am. Ord. 122, passed 5-30-81; Am. Ord. 148, passed 5-26-87; Am. Ord. 212, passed 2-25-03; Am. Ord. 294, passed 8-4-10; Am. Ord. 342, passed 11-17-15.

**Cross reference**— Penalty, see Section 151.681