



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 Cloud Lake		
B.	Permit Name: Palm Beach County MS4		
C.	Permit Number: FLS000018-004		
D.	Annual Report Year: <input type="checkbox"/> Year 1 <input type="checkbox"/> Year 2 <input type="checkbox"/> Year 3 <input type="checkbox"/> Year 4 <input type="checkbox"/> Year 5 <input type="checkbox"/> Other, specify Year:		
E.	Reporting Time Period (month/year): 10/01/17/ through 9/30/18/		
F.	Name of the Responsible Authority: W. Patrick Slatery		
	Title: Mayor		
	Mailing Address: 100 Lang Road		
	City: Cloud Lake	Zip Code: 33406	County: Palm Beach
	Telephone Number: (561) 686-2815		Fax Number: (561) 683-5120
	E-mail Address: townofcloudlake@msn.com		
G.	Name of the Designated Stormwater Management Program Contact (if different from Section I.F above): Dorothy C. Gravelin		
	Title: Town Clerk		
	Department: Clerk's Office		
	Mailing Address: 100 Lang Road		
	City: Cloud Lake	Zip Code: 33406	County: Palm Beach
	Telephone Number: (561) 686-2815		Fax Number: (561) 683-5120
E-mail Address: townofcloudlake@msn.com			

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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable)
C.	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: Current approved plan for the Group Monitoring Plan is September 8, 2016 (with issuance of the Cycle 4 permit). The Town of Cloud Lake Assessment Plan was submitted on September 18, 2017; comments on the Assessment Plan from the Florida Department of Environmental Protection (FDEP) were received on May 15, 2018; the FDEP comments were incorporated and the revised Assessment Plan and re-submitted to FDEP on May 24, 2018.</p> <p>Status: The Group Monitoring Report is included in the Cycle 4 Joint Annual Reports. The Town is still awaiting final approval of its Assessment Plan.</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>Please refer to the Cycle 4 Joint Annual Reports for a summary of the Group's water quality monitoring results for the reporting period. Refer to the Cycle 3, Year 6 Joint Annual Report for proposed pollutant loading analysis changes. The best available information on existing pollutant loading estimates is documented in the Cycle 3, Year 3 Joint Annual Report</p> <p>Attached is the Town of Cloud Lake 'Water Quality Monitoring Report'</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>See response for Section III.B. above</p>

SECTION IV. FISCAL ANALYSIS

A.	Total expenditures for the NPDES stormwater management program for the current reporting year: \$ 13,205
B.	Total budget for the NPDES stormwater management program for the subsequent reporting year: \$ 21,997
C.	<p>Did the current reporting year resources decrease from the previous year? Y <input checked="" type="checkbox"/> / N</p> <p>If program resources decreased, provide a discussion of the impacts on the implementation of the SWMP.</p> <p>The FY16/17 expenditures toward the NPDES program and stormwater drainage system was \$17,841 compared to the FY 17/18 expenditure of \$13,205. The Town had budgeted in FY 17/18 \$4000 of stormwater system expenditures (\$2000 toward aquatic weed control and \$2000 toward flood control and the drainage pump) that were delayed to FY 18/19. This accounts for nearly the entire decrease in expected expenditures; a small part was due to decreases in office expenditures and consulting fees. These changes did not negatively impact the Town of Cloud Lake stormwater drainage system or NPDES program.</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
	X	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"/>	X	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"/>	X	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	
X	<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	Attachment 1
<input type="checkbox"/>	X	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	
X	<input type="checkbox"/>	YEAR 2: A summary review of codes and regulations to reduce the stormwater impact from development.	Part III.A.2	Attachment 2
<input type="checkbox"/>	X	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"/>	X	YEAR 3: Summary of TMDL Monitoring Results (if applicable).	Part VIII.B.2	
<input type="checkbox"/>	X	YEAR 3: Bacteria Pollution Control Plan (if applicable).	Part VIII.B.3	
<input type="checkbox"/>	X	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	
<input type="checkbox"/>	X	YEAR 4: A report on any amendments to the applicable legal authority (if applicable).	Part III.A.7.a	
<input type="checkbox"/>	X	YEAR 4: Permit re-application information in accordance with Rule 62-624.420(2), F.A.C. <ul style="list-style-type: none"> • 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	
<input type="checkbox"/>	X	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): W. Slatery

Title: Mayor

Signature:  Date: 12 / 16 / 18

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								
	<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>								
	Type of Structure	Number of Structures	Number of Inspections	Percent Inspected	Number of Maintenance Activities	Percent Maintained			
Roadway Grass Conveyance Swales (miles)		1.6	1	100	0	100	Roadway Grass Swale- Structural Control Inspection Form	Dorothy Gravelin/Town Clerk	FY 17/18 Log
Non-Roadway Grass Conveyance Swales (linear feet)	336	1	100	0	100	Non-Roadway Grass Swale- Structural Control Inspection Form	Town Clerk	FY 17/18 Log	
Wet Detention Systems	2	2	100	0	100	Wet Detention System- Structural Control Inspection Form	Town Clerk	FY 17/18 Log	
Stormwater Pump Stations	1	2	100	0	100	Stormwater Pump Station #1-Structural Control Inspection Form	Town Clerk	FY 17/18 Log	
Major Stormwater Outfalls	2	2	100	0	100	Major Stormwater Outfalls #1 & 2- Structural Control	Town Clerk	FY 17/18 Log	

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
	Floodgate						Inspection Form			
		1	1	100	0	100	Control Structure #1 Inspection Procedure/ Checklist Form	Town Clerk	FY 17/18 Log	
		Pipes/Culverts (linear feet)	90	2	100	0	100	Pipes/Culverts- Structural Control Inspection Form	Town Clerk	FY 17/18 Log
		Inlets/Catch Basins/Grates	3	3	100	0	100	Inlets/Catch Basins/Grates #1,2 & 3 Structural Control Inspection Form	Town Clerk	FY 17/18 Log
		<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>	See above					All documentation listed above	Town Clerk	All minimum inspections met or exceeded

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: Structural controls in good operating condition requiring minimal maintenance at the present time.				
	Limitations: None identified				
	SWMP revisions implemented to address limitations: None needed.				
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	0	Site Plan Review Procedures contained in Stormwater Management Plan (SWMP)	Town Clerk	No new significant development or redevelopment during the permit year
	Number of significant development projects approved	0	Site Plan Review Procedures contained in the Stormwater Management Plan (SWMP)	Town Clerk	No new significant development or redevelopment during the permit year
	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	0			No new development projects
	Year 4 ONLY: Attach the follow-up report on plan implementation	0			Not Applicable (N/A)
Part III.A.2 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: The Town of Cloud Lake is primarily developed as a low density residential community that is nearly built-out; commercial zoned parcels are currently vacant and undeveloped.				
	Limitations: None identified				
	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.				
	<i>Note: If the permittee does not contract activities, delete CONTRACTOR activities.</i>				

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 Litter Control: Frequency of litter collection	Monthly	Monthly Inspection Checklist Sheets	Town Clerk	Individual property owners are responsible for litter and trash removal in the swale areas as part of the roadway swale maintenance program; FY 17/18 Log
	PERMITTEE Litter Control: Estimated amount of area maintained (miles)	1.6	Town Map	Town Clerk	
	PERMITTEE Litter Control: Estimated amount of litter collected (bags)	1	Monthly Inspection Checklist Sheets	Town Clerk	FY 17/18 Log
	CONTRACTOR Litter Control: Frequency of litter collection	0			No private contractor
	CONTRACTOR Litter Control: Estimated amount of area maintained (linear feet)	0			N/A
	CONTRACTOR Litter Control: Estimated amount of litter collected (cy)	0			N/A
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			No program needed; all local streets
	Trash Pick-up Events: Estimated amount of litter collected (cubic yards)	0			No program needed; all local streets
	Adopt-A-Road: Total miles cleaned	0			No program needed
	Adopt-A-Road: Estimated amount of litter collected (cubic yards)	0			No program needed
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.					

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	Frequency of street sweeping	0			The Town roadway system is entirely served by grass swales; there are no curb and gutters
	Total miles swept	0			N/A
	Estimated quantity of sweeping material collected (cy / tons)	0			N/A
	Total phosphorous loadings removed (pounds)	0			N/A
	Total nitrogen loadings removed (pounds)	0			N/A
	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			
	N/A	0			No municipal facilities
Part III.A.3 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Roadway system consists entirely of local streets; litter control is performed by individual property owners requiring no contracted services; Town size (68 acres approximately) and small population creates minimal impact on local streets and litter control issues.				
	Limitations: None identified				
	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			No flood control projects during the permit year
	Flood control projects completed that did <u>not</u> include stormwater treatment	0			N/A
	Stormwater retrofit projects planned/under construction	0			None planned
	Stormwater retrofit projects completed	0			N/A
	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			
Part III.A.4	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
Summary	Strengths: There no imminent, or identifiable, flood control project needs; none identified in the Town's Capital Improvement Element (CIE) or 5 Year Schedule of Improvements of the Town of Cloud Lake Comprehensive Plan.				
	Limitations: None identified				
	SWMP revisions implemented to address limitations: None				
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			
	N/A				No municipal facilities
Part III.A.5 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: There are no Waste TSD Facilities in Town.				
	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	0			No pesticides or herbicides applied by Town personnel; services privately contracted out
	CONTRACTORS: FDACS commercial applicators of pesticides/ herbicides	4	State Licenses	Total Property Control	FY 17/18 Log
	PERSONNEL: Green Industry BMP Program training completed	0			No fertilizers applied by Town personnel; services contracted out
	CONTRACTORS: FDACS certified / licensed applicators of fertilizer	4	State Licenses	Total Property Control	FY 17/18 Log
	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				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	nutrient-impaired water body, indicate that in Column F.				
	Year 2 ONLY: Attach copy of adopted Florida-friendly ordinance	0	Fertilizer Ordinance	Town Council	Adopted November, 2013
	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).				
	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	33	Brochures/ Flyers	Palm Beach County (PBC) Stormwater Systems Group; PBC Solid Waste Authority (PBCSWA)	FY 17/18 Log
	Newspapers & newsletters: Number of articles/notices published	1	Newsletter/ Mailing List	Town Clerk	FY 17/18 Log
	Newsletters: Number of newsletters distributed	68	Property Owner Mailing List/Certification Letter	Town Clerk	FY 17/18 Log
	Public Displays (e.g. kiosks, storyboards, posters, etc.)	1	Town Hall Display Rack	Town Clerk	

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Part III.A.6 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Services are contracted out to a private contractor; Town has adopted a Fertilizer Ordinance; good public information system being implemented.				
	Limitations: None identified				
	SWMP revisions implemented to address limitations: None needed				
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	N/A			
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 and type of enforcement actions taken.				
	Proactive inspections for suspected illicit discharges	15	(1) Proactive Discharge/ Illegal Connection Inspection Form; (2) Monthly Inspection Checklist	(1) /Code Enforcement Officer; Town Clerk	Annually inspected; two (2) commercially zoned lots (currently vacant); no industrial lots; Proactive Inspections are performed also as part of the Structural Control Inspections; FY 17/18 Log
	Inspections performed PBC SQG Program	0			No inspections needed
	Illicit discharges found during a proactive inspection	0			None found
	NOV/WL/citations/fines issued for illicit discharges found during proactive inspection	0			
	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	(1) Reactive Discharge/ Illegal Connection	(1) Code Enforcement Officer	

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	Reactive investigations of reports of suspected illicit discharges etc. Illicit discharges etc. found during reactive investigation NOV/WL/citation/fines issued for illicit discharges etc. found during reactive investigation		Form; (2) Monthly Inspection Checklist	(2)Town Clerk	
		0			No investigations
		0			None found
	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	1	Illicit Discharge Detention Elimination (IDDE) video	Town Planning Consultant	
	Contractors trained	0			No contractors used for these purposes
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	PBC Fire Incident Report	PBC Fire Rescue Department	No spills reported during permit year
	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	1	IDDE video	Town Planning Consultant	
	Contractors trained	0			No contractors used for these purposes
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	33	Brochures/ Flyers	PBC Stormwater Systems Group;	FY 17/18 Log

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	Newspapers & newsletters: Number of articles/notices published Newsletters: Number of newsletters distributed Public displays (e.g. kiosks, storyboards, etc.)			PBCSWA; FDEP; Town Clerk	
		1	Newsletter/ Mailing List	Town Clerk	FY 17/18 Log
		68	Property owner Mailing List/Certification Letter	Town Clerk	FY 17/18 Log
		1	Town Hall Display Rack	Town Clerk	
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	33	Brochures/ Flyers	PBC Systems Group; PBCSWA; FDEP; Town Clerk	FY 17/18 Log
	Newspapers & newsletters: Number of articles/notices published	1	Newsletter/ Mailing List	Town Clerk	FY 17/18 Log
	Newsletters: Number of newsletters distributed	68	Property owner Mailing List/Certification Letter	Town Clerk	FY 17/18 Log

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	Public displays (e.g. kiosks, storyboards, etc.)	1	Town Hall Display Rack	Town Clerk	
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.				
	<p align="center">Owner of the sanitary sewer system</p> <p>Activity to reduce/eliminate SSOs and I&I: (description)</p> <p>Activity to reduce/eliminate SSOs and I&I: (description)</p> <p align="center">SSO incidents discovered</p> <p align="center">SSO incidents resolved</p> <p>Inflow / infiltration incidents discovered</p> <p>Inflow / infiltration incidents resolved</p>	<p>No central sanitary sewer system in the Town (individual property owners have septic tank systems)</p> <p align="center">0</p> <p align="center">0</p> <p align="center">0</p> <p align="center">0</p> <p align="center">0</p> <p align="center">0</p> <p align="center">0</p>			<p>Privately owned septic tanks systems</p> <p align="center">N/A</p> <p>None discovered; Privately owned septic tank systems</p> <p align="center">N/A</p> <p>None discovered</p> <p align="center">N/A</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.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: No illicit discharges or improper disposal reported during the permit year; Town Clerk and Town Planning Consultant have been trained; good public information being implemented.							
	Limitations: None identified							
	SWMP Revisions implemented to address limitations: None needed							
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				No landfills in Town
	Hazardous waste treatment, storage, disposal and recovery (HWTSDR) facilities			0				No hazardous waste facilities
	EPCRA Title III, Section 313 facilities (TRI)			0				No EPCRA facilities
	Facilities determined as high risk by the permittee			0				No high risk facilities
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
Part III.A.8 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.							
	Strengths: No high risk facilities in Town							
	Limitations: N/A							
	SWMP revisions implemented to address limitations: N/A							
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			0	Site Plan Review Procedures established in	Town Clerk; Town Planning Consultant; Town Engineer;	No construction site plans reviewed during permit	

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: Construction site plans approved	0	the SWMP; notations on construction plans and/or Construction Plan Report, if required	Town Building Official	year	
	PRIVATE SITES: Construction site plans reviewed	0	Site Plan Review Procedures established in the SWMP; notations on construction plans and/or Construction Plan Report, if required		N/A	
	PRIVATE SITES: Construction site plans approved	0			No constructions plans reviewed during permit year	
	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	0			No new development or redevelopment applied for during permit year	
	Confirmed ERP coverage	0			N/A	
	Notified of CGP stormwater permit requirements	0			N/A	
	Confirmed CGP coverage	0			N/A	
	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	0			No new per4mittee construction during permit year	
	PERMITTEE SITES: Pre-, During, and Post inspections of active construction	0			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
	sites for E&S and waste control BMPs					
	PERMITEE SITES: Percentage of active construction sites inspected		0			N/A
	PRIVATE SITES: Active construction sites		0			No new private construction during permit year
	PRIVATE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs		0			N/A
	PRIVATE SITES: Percentage of active construction sites inspected		0			N/A
	Enforcement Action		0			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	1	1	Soil and Erosion Control (SEC) video	Town Planning Consultant	
	Permittee construction site plan reviewers		1	Soil and Erosion Control (SEC) video	Town Planning Consultant	No new site plan reviewers training during permit year
	Permittee construction site operators		0			Contracted out
Part III.A.9 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.					
	Strengths: No new construction during permit year.					
	Limitations: N/A					
	SWMP revisions implemented to address limitations: N/A					

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
	N/A			<input type="checkbox"/> / <input type="checkbox"/>					
				<input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/>					
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								
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): No discharge to a TMDL WBID at the time of permit issuance.								

Town of Cloud Lake
(NPDES Stormwater Permitting Program)

'Water Quality Monitoring Report'
(submitted as Attachment 1 to the Town of Cloud Lake, Florida
Permit Year 2, Fourth Term Annual NPDES Report)

Prepared by JLH Associates
November, 2018

'Water Quality Monitoring Report'

Purpose

The purpose of the 'Water Quality Monitoring Report' is to provide information for the Town of Cloud Lake to determine the overall effectiveness of its stormwater management program in reducing stormwater pollutant loadings from its Municipal Separate Sewer System (MS4) to receiving bodies.

The following items and concerns are examined as part of this water quality monitoring report:

- A. **Impaired Water Bodies** - The Florida Department of Environmental Protection (FDEP) assessment program for water body impairments will be analyzed and Cloud Lake's contribution, if any, to those impairments will be assessed.
- B. **Water Quality Monitoring Program** - The water quality monitoring program is intended to identify local sources where urban stormwater is affecting surface water resources.
- C. **Water Quality Trend Analysis** – Using the water quality monitoring results trends can be identified and evaluated.
- D. **Pollutant Loading Estimates/Results** - Pollutant loadings and results are reported.
- E. **Conclusions** - Final conclusions are made regarding water quality and nutrient loading impacts.

Impaired Water Bodies

The Florida Department of Environmental Protection (FDEP) has an ambient water quality and assessment program for water body impairments. The State is divided into five (5) working groups, with each group cycling through a 5-year assessment cycle. The 5-year cycle includes planning, water quality, monitoring, preliminary evaluation, public meetings, final evaluation, and Secretarial (State) adoption of the verified lists. The Town of Cloud Lake is in Group 3. The latest (Cycle 3) assessment occurred in 2017. Based on the FDEP verified assessment listing, Cloud Lake is in Water Body Identification (WBID 3245F) of the Lake Worth Lagoon. Based on this assessment, there is no identified impairments for this WBID. As such, there are no projected TMDLs for this WBID.

Water Quality Monitoring Program

As a co-permittee, the Town of Cloud Lake uses the ambient water quality data provided by Palm Beach County MS4 Group.

Based on the location of outfall of the Cloud Lake MS4, two (2) monitoring stations have been established. Station 37B is a Palm Beach County Environmental Resource Monitoring Site and Station C51S155 is a South Florida Water Management Monitoring Site. The following Table identifies these monitoring stations along with relevant information about the locations. More specifically, Station 37B is located upstream approximately eight (8) miles west of Cloud Lake at the intersection of SR 7 and Southern Boulevard (SR 80). Station C51S155 is located east of Dixie Highway at the discharge point into Lake Worth (Intracoastal Waterway) approximately two (2) miles south and east of the Town of Cloud Lake.

Table 1			
MS4 Monitoring Stations			
Monitoring Station Number	Location Description	Northing/ Easting	Receiving Water Body
37B	C-51 Basin	853637.29/ 916592.84	C-51 Stub Canal
C51S155	C-51 Basin	841132.85/ 964349.43	C-51 Stub Canal

The primary concern that FDEP has regarding the stormwater permitting program is related to nutrients and what impacts are created by nutrients into the stormwater system. The Town of Cloud Lake has evaluated nutrient monitoring results at the above two locations. The 10-year trend referenced in the Palm Beach County MS4 Year 1, Cycle 4 Joint Report is used for evaluating the nutrient levels. Specifically, Total Nitrogen (TN), Total Phosphorus (TP) and Chlorophyll-A (a surrogate for nutrient enrichment) are analyzed and evaluated below. Data for monitoring stations in the C-51 watershed are examined.

At this time the State does not have any numeric nutrient criteria established for the C51 Canal (South Florida Region) for TN or TP. Chlorophyll-A has criteria of less than or equal to 20 ug/l.

Based on information provided in the PBC Cycle 4 Year 1 Joint Annual Report, water quality monitoring results for the last 10 years (2008-2017) is provided in Tables 2, 3, 4, respectively for TN, TP and Chlorophyll-A. Review of the results indicate a general reduction in values from west (Station 37B) to east (Station C51S155). Reported Chlorophyll-A values are well below the standard of 20 ug/l, indicating that the C-51 Canal is not nutrient impaired and Cloud Lake an eastern contributor is not adversely affecting nutrient levels.

Table 2 Annual Geometric Mean Total Nitrogen Concentration (mg/l) C-51 Watershed		
Year	Station 37B	Station C51S155
2008	1.28	0.90
2009	No Record	1.18
2010	1.60	1.25
2011	1.26	0.88
2012	0.76	0.95
2013	1.26	1.96
2014	1.16	0.73
2015	1.09	0.97
2016	1.02	1.14
2017	0.80	0.79

Table 3 Annual Geometric Mean Total Phosphorus Concentration (mg/l) C-51 Watershed		
Year	Station 37B	Station C51S155
2008	0.08	0.05
2009	No Record	No Record
2010	0.11	0.07
2011	0.06	0.04
2012	0.04	0.03
2013	0.08	0.06
2014	0.14	0.06
2015	0.08	0.08
2016	0.09	0.06
2017	0.05	0.06

Table 4 Annual Geometric Mean Chlorophyll-A Concentration (ug/l) C-51 Watershed		
Year	Station 37B	Station C51S155
2008	10.88	No Record
2009	No Record	No Record
2010	8.25	No Record
2011	4.84	No Record
2012	4.21	No Record
2013	4.36	No Record
2014	2.79	0.03
2015	2.06	No Record
2016	3.93	No Record
2017	3.98	No Record

Source: Extracted from Table 5-10, p. 109 of the Year 1, Cycle 4, PBC Joint Annual Report.

NC - No Criteria

Water Quality Trends

To evaluate nutrient trends the water quality data for the last 10 years shown in graphs (Figures 1-3) depict the trends respectively for TN, TP and Chlorophyll-A. Each figure contains the separate plots for Stations 37B and C51S155.

Review of the graphs indicate a general declining trend for all three water quality monitoring parameters except for total phosphorous at Station C51S155. Typically, the nutrient concentrations are lower from west to east. Any numeric nutrient impairment is based on chlorophyll-a values exceeding 20 ug/l. The data graphs indicate the chlorophyll-a values are well below the State criteria. In regard to TP, Cloud Lake has a very effective Best Management Practice in place that has a high level of reduction as noted in the below pollutant loading section.

Pollutant Loading Estimates/Results

At this time the Town does not have information on the loading contributions for Cloud Lake into the C-51 watershed. The Palm Beach County (PBC) MS4 group will be estimating pollutant loadings and reporting the information in the 3rd year report. This information is likely to be provided to the Town of Cloud Lake and documented in the 3rd year report.

Cloud Lake has in place stormwater management programs that reduces the nutrient loading into the C-51 watershed/WBID 3245F. These programs include maintenance of conveyance swales, detention lake, public education (brochures and flyers for public distribution, annual newsletter, MS4group activities and an adopted Fertilizer Ordinance).

All stormwater runoff from Cloud Lake MS4 system discharges into the combined Town of Glen Ridge and Town of Cloud Lake on-site lake detention system prior to discharging into the West Palm Beach Stub Canal. The estimated load reduction for this Best Management Practice (BMP) per FDEP BMP efficiencies table is 50% reduction for total nitrogen (TN) and 80% reduction for total phosphorus (TP).

Conclusions

The Town of Cloud Lake 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.

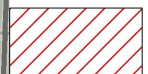
Location Map for Water Quality Monitoring Sites



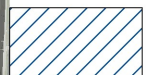
Legend

Boundary2018

FNAME



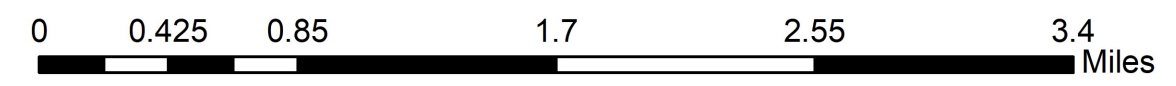
TOWN OF CLOUD LAKE



TOWN OF GLEN RIDGE



WQ_Stations_2017



APPENDIX

'Water Quality Monitoring Plan'
-Town of Cloud Lake-

**Figure 5-1: Annual Geometric Mean Total Nitrogen Concentration
(mg/l)**

(at Monitoring Stations 37B and C51S155, C-51 Watershed)

**Figure 5-2: Annual Geometric Mean Total Phosphorus
Concentration (mg/l)**

(at Monitoring Stations 37B and C51S155, C-51 Watershed)

**Figure 5-3: Annual Geometric Mean Total Chlorophyll-A
Concentration (mg/l)**

(at Monitoring Stations 37B and C51S155, C-51 Watershed)

Figure 5-1
Annual Geometric Mean Total Nitrogen Concentration (mg/l)
C-51 Stations

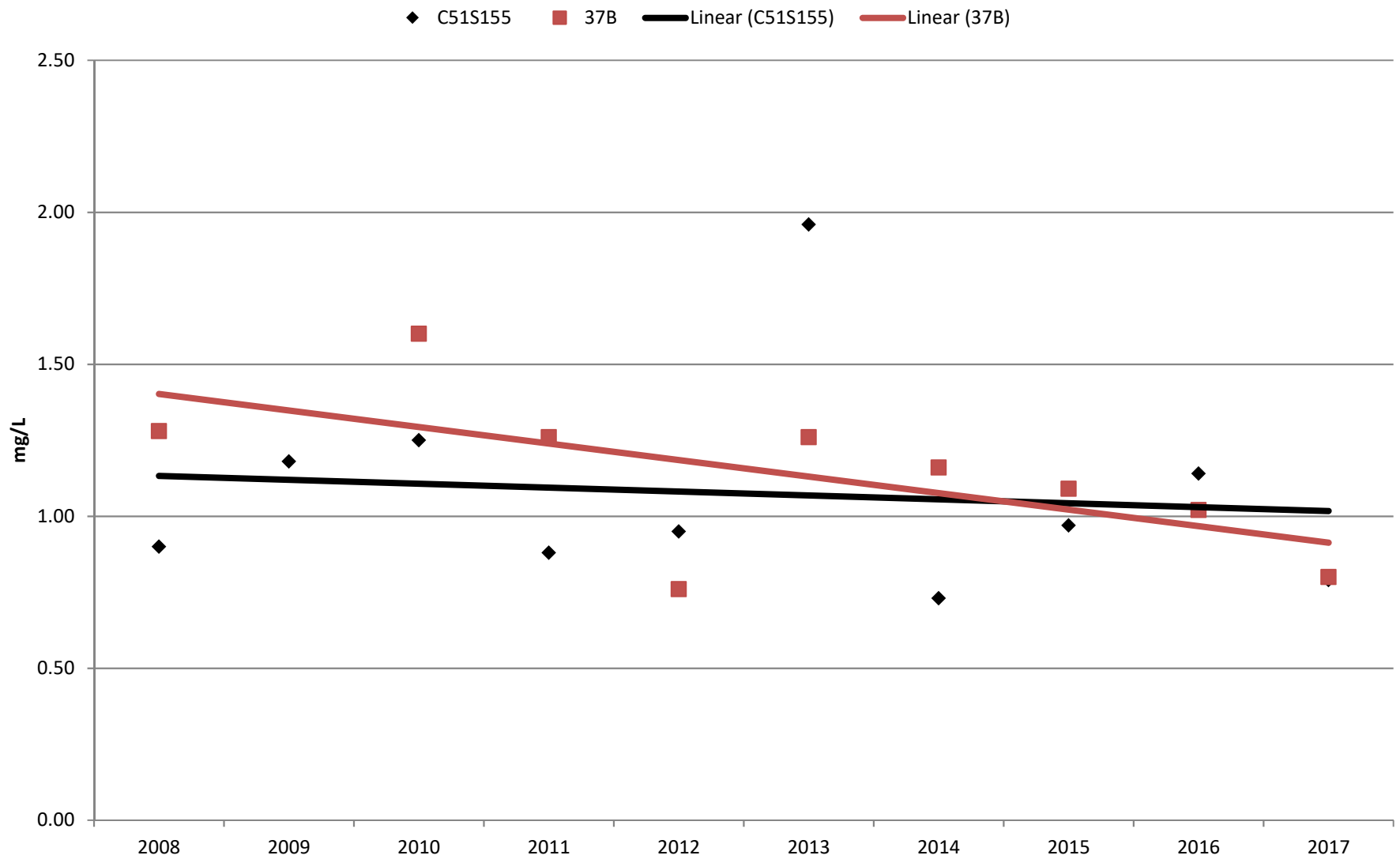


Figure 5-2
Annual Geometric Mean Total Phosphorous Concentration (mg/l)
C-51 Stations

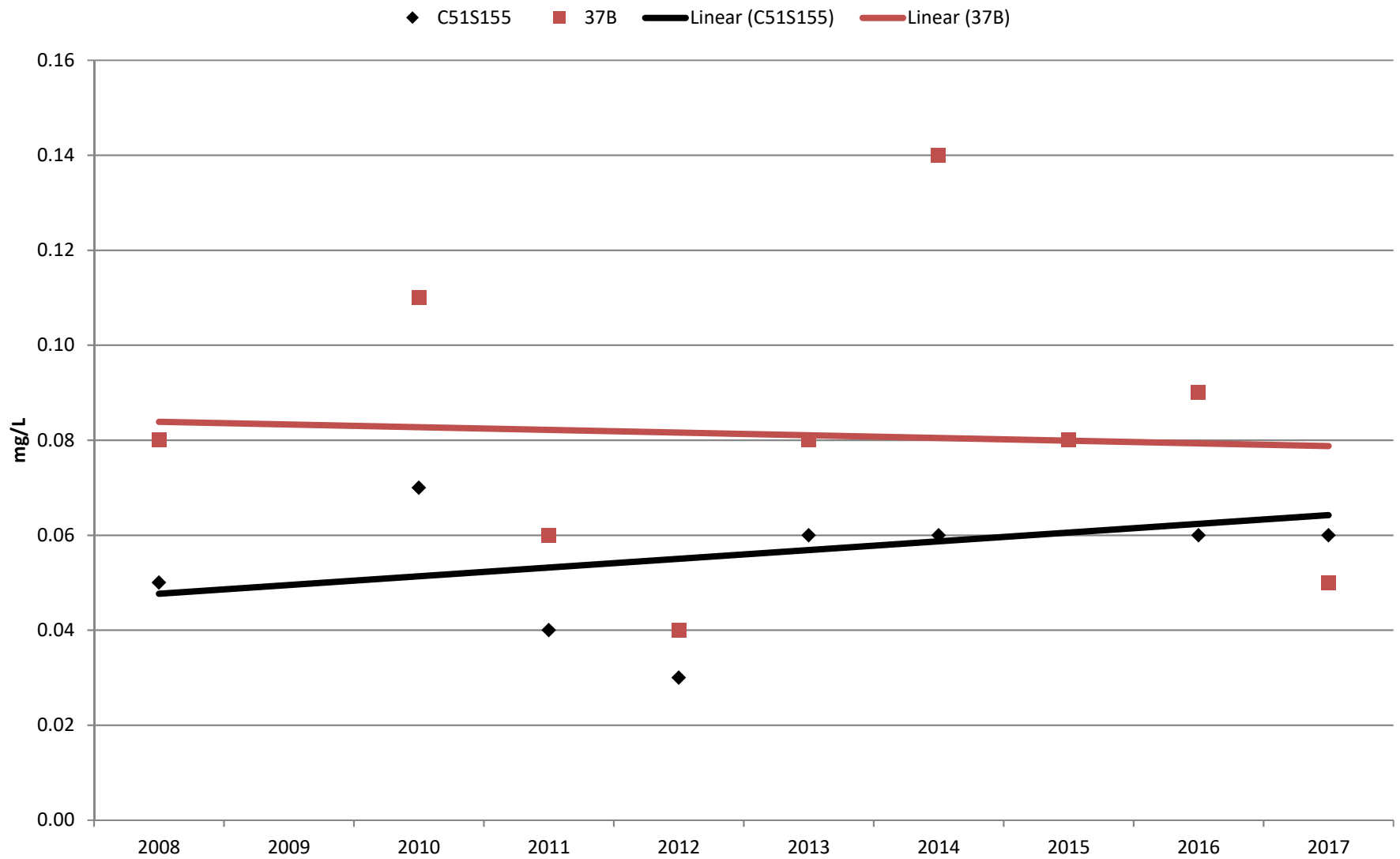
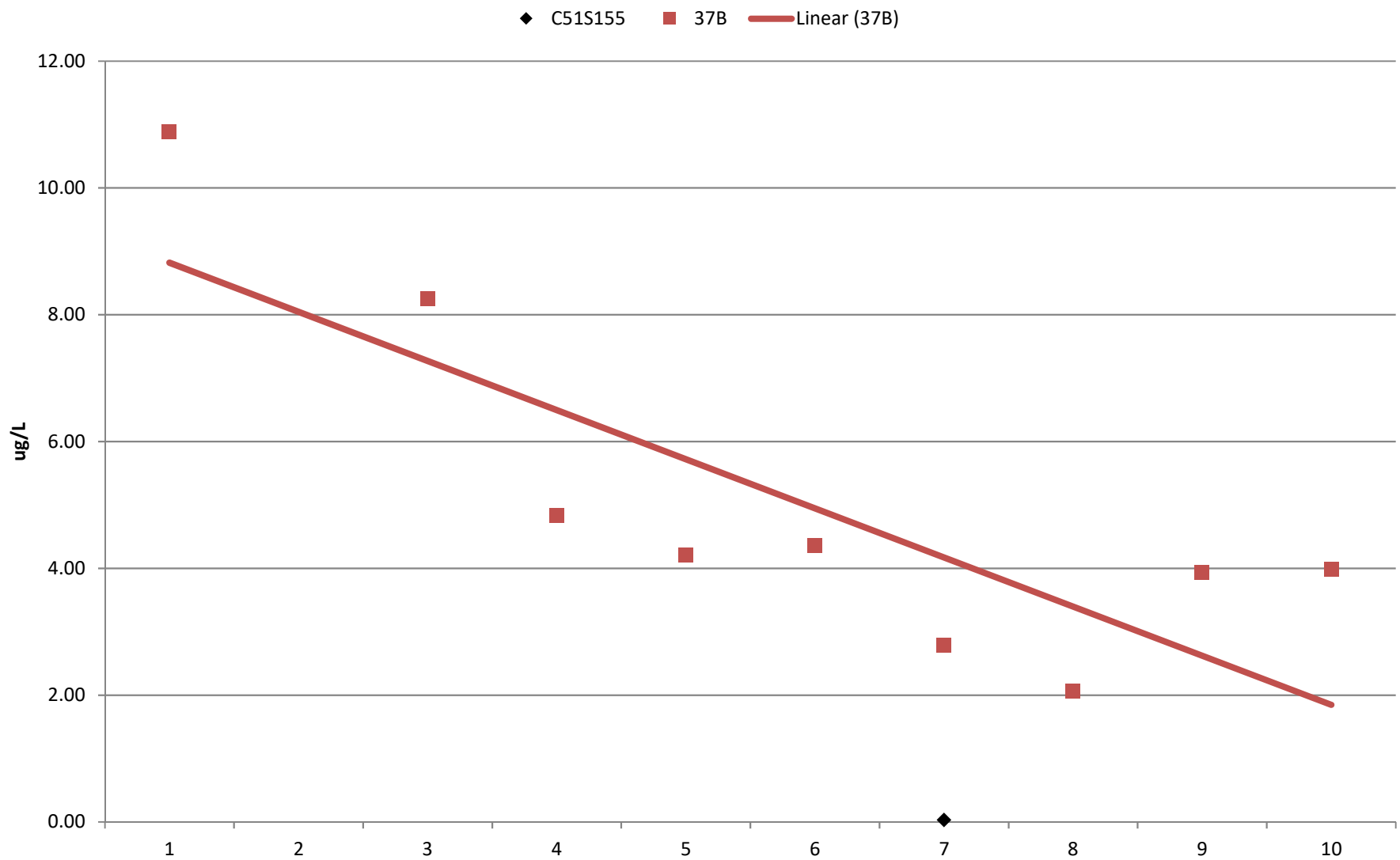


Figure 5-3
Annual Geometric Mean Total Chlorophyll-a Concentration (ug/l)
C-51 Stations



Summary Report

"Land Development Regulations and Code Review Aimed at Low Impact Design and Other Innovative Design Techniques"

(Submitted as **Attachment 2** to the Town of Cloud Lake, Florida Permit Year 2, Fourth Term NPDES Annual Report)

Prepared by the Town of Cloud Lake
and
JLH Associate

December, 2012
Revised/Updated December, 2018

EXECUTIVE SUMMARY

The Town of Cloud Lake has undertaken a complete review of its codes and land development regulations (LDRs) in regard to Low Impact Design (LID) and other innovative design techniques. Determinations are made as to the adequacy of these regulations, the current status of these regulations and recommendations for future actions, if, and when, deemed appropriate. Chapters of the Cloud Lake Code of Ordinances are identified which were determined to be relevant to this review. Specific sub-sections and paragraphs are cited, and in many cases quoted or discussed. LIDs relevant to this low density, single family community are identified. They include regulations and techniques governing conveyance swales; pervious and impervious surfaces; landscaping, including the Florida Yards and Neighborhood (FYN) program, and conservation; refuse, garbage, toxic wastes and other nuisances; and, a review of the adopted Town of Cloud Lake Comprehensive Plan. It has been determined that the regulations governing these subject areas are meeting the needs of this nearly developed community. The Town adopt a Fertilizer Ordinance in FY12/13. It is recommended that Cloud Lake make available to its residents the myriad of information regarding landscaping and 'water conservation' practices available through the FYN Florida Friendly Landscaping Program.

COMMUNITY PROFILE

The Town of Cloud Lake is located in the central portion of eastern Palm Beach County. The Town is basically land locked in that there is no land areas adjacent to it where Cloud Lake could expand its corporate limits. The Town of Glen Ridge abuts the western and southern limits of Cloud Lake, while the City of West Palm Beach abuts the eastern limits of Town. Palm Beach International Airport owns the property north of Cloud Lake which eliminates, at the present time, possible expansion area for the Town.

The Town of Cloud Lake is approximately 94 % built-out at the present time. Cloud Lake is developed primarily as a low density residential, single family community. Low density, residential represents nearly twenty (20) acres of the residential development in the Town. Low density is primarily represented by single family detached dwellings. However, some duplexes on large lots fall into the low density (0-5 units/acre) residential category.

There is only one (1) developed commercial lot in Cloud Lake at the present time. A small portion of land in Cloud Lake is currently developed for commercial purposes. The Town-owned parcel on Shannondale Road was recently re-land used and re-zoned for commercial purposes to accommodate a billboard. State law required that the parcel be zoned commercial to accommodate this use. Therefore, a Commercial land use designation was applied to this site to be consistent. The three (3) remaining commercially zoned properties in Cloud Lake are currently vacant. They are located west of Lang Road and front Southern Boulevard .

The private lakes in the Town of Cloud Lake are major identifiable features in the community. The lakes are major stormwater management features and are classified as Conservation use for these purposes. Cloud Lake and part of Gem Lake lie within the corporate limits of Town. These lakes represent 6.86 acres and are the second major user of the land area. They also contribute aesthetic value and recreational opportunities to the residents of the Town.

The Town Hall is the only other land use identified in Town. This governmental structure uses only 0.62 acres of land area. The Town acquired the parcel of property directly west of Town Hall for potential expansion purposes.

PURPOSE

Low Impact Development is defined as, " 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" (Integrating LID into Local Codes: A Guidebook for Local Governments, prepared by AHBL for Puget Sound Partnership, Final Draft, November, 2011).

All land development regulations (LDRs) contained within the Town of Cloud Lake Code of Ordinances have been reviewed as part of this Summary Report. The purpose of this review was to identify what Low Impact Design (LID) techniques and other innovative planning techniques are adopted and being implemented and to determine what changes may be necessary to reduce stormwater impacts of new development and areas of significant development. A description of innovative planning techniques recommended for possible future inclusion into the Town's codes and regulations will be identified, and a description of the plan for implementing proposed changes will be cited.

As discussed in the MS4 Permitting Resource Manual, the Town will focus on changes that will promote, or at least not discourage, LIDs such as conveyance swales, pervious surfaces, minimum values for green/open spaces and/or maximum allowances for ground coverage, native landscaping/Florida Yards and Neighborhoods program, irrigation conservation, retention of stormwater runoff, increase in natural hydrology and other innovative LID principles.

Cloud Lake and part of Gem Lake lie within the corporate limits of Town. These lakes represent 6.86 acres and are the second major user of the land area. They also contribute aesthetic value and recreational opportunities to the residents of the Town.

CODES AND LAND DEVELOPMENT REGULATIONS REVIEW

All codes and regulations adopted by the Town are contained in the Town of Cloud Lake Code of Ordinances. The following Articles and Chapters were deemed relevant to this review and analyzed for purposes of this Summary Report. Specific Sections and Subsections within Chapters are referenced in the discussions herein.

- Chapter 4 - Buildings and Buildings Regulations
- Chapter 16 - Planning and Development
- Chapter 20 - Solid Waste
- Chapter 22 - Subdivision
- Chapter 26 - Utilities
- Chapter 28 - Zoning

The Town of Cloud Lake Comprehensive Plan is also reviewed as part of this analysis. Specifically, the Stormwater Management sub-element of the Infrastructure element, and the Future Land Use and Conservation elements contain Policies regarding stormwater management and stormwater management related issues.

LOW IMPACT DESIGN (LID) TECHNIQUES AND PRACTICES

A variety of LIDs are already being employed and implemented by the Town of Cloud Lake. An identification and discussion of those techniques/practices are presented below. The Status of their use and effectiveness are stated and Recommendations are put forth, where necessary and appropriate, to further implement LIDs in the Town.

Conveyance Swales

The entire Town of Cloud Lake is served by 2-lane local residential streets with conveyance swales. There are no curb and gutters within the Town. It has been a policy of the Town to require that individual property owners shall be responsible for maintaining their lots up to the paved area of the streets they front upon. However, there is no established regulations to enforce this policy. Swale areas could be strictly regulated and subject to Town review and permitting requirements by officially adopting regulations for the Landscaping and maintenance of swale areas. The following requirements and regulations could meet this end:

a) the Town encourages the installation of sod within the swale areas of Town right-of-way and accordingly no permit shall be required for the installation of sod within such areas;

b) No person shall place or plant any vegetative landscape material within the Town right-of-way (swale areas abutting public streets) without first obtaining a permit from the Town. In determining whether a permit for vegetative landscape material should be issued, the Town Clerk, or other qualified designee, shall consider whether the proposed installation:

- (1) Interferes with or impairs the Town stormwater drainage system;
- (2) Creates a safety hazard to vehicular or pedestrian traffic;
- (3) Otherwise impairs the health, safety or welfare of the citizens and visitors to Town.

c) No person shall grade or re-grade any lands within the Town right-of-way without first obtaining a permit from the Town Clerk, or appropriate designee of the Town.

d) It shall be unlawful for any individual to place or have placed any impervious material including, but not limited to, asphalt, concrete crushed rock, landscape stone, brick pavers or other similar materials within the Town right-of-way. This subsection shall not preclude the installation of paved driveways extending from a public roadway to the privately-owned property; provided, the width of any such entry driveway(s) shall not exceed a total of twenty-four (24) feet in width for any lot or combination of lots improved with a residential structure.

Status: Since the Town of Cloud Lake is almost entirely built-out, the current policy of requiring property owners to maintain landscaped areas in conveyance swales adjacent to the paved streets has been employed. However, the Town has not adopted regulations regarding the landscaping and maintenance of conveyance swale areas.

Recommendation: *It is recommended that the Town consider adopting the regulations for maintenance of conveyance swale areas by property owners similar to those suggested above. The Town should review these suggested regulations during the third year of the current NPDES stormwater permit and take appropriate actions for inclusion in Town regulations. They could be inserted into Chapter 4 - Buildings and Building Regulations as Section 4-4 - Landscaping and Maintenance of Swale Areas.*

Pervious/Impervious Surfaces

The Town of Cloud Lake is developed primarily as a low density residential community with very limited business professional use. There is only one (1) residential zoning district established within the Town, that being R-1, Low Density Residential district; and, one (1) Business and Professional district. **(Ref. Section 28-7 - Districts Established of the Town's Zoning Code)** . The Town Hall is the only Public Building in Cloud

Lake while the lakes, water bodies and wet retention areas are classified as Conservation uses. Single family and duplexes are permitted by right in the R-1 zoning district while public facilities (Town Hall) are permitted by Special Exception. **(Ref. Section 28-9 - District Regulations (b) and (d) respectively in the Zoning Code).**

There are four (4) lots in Town zoned for Business and Professional use. Three (3) of these lots front Southern Boulevard (SR 80) and are Vacant at the present time. The Town-owned parcel located north of Shannondale Road at its eastern extremity in Town is classified commercial and zoned as Business and Professional use for one reason only. A billboard is located on this property and State statutes required that it be zoned for commercial use. BP - Business and Professional zoning. Business and professional uses are permitted by right in this zoning district while the billboard is allowed as a Special Exception use **(Ref. Section 28-9 - Districts Established, Paragraphs (b) and (d) respectively in the Zoning Code).**

The issue of 'pervious and impervious surfaces' is addressed in **Section 28-9 - District Regulations**, (which allows single family, duplexes, public buildings and conservation uses) **Sub-section (1) (h), Maximum Lot Coverage. Maximum Lot Coverage permitted in the R-1 district** is 40% of the lot area. Lot Coverage is defined as, "that portion of the area of the lot, plot or building site, expressed as a percentage, occupied by all buildings or structures which are roofed or are otherwise covered". This maximum allowable percentage of lot coverage does not necessarily regulates the maximum amount of 'impervious surfaces' that can be imposed on individual lots. Other non-roofed areas such as driveways, patios, pool decks and other structures and uses are typically 'impervious' areas. Fortunately, most lots in the R-1 district are not developed to the maximum allowable lot coverage percentage, therefore, allowing for more 'pervious surfaces'.

The Maximum Lot Coverage allowed in the BP - Business and Professional zoning district is 60% on interior lots and 50% on corner lots **(Ref. Section 28-9 (2) (h) of the Zoning Code).** The three (3) lots that front Southern Boulevard (SR 80) that are vacant and undeveloped at the present time. The remaining lot designated for this use is the Billboard site. It's unique situation has already been discussed. Due to the current status of these lots, the lot coverage requirements either have not been applied to date or, in the case of the Billboard, the amount of 'pervious' surface on this site is greatly minimized while the amount of 'impervious surface' far exceeds that than would typically occur on more usual types of business and professional use sites.

Front, side and rear yards are established in the Town Zoning Code. 'Yard' is defined as, "the unoccupied and unobstructed open spaces on the same lot with the main building which extend from the ground upward..." **(Ref. Section 28-5 - Definitions of the Zoning Code).** In accordance with the R-1, Low Density Residential zoning district regulations for 'Yards', the following minimums are established **(Ref. Section 28-9 (1) (i) (j) and (k) respectively):**

- Front Yard - Twenty five (25) feet
- Side Yard (corner) - Fifteen (15) feet
- Side Yard (waterfront) - Thirty (30) feet
- Rear Yard - Fifteen (15) feet; except waterfront, thirty (30) feet

In accordance with the BP - Business and Professional zoning district regulations for 'Yards', the following minimums are established or **(Ref. Section 28-9 (2) (i) (j) and (k) respectively):**

- Front Yard - Twenty (20) feet
- Side Yard (interior lots) - 0 feet
- Side Yard (corner lots) - Fifteen (15) feet
- Rear Yard - Fifteen (15) feet

Chapter 22 - Subdivisions in the Town's Code of Ordinances establishes in Section 22-3 (2) that, "All roads within the Town shall be constructed with a maximum of two (2) lanes of pavement and operate at a maximum Level of Service A for two (2) lane facilities, pursuant to the Town's adopted "**Comprehensive Plan**". **Policy 1.8 under Objective A in the Transportation element** establishes a Level of Service A for all roads in the Cloud Lake. No development of any kind shall be issued by the Town if Level of Service A on any road in Cloud Lake were to be exceeded because of a development approval". **Policy 2 under Objective C in the Transportation element** states that, "The Town shall maintain existing road rights-of-way and prohibit the use of broad rights-of-way for on-street parking. **Chapter 22 - Subdivisions in Sub-section 22-3 (3)** establishes that road rights-of-way shall at thirty (30) feet wide. These restrictions assure that the amount of 'impervious' surfaces used for roadways will be minimized because of the low density residential nature of development in Cloud Lake as would be compared to communities of more varied and intense development potential. Finally **Section 22-3 (4)** ensures that, "The developer shall provide such facilities and easements as to ensure proper drainage of the roads and subdivisions to positive outlets, according to the Level of Service Standards established in the Infrastructure element of the Town's Comprehensive Plan and expressed as follows":

Design Storm

Drainage: Five (5) year frequency, 24 hour duration (one day); rainfall intensity curve.

Status: The regulations cited above establish some limitations to the amount of land area that can be developed as 'impervious' areas in the Town of Cloud Lake. Other regulations could be instituted that would further restrict the amount of 'impervious' surfaces permitted on developable lots while requiring significant 'pervious' areas on those lots.

Recommendation: *It is recommended that definitions for 'impervious' and 'pervious' areas be established in Section 28-5 - Definitions of the Zoning Code. Further, Section 28-9 - District Regulations, Sub-section (1)(h), Maximum Lot Coverage should be revised to establish that no greater than 50% of a residential lot shall contain 'impervious' areas. The Town should review these suggested revisions during the third year of the current NPDES stormwater permit and take appropriate actions for inclusion in Town regulations.*

Landscaping/Florida Yards and Neighborhoods Program/Conservation

The provisions and requirements of **Chapters 4 and 19**, Town of Cloud Lake Code of Ordinances contain landscaping regulations and concerns about the use of 'native' vegetation, the elimination of exotic vegetation, the protection of certain species, the conservation of trees to the maximum extent possible and other LID practices and techniques.

Landscaping regulations adopted by the Town of Cloud Lake are contained within **Chapter 28 - Zoning; specifically in Section 28-10 General Provisions and Supplementary Regulations, Sub-section 28-10 (10), Landscaping and Landscape Plans**. These regulations require that all plantings be defined and identified on submitted landscape plans and that 'native species' shall be used which are in accord with South Florida Water Management District Xeriscape practices when considering proposals for development or redevelopment (**Ref. Section 28-10-(10) d. 6 and Section 28-10 (10) e. 8 of the Town Zoning Code**). **Section 28-10 (10) d. 3** requires that, "All new trees shall be located so as to provide unrestricted flow or access to drainage swales or utility easements. No landscaping other than sod shall be placed within the boundaries of any public right-of-way". The preservation of outstanding natural features is required, as well (**Ref. Section 28-10 (10) d.2, Town Zoning Code**)

The Palm Beach County (PBC) NPDES Steering Committee developed a model Fertilizer Ordinance, in coordination with FDEP, as part of its MS4 stormwater permitting program. It was developed for use as a guide for adaptation to each co-permittees entity. The Town adopted a Fertilizer Ordinance in FY 12/13 following this guide. Only those entities whose stormwater runoff discharge into 'nutrient impaired' waters are required to adopt a Fertilizer Ordinance. The Town discharges into FDEP WBID 3245F (Lake Worth Lagoon - C51). Based on FDEP 2017 Verified Listing of Impaired Waters for the Lake Worth Lagoon, WBID 3245F is not an impaired water body.

The Florida Yards and Neighborhoods (FYN) Florida Friendly Landscaping program offers educational and suggested LID practices and principles that will help protect ground water, surface waters and the natural environment. It is important to reduce water usage and runoff and to use plants in landscaping that will flourish on the amount of rainfall received in Palm Beach County. Healthy plants filter runoff and slow erosion. FYN Florida Friendly program offers suggestions on 'water conservation' and as well as suggested materials to slow and clean runoff and to use materials such as mulch to retain water moisture which reduces competition for water between plant species. Other irrigation conservation practices include watering plants and landscaping early in the morning so plants are not wet overnight. This reduces water loss and the chances of disease. The use of rain sensors on irrigation systems are used to turn off irrigation when not in use while using mulch helps to retain soil moisture which reduces competition for water between plant materials.

FYN also encourages the use of less toxic or non-toxic products in controlling and managing pests in landscaped areas, thus reducing or eliminating toxic substances from entering ground or surface waters. FYN has many recommendations regarding the use of fertilizers and how to help contain its use from entering ground and surface waters. The FYN program offers practices such as providing buffer areas between fertilized and lawn cutting areas and a water body. These are just some of the LID Practices and principles offered by the FYN Florida Friendly Landscaping program.

The Town also adopted various land development regulations aimed at water and irrigation conservation. **Chapter 26 - Utilities, Division 2. - Water and Irrigation Conservation** is established to provide a regulatory framework and guidance document to the Town which will help ensure that water and landscape irrigation conservation will be consistent throughout Cloud Lake. Specifically, **Section 26-43 - Restrictions paragraph (a)** requires that, "Irrigation of any residential, commercial, institutional or governmental landscape areas shall be restricted to the hours of 5:00 p.m. to 9:00 p.m." while paragraph (b) establishes that, "It shall be unlawful to operate or cause the operation of any irrigation system or devise in a manner causing water to be wasted, including but not limited to unnecessary watering of impervious areas".

Also, the Town assists the South Florida Water Management District (SFWMD) in the implementation of the District's Water Shortage Plan. **Chapter 26 - Utilities, Division 3. of the Town's Code of Ordinances** was adopted by the Town to provide this assistance. The declaration of this Chapter and Division shall apply to all persons using the water resource within the Town as determined by the SFWMD. The declaration of a water shortage or water shortage emergency within the Town by the SFWMD shall invoke these provisions. Water use restrictions adopted by the SFWMD shall be subject to enforcement action (**Ref. Section 26-66 - Water Shortage**).

Status: The landscaping regulations adopted by the Town of Cloud Lake have been adequate to monitor and enforce good LID practices, principles and techniques. The Town has an adopted a Fertilizer Ordinance.. Applicators will have to be appropriately trained and certified in fertilizer application. The companies used by the Town for fertilizer (and pesticide) application have appropriate certifications and licenses that will qualify the Town in these applications.

Recommendation: *It is not necessary to recommend any changes to the Town of Cloud Lake existing landscaping regulations. The Town is nearly built-out, and the existing landscaping regulations should be adequate. It is recommended that the Town provide as much information to its resident (in the form of flyers, brochures, web sites and other available educational aides) to educate its community about the use and application of plant types and materials, use of fertilizers and pesticides, use of 'water conservation' techniques (e.g. pavers, stones, gravel, mulch, rain sensors on irrigation systems and others) and the myriad of useful information provided through the FYN Florida Friendly Landscaping program.*

Refuse, ,Garbage, Toxic Materials and Other Nuisances

The Town of Cloud Lake regulates the collection and containment of refuse, garbage , litter and toxic materials at residential, non-residential and construction sites in **Chapter 4 - Buildings and Building and Chapter 20 - Solid Waste, Article II - Disposal of Toxic and Hazardous Material of its Code of Ordinances.**

Through **Chapter 4 - Article II, Section 4-2 - Property Maintenance Code**, the Town adopts the International Property Maintenance Code by reference. **Section 308 - Rubbish and Garbage of the International Property Maintenance Code** addresses the accumulation and disposal of rubbish and garbage. Specifically, **Subsection 308.1** requires the, "All exterior property and premises...shall be free from any accumulation of rubbish or trash while Subsections 308.2 and 3. address the disposal of rubbish and garbage.

Chapter 20 - Solid Waste, Article II - Disposal of Toxic and Hazardous Materials, Section 20-19 - Unlawful Disposal stipulates that, "It shall be unlawful to dispose of toxic and hazardous materials, as identified in the generic substances list in **Section 20-20** into garbage or trash generated by residences or non-residential structures within the corporate limits of the Town". **Section 20-20**, as referenced is the Generic Substance List.

Chapter 28 - Zoning, Section 28-10 - General Provisions and Supplementary Regulations, Subsection(1), Nuisances. states that, " No use shall be made of any property within any zoning district that shall in any way be offensive or noxious by reason of the emission of odors, gases, dust, smoke, vibration or noise, nor shall anything be constructed or maintained in any zoning district that would in any way constitute a nuisance to adjacent property owners, residents or the community". Violation of this section shall be grounds for issuance of a stop order on new development.

Status: The Town of Cloud Lake is adequately addressing and enforcing appropriate regulations regarding the collection, disposal and containment of garbage, refuse, dust and particulate matter, and toxic and hazardous materials at construction sites as well as at individual residences and non-residential areas.

Recommendation: *No changes to regulations regarding the collection, disposal and containment practices for garbage, refuse, litter and particulates matter is proposed because of the limited development potential of any already nearly developed community. The handling of toxic and hazardous substances is the responsibility of other jurisdictions as identified in the Town of Cloud Lake Annual NPDES Report. These efforts should be closely coordinated with those entities.*

CLOUD LAKE COMPREHENSIVE PLAN

The Town of Cloud Lake Comprehensive Plan is adopted by reference in **Chapter 16 - Planning and Development, Section 16-1 - Comprehensive Plan Adopted**. The Town's Stormwater Management Policy is iterated in **Policy 3.2 under Objective C. of the Infrastructure element**:

Policy 3.2 : The basic drainage policy shall consist of the following components:

1. Continue routine maintenance of catch basins and conduits.
2. Regulate swale plantings and sodding.
3. Encourage appropriate land use activities in flood prone areas.
4. Protect environmentally sensitive areas by controlling adjacent activities.
5. Require use of vegetation, mulches and berms for control of pollutants from construction sites.
6. Enforce the Flood Protection Ordinance to maintain the flooding protection provided by natural features.

There are various stormwater drainage regulations established by Policies in several of Comprehensive Plan elements. **Objective E. in the Infrastructure element** is specifically intended to provide for protection of natural drainage features and ensures that future development utilizes stormwater management systems in a manner to protect the functions of recharge areas and natural drainage features". The aim of **Policy 1 under Objective E. of the Infrastructure element and Policy 1 under Objective C. in the Future Land Use element** is to limit post-development runoff rates and volumes to pre-development conditions. The aim of **Policy 2 under Objective E. and Policy 1 under Objective C. in the Future Land Use element** is to protect and preserve water quality by use of construction site best management practices (BMPs).

Policy 1. under Objective A. in the Infrastructure element of the Comprehensive Plan adopts Level of Service (LOS) Standards for those areas required by the State planning law, including Stormwater Management.

The Town has established a **LOS Standard for Stormwater Management with a Design Storm of five (5) frequency, 24 hour duration (one day); rainfall intensity curve.**

The issue of establishing standards and land use intensities for stormwater management, flood control and conservation purposes are addressed in the Future Land Use and Conservation elements of the Comprehensive Plan. A Conservation land use category is established on the Future Land Use Map. Conservation use is defined in **Chapter 28 - Zoning, Section 28-5 - Definitions** as, "...land areas designated for the purposes of protecting natural resources or environmental quality, and includes land areas for such purposes as flood control, protection of quality or quantity of groundwater or surface water, floodplain management, fisheries management, or protection of vegetative communities or wildlife habitats". A sub-part of **Policy 1 under Objective B. in the Future Land Use element** addresses adopting land development regulations that, "Protect Conservation Use lands designated on the Future Land Use Map and those delineated in the Conservation element. **Policy 9 under Objective B.** also establishes standards for conservation land use intensities which designate, conserve and protect areas for flood control and the other purposes stated above. Specifically, **Policy 9.** establishes that, "The maximum amount of impervious surface area to accommodate such appurtenant

uses such as parking, accessory uses and other special conditions shall be restricted to 15% of the gross upland area of the site. This requirement will apply to surface water bodies (lakes) or detention areas designated as Conservation use because there are no impervious areas to be regulated". **Policy 3. under Objective F. in the Conservation element** further designates the lake and all lots that were 'taken' as part of the West Palm Beach Stub Canal as Conservation use.

The continued participation of Cloud Lake in the Palm Beach County NPDES (National Pollution Discharge Elimination System) Stormwater Permitting Program is assured by adoption of **Policy 3 under Objective E. in the Infrastructure element and Policy 7 under Objective B. in the Conservation element** of the Comprehensive Plan.

The various Policies adopted in the Town of Cloud Lake Comprehensive Plan have led to the establishment of many of the Town's adopted LDRs. The Comprehensive Plan and adopted LDRs must be consistent per State planning requirements. The Town's Comprehensive Plan and LDRs are consistent with all planning and LDR requirements to date. These plans and programs, in concert with Town's NPDES program, are designed to create a cohesive and inclusive relationship between planning, regulations, implementation and coordination of actions. This is especially relevant to the maintenance of an efficient stormwater management program.