

Post Construction Storm Water Management

Appendix

City of Poquoson Annual Report

VAR# 040024

Fiscal Year 2021

Submitted to DEQ September 30, 2021

<u>BMP 5</u>	<u>POST CONSTRUCTION STORM WATER MANAGEMENT</u>
	Status of Compliance Spreadsheets
5.1	VSMP Program Approval Letter
5.2	Written inspection and maintenance procedures for managing locally owned BMPs
5.2	Privately owned BMP tracking spreadsheet

5. Post Construction Storm Water Management in New Development and Redevelopment						
BMP	BMP Description	Measurable Goals	Metric	Responsible Party	Timeline	Associated Documents
5.1	Post Construction SW Management Program	Implement the approved VSMP	Approved VSMP	VSMP Authority Administrator	Ongoing	Approval letter issued by DEQ. Compliant. See Appendix.
5.1a	Local VSMP	Implement the approved VSMP	Approved VSMP	VSMP Authority Administrator	Ongoing	Approval letter issued by DEQ. Compliant. See Appendix.
5.1b	Stormwater Management Ordinance	Implement the stormwater criteria of the Stormwater Management Ordinance for new development and redevelopment	Stormwater Management Ordinance	SW Program Administrator	Ongoing	SWM Ordinance Compliant. See https://library.municode.com/va/poquoson/code-of-ordinances?modelId=PTICODERCH34EN_ARTVSTMA
5.2	Inspection & Maintenance Schedules for BMPs					
5.2a	Written inspection and maintenance procedures for managing locally owned BMPs	Implement procedures, inspect locally owned BMPs at least annually (or have an approved alternative schedule)	# of inspections; description of significant maintenance activities	SW Program Administrator	Ongoing	Procedures and BMP Spreadsheets /Database COMPLIANT. The City owns three Water Quality BMPs. These were inspected in FY 21 and are scheduled for reinspection in October 2021. See Appendix for procedures and inspection forms.
5.2b	Inspection and enforcement program for privately-owned BMPs	Implement program, inspect privately owned BMPs at least once every 5 years	# of inspections; # of enforcement activities	SW Program Administrator	Ongoing	BMP Spreadsheets /Database COMPLIANT. 40 privately and publicly owned ponds are tracked and routinely inspected by either City staff or owners. 29 privately owned BMP agreements. All were current on inspection requirements as of June 30 2021. As of the end of the calendar year, no enforcement actions had been taken. See Appendix for tracking spreadsheet.

CITY OF POQUOSON PROGRAM PLAN

<p>5.2.c</p> <p>BMP Maintenance Agreements</p>	<p>Require BMP maintenance agreements as directed by the Stormwater Management Ordinance.</p>	<p># of Agreements & Inspection Schedules</p>	<p>SW Program Administrator</p>	<p>Ongoing</p>	<p>List of Maintenance Agreements</p>	<p>COMPLIANT. 29 privately owned BMP agreements. See Appendix for tracking spreadsheet. Maintenance Agreements are designated with an M in Notes column.</p>
<p>5.2.d</p> <p>Optional - Develop and implement a progressive compliance and enforcement strategy</p>	<p>Develop and implement strategy</p>	<p>Strategy</p>	<p>SW Program Administrator</p>	<p>Ongoing</p>	<p>Written Strategy</p>	<p>Given that we are not having issues with compliance, the current program appears to be working well. The program will be evaluated in P/Y4.</p>
<p>5.3 Tracking and Reporting</p>						
<p>5.3.a</p> <p>BMP Tracking</p>	<p>Track all known permanent stormwater management facilities that discharge to the regulated small MS4 and submit the information listed in permit</p>	<p>Data as required by Permit (print & spreadsheet/ database)</p>	<p>SW Program Administrator</p>	<p>Annually</p>	<p>BMP Spreadsheet /Database</p>	<p>COMPLIANT. No new BMPs added this year.</p>
<p>5.3.b</p> <p>Update database or spreadsheet with new BMPs</p>	<p>Track new permanent stormwater management facilities</p>	<p>Database or spreadsheet with new BMP information</p>	<p>SW Program Administrator</p>	<p>Within 30 days of date brought online</p>	<p>BMP Spreadsheet /Database</p>	<p>COMPLIANT. No new BMPs added this year.</p>
<p>5.3.c</p> <p>Report Construction BMPs</p>	<p>Report BMPs installed to control post-construction runoff through the DEQ Construction SW database</p>	<p>Confirmation statement</p>	<p>SW Program Administrator</p>	<p>Ongoing</p>	<p>Confirmation statement</p>	<p>COMPLIANT. No new BMPs added this year.</p>
<p>5.3.d</p> <p>Report other BMPs</p>	<p>Report any BMPs not included in the Construction SW database implemented between July 1 - June 30 in the DEQ BMP Warehouse</p>	<p>Confirmation statement</p>	<p>SW Program Administrator</p>	<p>No later than Oct. 1 each year</p>	<p>Confirmation statement and date information was submitted</p>	<p>COMPLIANT. No new BMPs added this year.</p>

CITY OF POQUOSON PROGRAM PLAN

5.4	<p>Evaluation and Assessment</p> <p>Evaluate and assess progress towards meeting measurable goals.</p>	<p>SW Program/E&SC Program Administrators</p> <p>Annually</p>	<p>Annual Report</p> <p>COMPLIANT. We did not have any issues this permit year regarding BMP inspections. The City will continue to notify owners of their responsibility and take enforcement action if necessary. We anticipate new BMPs being added next year with current construction underway</p>
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COMMONWEALTH of VIRGINIA

Melanie Joseph Ward
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
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David K. Paylor
Director
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June 13, 2014

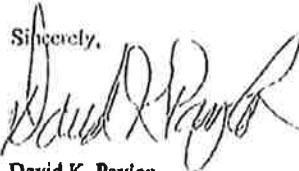
J. Randall Wheeler, City Manager
City of Poquoson
500 City Hall Avenue
Poquoson, VA 23662

Dear Mr. Wheeler:

In accordance with §62.1-44.15:27 G of the Virginia Stormwater Management Act (Act), Department of Environmental Quality (DEQ) has completed the review of the City of Poquoson's final Virginia Stormwater Management Program (VSMP) application package submitted on June 02, 2014. Based on this review, DEQ has determined that the City of Poquoson VSMP is consistent with the Act, the VSMP regulation and the General VPDES Permit for Discharges of Stormwater from Construction Activities.

In light of this determination, DEQ approves the City of Poquoson's VSMP; and the City is authorized to operate a VSMP beginning on July 1, 2014. Please note that this approval is based on the content of the application package. Any changes made to the documents in the package after the approval date, including changes to the adopted ordinance, may necessitate DEQ evaluation as part of its compliance review of your approved VSMP.

Thank you for your cooperation in developing a VSMP. We look forward to continuing to assist the City with the implementation of its VSMP.

Sincerely,

David K. Paylor

David K. Paylor

cc: Melanie Davenport, Director, DEQ Water Division
Frederick Cunningham, Director, DEQ Office of Water Permits
Joan Salvati, Manager, DEQ Local Government Stormwater Programs

Constructed Wetlands Operations and Maintenance Plan

Vegetation Establishment Period: Provided if new vegetation is installed.

During this establishment period, wetlands plantings shall be procured so that there is a warranty period. Plants that are under warranty and will be monitored and replaced as needed by the Contractor. City staff duties:

Monitor the Contractor's activities to ensure that the warranty is being honored.

- Time period: 12 months after substantial completion
- Frequency: Monthly visual inspection during growing season; bimonthly during winter
- Staff members: Engineering
- Follow up: provide information to contractor on distressed/dead vegetation and/or deficiencies in bird netting (if required).

Evaluate the effectiveness of the types of wetlands plants used.

- Time Period: In spring, after the start of growing season (end of March/April)
- Frequency: Annually
- Staff members: Public Works, Engineering
- Follow up: Create projects for fall planting of new varieties of plants
- Evaluation topics:
 - Do plants in general appear healthy?
 - During the growing season, do they appear to be growing and spreading?
 - Are they blooming at the appropriate time?
 - If not, are there better plant choices? Refer to the latest edition of the Virginia BMP Clearinghouse Specification for Constructed Wetlands.

Monitor the perimeter landscaping: Contractor is also responsible for maintaining the bushes located about the perimeter. Staff's role is to monitor these perimeter plantings to ensure the warranty is being honored.

- Time period: 12 months after construction completion.
- Frequency: Bimonthly
- Staff members: Public works or Engineering staff
- Follow up: Notify contractor regarding distressed/dead vegetation.

City personnel (Public Works) shall reseed grass/maintain good ground cover during establishment period.

Other site features will be maintained per the permanent O&M plan (attached).

Inspections and Ongoing Maintenance

Annual Inspections: City Inspection or Engineering Staff member will inspect the facility at least once a year. Inspection items include:

- Monitor sediment accumulation levels in sediment forebay. Visually monitor every year.
- Monitor plant growth within the BMP. Note the presence of any invasive species/woody growth on steep side slopes. Annually.
- Inspect articulated concrete block overflow to ensure that voids in concrete block are filled with soil and plants are establishing. Annually.
- Inspect side slopes for erosion, animal burrows, and woody growth or other conditions that would impact slope stability or cause erosion. Annually.

Ongoing Maintenance: Public Works staff tasks:

- Perform work annually to trim grass/weeds so that flow in channel is not inhibited.
- While performing this work, remove woody growth on side slopes/bottom of facility.
- Prior to removing any potential weed or planting in created wetland area, meet with Engineering staff to determine if planting is invasive or provided for water quality. Only remove invasive species.
- Remove trash, debris, and floatables.

Volunteer Projects: The following tasks may be accomplished during volunteer events. City staff must be present for work. Safety measures shall be implemented as applicable to work location and tasks.

- Plant flowers or other foliage about the perimeter of the site. Volunteer coordinator to work with Public Works and Engineering to ensure plantings do not interfere with site maintenance or function.
- Remove debris, trash and floatables from the site. Provide information to volunteers on proper disposal of items and appropriate facilities/equipment.
- Rake leaves and other yard waste from site.
- As needed, with appropriate supervision, plant new wetlands plantings; thin or transplant wetlands plantings located in thickets. Ensure all safety measures are in place and volunteers clearly understand where they may and may not enter; ensure the locations of micropools and other safety hazards are clearly delineated.

Non-Routine Maintenance

Sediment Removal from the Sediment Forebay shall be provided as needed.

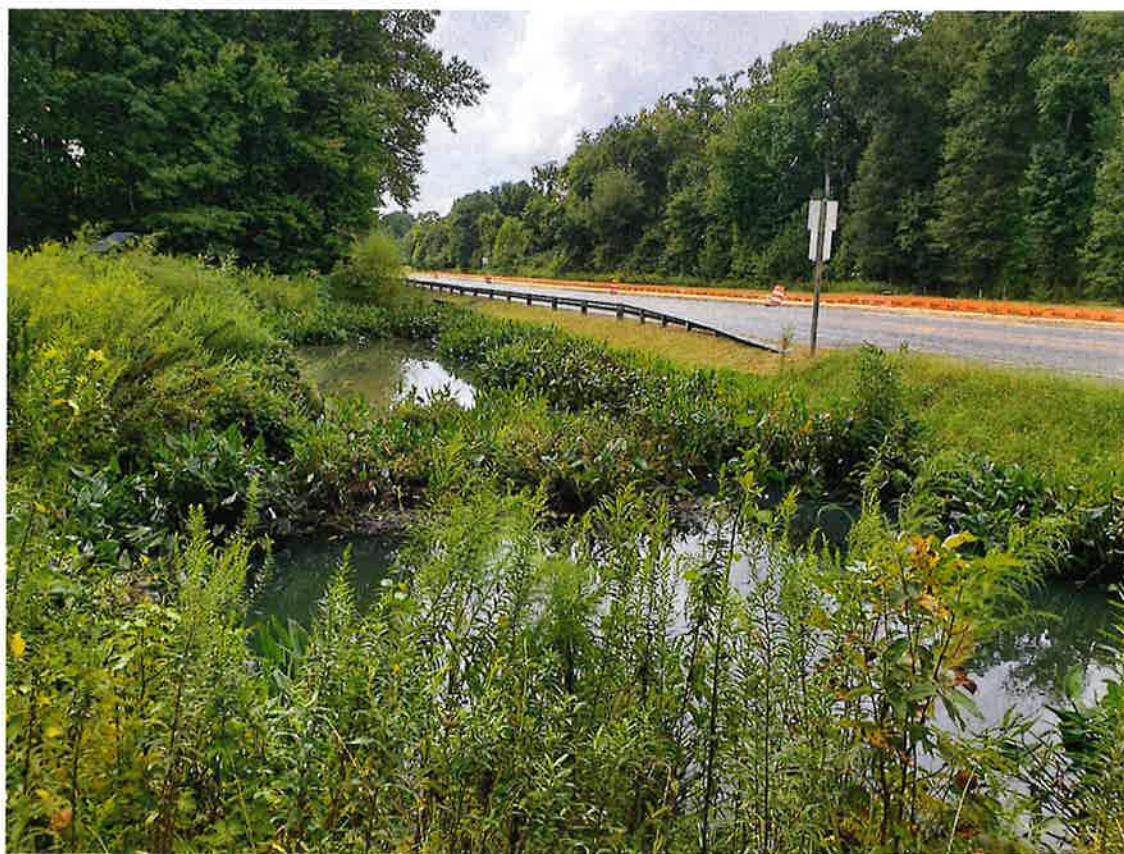
- Timing: Work shall occur during periods of low groundwater.
- Dewatering shall be in accordance with Public Works SOPs.
- Adequate dewatering and disposal sites for excavated spoils shall be determined and be available prior to sediment removal.

Invasive Species Control: Invasive species such as phragmites shall not be allowed to cover more than 15% of the wetland cell area. The site is highly visible from Victory Boulevard. Any observation of an invasive species will be reported to Public Works immediately so that its removal can be added to an ongoing maintenance duty list. Extended periods of dewatering shall only be used as a last resort to remove invasive species.

Constructed Wetlands Annual Inspection Findings

<u>Inspection Item</u>	<u>Findings</u>	<u>Notes</u>
<u>Monitor sediment accumulation levels in sediment forebay</u>	No signs	
<u>Monitor plant growth on the BMP aquatic bench</u>	Abundant plant growth	
<u>Invasive Species?</u>	No signs	
<u>Inspect inflow and outfall pipes to ensure adequate flow and that there is no erosion around or under the piping</u>	N/A	
<u>Inspect side slopes for erosion, animal burrows, and woody growth</u>	Slight erosion on side slopes near forebay	
<u>Following recent rain events, visually inspect turbidity levels in forebay and downstream pool to ensure forebay is functioning</u>	Functioning properly	Need to clean up litter

Performed by Garrett Fennings on 9/23/22



Wet Pond Operations and Maintenance Plan

Plan applies to City-owned Wet Ponds located on the City Hall property and at South Lawson Park.

Vegetation Establishment: Vegetation is currently established in pond. The following is provided if additional vegetation is warranted:

During this establishment period, wetlands bench plantings will be monitored and replaced as needed by the Contractor. City staff duties:

Monitor the Contractor's activities to ensure that the warranty is being honored.

- Time period: 12 months after substantial completion
- Frequency: Monthly visual inspection during growing season; bimonthly during winter
- Staff members: Engineering
- Follow up: provide information to contractor on distressed/dead vegetation and/or deficiencies in bird netting (if required).

Evaluate the effectiveness of the types of wetlands plants used.

- Time Period: In spring, after the start of growing season (end of March/April)
- Frequency: Annually
- Staff members: Public Works, Engineering
- Follow up: Create projects for fall planting of new varieties of plants, thinning of existing vegetation if needed
- Evaluation topics:
 - Do plants in general appear healthy?
 - During the growing season, do they appear to be growing and spreading?
 - Are they blooming at the appropriate time?
 - If not, are there better plant choices? Refer to Virginia BMP Clearinghouse Specification for Constructed Wetlands, Table 13.4.
- City personnel (Public Works) shall reseed grass/maintain good ground cover during establishment period.

Surrounding Site Activities:

Other site features will be maintained per the permanent O&M plan (attached).

Inspections and Ongoing Maintenance

Routine Visual Inspections: City Public Work and Engineering staff members will visually inspect the facility during routine (monthly or more frequent) maintenance of the adjacent park area; as they drive by the site to go to work, and every time they enter the site:

- Visually monitor sediment accumulation levels in sediment forebay. Sediment levels to be measured during 5-year inspection.
- Following recent rain events, visually inspect turbidity levels in forebay and downstream pool to ascertain if sediment forebay is functional (no seeps; sufficiently low sediment accumulation level to allow for continued settlement in the forebay).
- Monitor plant growth on the BMP aquatic bench. Note the presence of any invasive species/woody growth on steep side slopes.
- Inspect inflow and outfall pipes to ensure adequate flow of water and to ensure there is no erosion around or under the piping.
- Inspect side slopes for erosion, animal burrows, and woody growth or other conditions that would impact slope stability or cause erosion.

Ongoing Maintenance: Public Works staff tasks:

- Perform work annually to trim grass/weeds.
- While performing this work, remove woody growth on side slopes/bottom of facility.
- Prior to removing any potential weed or planting in the aquatic bench, meet with Engineering staff to determine if planting is invasive or provided for water quality. Only remove invasive species.
- Remove trash, debris, and floatables.

Volunteer Projects: The following tasks may be accomplished during volunteer events. City staff must be present for work. Safety measures shall be implemented as applicable to work location and tasks.

- Plant flowers or other foliage about the perimeter of the site. Volunteer coordinator to work with Public Works and Engineering to ensure plantings do not interfere with site maintenance or function.
- Remove debris, trash and floatables from the site. Provide information to volunteers on proper disposal of items and appropriate facilities/equipment.
- Rake leaves and other yard waste from site.
- As needed, with appropriate supervision, plant new wetlands plantings; thin or transplant wetlands plantings located in thickets. Ensure all safety measures are in place and volunteers clearly understand where they may and may not enter; ensure that volunteers do not venture near the permanent wet pool.

Non-Routine Maintenance

Sediment Removal from the Sediment Forebay shall be provided as needed.

- Timing: Work shall occur during periods of low groundwater.
- Dewatering shall be in accordance with Public Works SOPs.
- Adequate dewatering and disposal sites for excavated spoils shall be determined and be available prior to sediment removal.

Invasive Species Control: Invasive species such as phragmites shall not be allowed to cover more than 15% of the wetland cell area. Any observation of an invasive species will be reported to Public Works immediately so that its removal can be added to an ongoing maintenance duty list. Extended periods of dewatering shall only be used as a last resort to remove invasive species.

Oxford Run Wet Pond Annual Inspection Findings

<u>Inspection Item</u>	<u>Findings</u>	<u>Notes</u>
<u>Monitor sediment accumulation levels in sediment forebay</u>	No issues	
<u>Monitor plant growth on the BMP aquatic bench</u>	Abundant plant growth	
<u>Invasive Species?</u>	No issues	
<u>Inspect inflow and outfall pipes to ensure adequate flow and that there is no erosion around or under the piping</u>	No issues	
<u>Inspect side slopes for erosion, animal burrows, and woody growth</u>	Slight erosion No issues both sides of pond	
<u>Following recent rain events, visually inspect turbidity levels in forebay and downstream pool to ensure forebay is functioning</u>	It is functioning correctly	

Performed by Garrett Fenns on 9/23/20



South Lawson Park Wet Pond Annual Inspection Findings

<u>Inspection Item</u>	<u>Findings</u>	<u>Notes</u>
<u>Monitor sediment accumulation levels in sediment forebay</u>	No issues	
<u>Monitor plant growth on the BMP aquatic bench</u>	Inconsistent plant growth around aquatic bench	Some areas of plant growth and some with little
<u>Invasive Species?</u>	No issues	
<u>Inspect inflow and outfall pipes to ensure adequate flow and that there is no erosion around or under the piping</u>	Provision as inflow pipe. inflow and outfall pipes are ^{near} full capacity near high tide	
<u>Inspect side slopes for erosion, animal burrows, and woody growth</u>	slight erosion of side slopes	
<u>Following recent rain events, visually inspect turbidity levels in forebay and downstream pool to ensure forebay is functioning</u>	No issues	

Performed by Garett fragans on 4/23/20



*Location	*Name	Last Inspect.	Next Insp.	NOTES	Maint 1	Maint 2
Wythe Creek Rd	EXPRESS LUBE/ADVANCE AUTO	1/17/2019	Due 1/17/24	M (maintenance agreement)	Spillway was repaired and debris removed from pond 7/1/12 (prior to December 2012 inspection).	Weeds removed; pond vegetation planted in accordance with design requirements
Victory Blvd	KFC/TACO BELL/PIZZA HUT	1/4/2019	Due 1/4/24	M	April 1, 2012 pond restoration to design plans. Pond was cleaned out with excess soil and debris removed; new vegetation planted.	
416 Wythe Creek Rd.	ANGLEY FCU	7/16/2015	Due 7/16/25	No maintenance agreement requiring inspections; owner responsible for self inspections & maintenance.		
S. Lawson Rd	LAWSON PARK	9/23/2020	9/23/2021	City inspects.	Pond expanded and sediment forebay added 7/1/09.	June 13, 2011: fountain installed to aerate pond.
Wythe Creek Rd	McDONALDS	7/16/2015	7/16/2025	Privately owned, flood control only pond. Constructed prior to CBPA.	October 1995 through April 1996: Pond redesigned and converted from an infiltration basin to a wet pond following infiltration pond failure.	July 1, 2014: debris removed; algae issue resolved
Wythe Creek Rd	POQUOSON COMMONS #1	7/16/2015	Due 7/16/25	Privately owned, flood control only pond. Constructed prior to CBPA. No maintenance agreement requiring inspections; owner responsible for self inspections & maintenance.		
Wythe Creek Rd	POQUOSON COMMONS #2	7/16/2015	Due 7/16/25	Privately owned, flood control only pond. Constructed prior to CBPA. No maintenance agreement requiring inspections; owner responsible for self inspections & maintenance.		

Wythe Creek Rd	RTE A1D	7/16/2015	Due 7/16/25	Privately owned, flood control only pond. Constructed prior to CBPA. No maintenance agreement requiring inspections; owner responsible for self inspections & maintenance.
563 Wythe Creek Rd	POQUOSON FIRE STATION 2	9/23/2020	9/23/2025	Dry detention pond used for flood control only. Fire Department owned.
563 Wythe Creek Rd	POQUOSON FIRE STATION 2 (2)	9/23/2020	9/23/2025	Dry detention pond used for flood control only. Fire Department owned.
Wythe Creek Rd/Poquoson Avenue Intersection	VDOT pond	9/23/2020	9/23/2025	flood control only. Constructed by VDOT in the 1970's, prior to CBPA. City inspects every 5 years. Shallow depression pond.
105 Rens Rd	WHITE HOUSE COVE RESORT HOMES FILTERRA #1	6/11/2020	6/11/2025	M
105 Rens Rd	WHITE HOUSE COVE RESORT HOMES FILTERRA #2	6/11/2020	6/11/2025	M
Wythe Creek Rd	WYTHE CREEK MINI STORAGE	7/16/2015	Due 7/16/25	M
Weston Dr.	BENNETT CREEK POINT	7/20/2019	Due 7/20/24	M
Darden Dr.	BULL RUN	Completed 11/20/18	Due 11/20/23	M

Channelwalk Dr	CHANNELWALK	2/27/2019	Due 2/27/24	M	
Firth Lane	RUBUS RUN	2/27/2017	Due 2/27/22	M	
Yorktown Rd	GARDEN ATRIUMS	5/16/2018	Due 5/16/23	M	Spillway was modified to perform as designed following the April 2005 inspection. July 2005 inspection confirmed pond was operating correctly.
Dryden Dr.	HERITAGE COVE POND 1	6/29/2018	Due 7/1/2023	M	Routine maintenance by HOA has been ongoing (7/1/11, 7/1/12, 7/1/13, 7/1/14, 7/1/15). Pond repair work has been scheduled for near future (fall 2015) to repair an eroded outfall and embankment. As part of effort, pond will be re-excavated to perform at design conditions.
Callis Ln.	HERITAGE COVE POND 2	6/29/2018	Due 7/1/2023	M	
Dryden Dr	HERITAGE COVE SHALLOW MARSH	6/29/2018	DUUE 7/1/2023	M	
Black Oak Ct.	HOLLYS	6/4/2018	DUUE 6/4/2023	M	
Pheasant Dr.	HUNTS COVE	2/19/2019	Due 12/19/24	M	Repairs to downstream dam, outfall and tidal check valve completed in December 2012 to restore design performance.

Pickins Drive	VICTORY COVE	31/8/2016	31/8/2021	M
Hunts Neck Rd	HUNTS NECK ESTATES	4/24/2018	Due 4/24/23	M
Elm St.	ISLAND COVE	8/15/2018	Due 8/15/23	M
Wormom Farm Dr.	LAKES AT POQUOSON	3/27/2019	Due 3/27/24	M
W Laydon Way	LAWSON FARMS	9/23/2019	Due 9/23/24	City inspects this pond as part of agreement with HOA. Pond deepened and re-graded 7/1/05.
Henley Way	LYONS LANDING	11/30/2018	Due 11/30/23	M Routine maintenance by HOA is ongoing (7/1/11, 7/1/12, 7/1/13, 7/1/14, 7/1/15).
Crescent Pt.	PHILLIPS POINT COVE	7/30/2018	Due 7/30/23	M Outfall upgraded October 2001
Hollingsworth	RIVER'S EDGE	5/10/2019	Due 5/10/24	M
Villa Dr.	VILLAS PHASE 1	4/16/2018	Due 4/16/23	M
Villa Dr.	VILLAS PHASE 1(2)	4/16/2018	Due 4/16/23	M
Hunlandia Way	VILLAS PHASE 2	4/16/2018	Due 4/16/23	M
City Hall Ave.	CREATED WETLAND	9/23/2019	9/23/2021	M
City Hall Ave.	WET POND	9/23/2019	9/23/2021	M
Wythe Creek Rd	POQUOSON BAPTIST CHURCH	5/17/2019	Due 5/17/2024	M

Hunts Neck Rd	MASONIC LODGE	7/3/2019	Due 7/3/24	M	