CITY OF VIRGINIA BEACH

Total Phosphorus Total Maximum Daily Load Action Plan

STORMWATER MANAGEMENT

Public Works Department
VSMP MS4 Permit # VA0088676

July 2025

Contents

Appendices

Acronyms and Abbreviations

action plan	TMDL action plan
City	City of Virginia Beach
DEQ	Virginia Department of Environmental Quality
DO	dissolved oxygen
HRPDC	Hampton Roads Planning District Commission
lb/ac/yr	pound per acre per year
lbs/yr	pounds per year
MS4	Municipal Separate Storm Sewer System
NA	not applicable
NMP	Nutrient Management Plan
POC	pollutants of concern
SWMF	storm water management facility
TMDL	total maximum daily load
TP	total phosphorus
USEPA	United States Environmental Protection Agency
VACS	Virginia Agricultural Cost-Share
VESMP	Virginia Erosion and Stormwater Management Program
WLA	wasteload allocation

1. Introduction

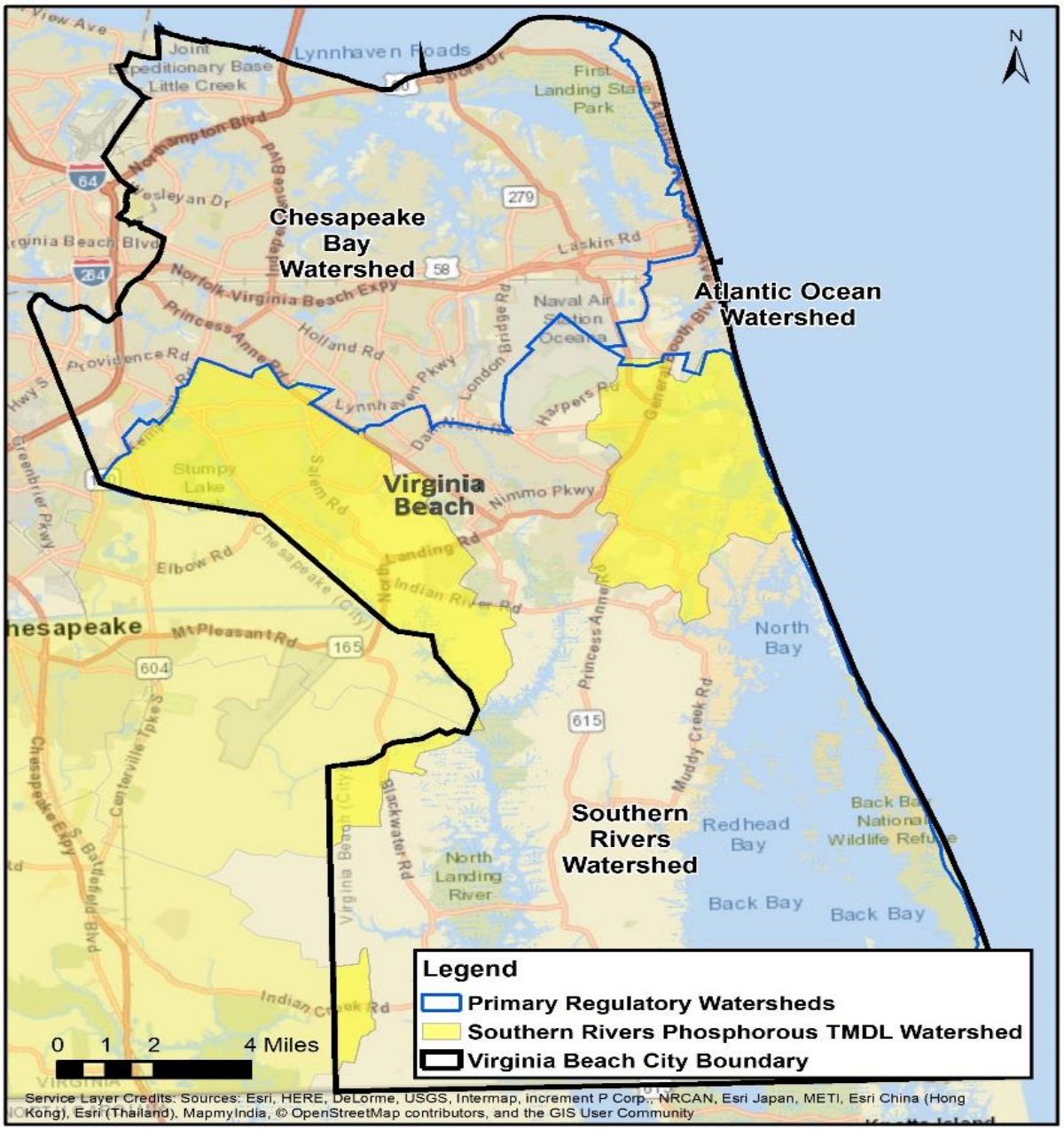
The City of Virginia Beach (City) is in the coastal area of southeastern Virginia and has three primary watersheds: the Chesapeake Bay Watershed, the Atlantic Ocean Watershed, and the Southern Rivers Watershed. The City owns and operates a stormwater system to collect and convey stormwater runoff to streams, lakes, and other waterbodies located in these watersheds. The City is authorized to discharge stormwater runoff from the storm sewer system under its Municipal Separate Storm Sewer System (MS4) Permit No. VA0088676.

When a stream or other waterway does not meet state water quality standards established by the Virginia Department of Environmental Quality (DEQ) it may be classified as impaired for pollutants. DEQ develops a total maximum daily load (TMDL) for the pollutant based on water quality modeling to support the waterway meeting water quality standards. A TMDL is the maximum amount a pollutant of concern (POC) can be discharged to a waterbody so that it will meet and continue to meet water quality standards for that pollutant. The TMDL is used to establish how much the existing pollutant contribution will need to be reduced and allocates load reductions necessary to the source of pollutant in the watershed. Pollutant sources are characterized as either point sources that receive a wasteload allocation (WLA), or nonpoint sources that receive a load allocation. For purposes of assigning WLAs, point sources include all permitted sources such as the City's stormwater system. The City's stormwater system includes many ditches in the Southern Rivers watershed that convey stormwater from public roadways to our rivers, creeks, and bay.

The City is required by its MS4 permit to develop and update action plans for TMDLs established as of April 1, 2015, to address the sources of the pollutant to meet the required reductions. There are four total phosphorus (TP) TMDLs located in the Southern Rivers watershed, which are assigned to the following waterways; Lower Ashville Bridge Creek, Middle North Landing River, Northwest River, and Pocaty River. The location of each of these TMDL subwatersheds is shown in the figure on the following page.

This 2025 Total Phosphorus TMDL Action Plan (action plan) uses an adaptive, iterative approach in the planning and implementing of management practices to address the reduction requirements in each of the four subwatersheds. This action plan was prepared in accordance with the requirements of the City's MS4 permit section I.D.2. and includes the following information.

- Breakdown of the WLAs and corresponding required pollutant load reductions for phosphorus for each subwatershed,
- Summary of the total phosphorus reductions achieved to date and any BMPs implemented to date,
- Summary of the BMPs planned to be implemented to meet reduction requirements and a schedule of implementation actions during the current permit term, and
- Summary of public comments received.



Phosphorus TMDL Watersheds in the Southern Rivers Watershed

The City prepared a Total Phosphorus TMDL Action Plan which was approved by DEQ in 2018. The 2018 Total Phosphorus TMDL Action Plan is located on the City's stormwater management website at virginiabeach.gov/stormwater-program. The following items are referenced in the DEQ Local TMDL Action Plan Guidance dated 2016 that were included in the 2018 Total Phosphorus TMDL Action Plan but are not required by the current MS4 permit.

- Legal Authority that is needed to meet the required reductions,
- Further discussion on the pollutant causing the impairment,
- Assessment of significant sources from City facilities,

- Summary of public education, outreach, and employee training to eliminate and reduce discharges of pollutants.

2. Pollutant Reductions Required

The Virginia DEQ TMDL reports describing development of the TP TMDLs are as follows:

- Total Maximum Daily Load Development for the Albemarle Canal/North Landing River – A Total Phosphorus TMDL Due to Low Dissolved Oxygen Impairment (Virginia DEQ, 2010)
- Total Maximum Daily Load Development for the Back Bay, North Landing River, and Pocaty River Watersheds - E. coli, and Enterococci Due to Recreation Use Impairments, and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use Impairments (Virginia DEQ, 2013, revised 2014) (includes Ashville Bridge Creek and Pocaty River TP TMDLs)
- Total Maximum Daily Load Development for the Northwest River Watershed – A Total Phosphorus TMDL Due to Low Dissolved Oxygen Impairment (Virginia DEQ, 2011)

The phosphorus TMDLs were developed because of a low dissolved oxygen (DO) impairment where the levels of DO were below the minimum DO water quality standard in the four TP TMDL watersheds. In the Virginia DEQ TMDL reports, it was determined that the impairments were caused by excessive phosphorus. Excessive phosphorus is a non-point source, which has an average pollutant loading to waterways based on land use within the watershed. No significant point sources have been identified where expected pollutant loading to the waterway is greater than the average pollutant loading for the land use.

The City has prepared this action plan to address the TP WLAs assigned to the four local watersheds as described the Virginia DEQ TMDL reports and summarized in **Table 1** below.

Table 1. Virginia Beach Total Phosphorus Total Maximum Daily Loads

Local Watershed	EPA Approval Date	TP Wasteload Allocation	TP Reduction Amount	Percent Reduction
Ashville Bridge Creek - Lower	6/26/2014	42 lbs/yr	32 lbs/yr	43%
North Landing River - Middle	1/13/2011	1,230 lbs/yr	775 lbs/yr	39%
Northwest River	4/26/2011	3.97 lbs/yr	5.51 lbs/yr	58%
Pocaty River	6/26/2014	2.38 lbs/yr	4.21 lbs/yr	64%

3. Projects and Programs Implemented

An adaptive, iterative approach will be used in planning and implementing management practices to achieve these reductions. This section describes existing management practices, control techniques, and system design and engineering methods that will be used to meet WLAs. Existing practices that help to reduce phosphorus include:

- Stormwater Management Facilities (SWMFs)
- Phosphorus Ban in Fertilizer
- Nutrient Management Plans (NMPs)

The reductions achieved by both the SWMFs and phosphorus ban in fertilizer have been reported to DEQ in the 2023-2024 MS4 Permit Annual Report. The reductions achieved by NMPs will be reported in the 2024-2025 MS4 Permit Annual Report. A detailed explanation of each of the sources of reductions is

included in this section. The pollutant load reductions from completed projects and programs in the four local watersheds are summarized in Table 2.

Table 2. Pollutant Load Reductions from Completed Projects and Implemented Programs

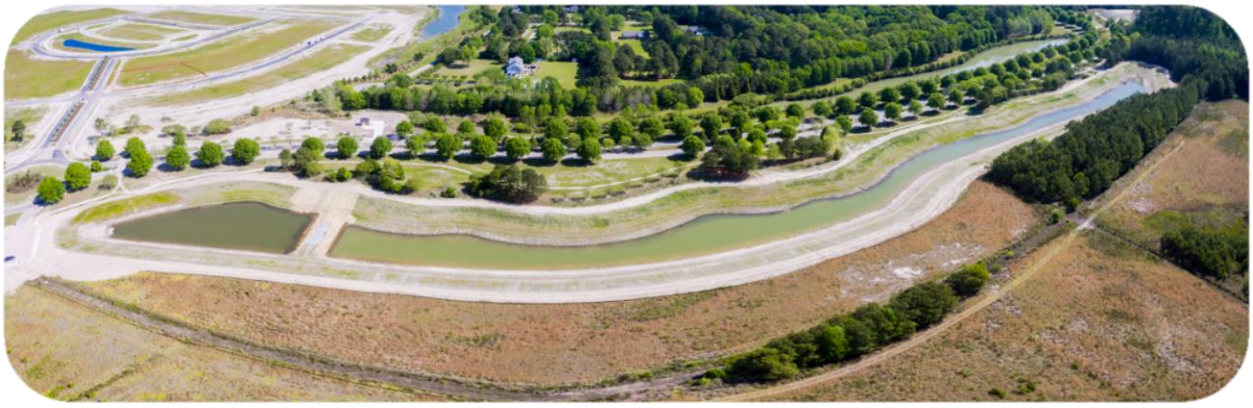
Source of Phosphorus Reduction Credit (lbs/yr)	Ashville Bridge Creek Watershed	North Landing River Watershed	Northwest River Watershed	Pocaty River Watershed
Stormwater Management Facilities (SWMFs)	10	0	0	0
Phosphorus Ban in Fertilizer	111	208	4.30	3.30
Nutrient Management Plans (NMPs)	9.20	23	0	0
Total Reductions Achieved	130	231	4.30	3.30
Achieving Required Reductions	✓	-	-	-
Required Reductions	**32**	**775**	**5.51**	**4.21**

Projects

Wet Pond Projects

Ashville Park Wet Pond

The construction was completed for the Ashville Park wet pond (10A) in 2024. The project is a new wet pond located in Ashville Park neighborhood in Ashville Bridge Creek watershed. The wet pond was built as part of the Ashville Park drainage improvements, and it improves water quality by reducing pollutants from stormwater runoff before entering Ashville Bridge Creek to help meet the Total Phosphorus TMDL reductions goals.



Programs

Phosphorus Ban in Fertilizer

The Virginia Fertilizer Act was amended in 2011, to prohibit the sale, use, and distribution of lawn maintenance fertilizer containing phosphorus after December 31, 2013. The City contracted a study entitled *'Lawn and Turfgrass GIS Analysis and Phosphorus Reduction Calculation Methodology'* dated January 31, 2023, to estimate the annual reduction of phosphorus loading achieved by the state

legislature based on an analysis of sales data. The Chesapeake Bay Expert Panel recommendations is based on consideration of the initial estimate of 25% reduction in phosphorus loads by the state of Virginia which is equivalent to a 70% reduction in fertilizer application. The study included an evaluation of fertilizer application in the City based on sales data included in the Chesapeake Assessment Scenario Tool (CAST) 2021 data which compared 2009 to 2020 data. This demonstrated a reduction of 45% in fertilizer application which is equivalent to a 16% reduction in phosphorus loads. This was a lower reduction than the state's estimate of 25%.

Since more phosphorus was applied than what was estimated in the expert panel report the City intends to further evaluate application rates as reported in sales data in CAST to evaluate potential trends and adjust the reduction as needed. The City will use a 15% reduction in phosphorus loads and plan to evaluate CAST data approximately every five years in coordination with MS4 service area updates and turf grass area calculations.

The turfgrass area in the MS4 service area for each TP TMDL subwatershed and TP reduction are provided in Table 3. The TP Reductions shown in Table 3 have been reported to DEQ in the City's Annual Report.

Table 3. Lawn and Turfgrass Areas Fertilizer Phosphorus Ban TP reduction

Southern Rivers TMDL Watershed	TMDL Watershed Lawn and Turfgrass Area (Acres)	James River TP Loading Rate - Urban Pervious (lbs/ac/yr)	Lawn and Turfgrass Area Total TP Loading (lbs/yr)	Phosphorus Reduction Percentage	Lawn and Turfgrass Area Total TP Reduction (lbs/yr)
Ashville Bridge Creek	1,473	0.50	737	15%	111
North Landing River	2,774	0.50	1,387	15%	208
Northwest River	57.3	0.50	29	15%	4.31
Pocaty River	444	0.50	22	15%	3.33

Nutrient Management Plans (NMPs)

The City developed a *Turf and Nutrient Management Plan* (City of Virginia Beach, 2014), to address all the City facilities that have fertilizer applied to more than one contiguous acre. In the TMDL watersheds, there are five City facilities that have been included in the City's NMP and three private golf courses that developed NMPs. The acres managed from these facilities within the MS4 service area are summarized in Table 4.

Table 4. Summary of Reductions from Facilities with Nutrient Management Plans

Facility (Ownership)	TMDL Watershed	Managed Area (acres)	Pervious TP Load (lbs/Year)	TP Reduction (lbs/Year)
Red Wing Golf Course (City)	Ashville Bridge Creek	158	791	7.90
Hell's Point Golf Club (Private)[a]	Ashville Bridge Creek	9.70	4.80	0.50
Virginia Beach Little League	Ashville Bridge Creek	15	7.60	0.80
Princess Anne Athletic Complex (City)	North Landing River	20	9.90	1.00
Landstown High School Stadium Field (City)	North Landing River	1.90	1.00	0.10
Salem High School Stadium Field (City)	North Landing River	1.50	0.80	0.10
Tallwood High School Stadium Field (City)	North Landing River	1.40	0.70	0.10
Stumpy Lake Golf Course (City)	North Landing River	109	54	5.40
Virginia Beach National Golf Course (City)	North Landing River	143	72	7.20
Honey Bee Golf Club (Private)[a]	North Landing River	182	91	9.10

Note: [a]Acreage only includes areas within the MS4 service area

A 10-percent reduction in the phosphorus loading has been credited for the area of managed turf on these facilities, which are considered high risk facilities, as defined by the *Recommendations of the Expert Panel to Define Removal Rates for Urban Nutrient Management* (Schueler and Lane, 2013). This 10-percent reduction is in addition to the state phosphorus ban in fertilizer credits. The area of managed lands for City facilities was obtained from the City's NMP. The golf course areas are derived from the sum of the turfgrass land cover from the Virginia Geographic Information Network Virginia Land Cover dataset (2024) within the golf course parcels.

The NMP TP reduction credited in North Landing River and Ashville Bridge Creek watersheds were 23 lbs/year and 9.20 lbs/year, respectively, and will be reported to DEQ in the City's 2024-2025 Annual Report.

Additional NMPs may be developed in the future for City-owned land leased for farming or in cooperation between the City and private partners, such as businesses and private farmland owners.

4. Planned Projects and Programs

Additional management practices are being evaluated to be applied towards phosphorus reduction requirements. The planning process will include determining which new management practices and enhancements to existing management practices may be implemented. The new practices being considered include the following.

- New SWMFs or retrofits to existing SWMFs
- Street Sweeping

- Catch Basin and Inlet Cleaning
- Land Use changes

The City has performed an analysis of potential new management practices to determine expediency, cost effectiveness, and feasibility. An implementation plan with a list of potential projects to achieve the total phosphorus reductions required is included in Appendix A. The implementation of future practices will be implemented over several permit cycles.

The City will achieve the required reductions through the implementation of a variety of projects and programs. Projects and programs may include retrofits of existing SWMFs on public and private lands, the installation of new SWMFs, land use changes, and enhancements to existing programs. Other approved pollutant reduction methods not discussed in this action plan may also be used to meet pollutant load reduction requirements. Excess credits from other land development projects that provide excess local water quality improvements may be used toward compliance in accordance with the City's MS4 permit.

The following section describes the projects and programs planned to begin implementation during the current MS4 permit cycle. The current permit was effective January 26, 2024 and expires January 25, 2029.

Projects

Wet Pond Projects

Sunstream Park Pond Improvement

The project will make improvements to an existing pond by adding a forebay and manufactured treatment device for pre-treatment, new wetland areas, and aeration to improve downstream water quality. The improvements will reduce pollutants from stormwater runoff before entering North Landing River.

Manufactured Treatment Device Projects

Bellamy Wood Park Water Quality Improvement

This project will install a manufactured treatment device (MTD) to intercept untreated stormwater from an existing 42-inch stormwater pipe along Glen Lochen Drive. The MTD will remove trash, sediment, and nutrients from stormwater runoff before it is discharged into Salem Canal.

Salem Village Park Water Quality Improvement

This project will install a filtering treatment device using a series of filters to remove and trap sediment, nutrients, and debris, allowing treated water to continue through the stormwater system.

Wet Swales Projects

Princess Anne Athletic Complex Wet Swale

This project will include improvements to five existing ditches and managed turf area to create wet swales to treat stormwater runoff prior to discharging to an existing waterbody on Dam Neck Road.

Programs

Street Sweeping

The City implements street sweeping program, which reduces total phosphorus to waterways by collecting and disposing of sediment from paved areas before rainwater discharges it into the stormwater system. The City estimates that the street sweeping program would provide less than five percent of the reductions needed to meet the WLA requirements. Reductions will be calculated for street sweeping of roadways within City service area with a minimum of six sweeping passes per year per curb length mile, following guidelines established in the *Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices* (Schueler et al. 2015) and based removals on the technology and frequencies, the load-reduction efficiencies for street sweeping practice AST-1 P8W (advanced sweeping technology with one pass every eight weeks) for street sweeping operations in the Southern Rivers watersheds. This reduction will be reported annually in the MS4 permit annual report when the required cleaning frequency is met within each subwatershed.

Catch Basin and Inlet Cleaning

The City implements a program for catch basin and inlet cleaning, which reduces total phosphorus to waterways. The City preliminarily estimates that the catch basin and inlet cleaning would provide less than five percent of the reductions needed to meet the WLA requirements. This percent reduction is in addition to the state fertilizer law as described in *Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices* (Schueler et al. 2015). Sufficient data for calculating the pollutant reductions from this program is not currently available, and reductions from this program have not yet been reported.

Land Use Changes

The City will continue investigating sites for land use changes to reduce pollutants by changing the land use to a type with a lower phosphorus loading rate. There may also be potential credit for past land use changes. For example, new developments that may have been built on agricultural lands may have an overall lower phosphorus loading rate than when the land was used for agricultural purposes.

The City will also investigate sites for the potential to add forested buffers along waterways within the MS4 service area. The City estimates that land use changes will provide less than five percent of the reductions needed to meet the WLA requirements.

Existing Stormwater Management Facililties

Some existing facilities reduce phosphorus beyond the development or redevelopment requirements for the project with which they were installed. The City will evaluate SWMFs constructed between 2011 and 2025 in the North Landing River watershed. The Northwest River and Pocaty River watersheds do not have any existing SWMFs, and reductions have been achieved for the Ashville Bridge Creek watershed. The evaluation of the existing SWMFs will help determine the pollutant load reduction achieved by these facilities.

The Virginia Erosion and Stormwater Management Program (VESMP) Regulations require that projects meet phosphorus reduction requirements if the post-development TP load exceeds 0.26 pound per acre per year (lb/ac/yr). The VESMP Regulations for redevelopment projects require SWMFs to reduce the existing TP load from existing developed areas by 10 or 20 percent, depending on the area of land disturbance. The phosphorus reduction from SWMFs constructed for redevelopment will be calculated based on the 10 to 20 percent additional and any other additional reductions exceeding state requirements by the stormwater management facilities constructed.

5. Legal Authority

The City has legal authority to implement the requirements of this action plan through enacted ordinances that address pollutant discharge control, and water quality and quantity treatment of stormwater runoff to meet state and federal regulations. More information on the City's legal authority can be found in the City's MS4 Program Plan which is located on the "Stormwater Regulations" page of the stormwater program website at virginiabeach.gov/stormwater-program.

6. Public Education, Outreach, and Employee Training

The City conducts public education, outreach and employee training programs to promote methods to eliminate and reduce discharges of phosphorus. A summary of activities undertaken each year is included in the City's Annual Report each year located on the "Stormwater Regulations" page of the City's stormwater management program website at virginiabeach.gov/stormwater-program.

7. Progress and Methods to Assess Effectiveness

The measure of effectiveness for this action plan is to document progress towards meeting overall phosphorus load reductions in an adaptive, iterative approach over multiple permit cycles. Future changes in technology may lead to the development of new activities to achieve the WLAs and discontinuing activities that are not as effective.

Progress is reported annually in the MS4 Permit Annual Report posted on the City's website. The City's primary measure of effectiveness is the measurement of phosphorus reductions using projects and programs. The City has completed the required phosphorus reductions in the Ashville Bridge Creek watershed. During this permit term the City has identified potential projects for implementation in the North Landing River Watershed to meet the required reductions.

Appendix A
Project Details

Planned BMPs To Be Implemented Using Virginia Stormwater Handbook Practices

Project Name	Council District	Type of SWMF	Total Treated Area (ac)	Treated Impervious Area (ac)	Incoming TP Load (lbs/yr)f	Incremental TP Removal Efficiency (%)	TP Reduction (lbs/yr)
Sunstream Park Wet Pond Retrofit	10	Wet Pond	135	63	138[a]	29%[b]	41
Bellamy Woods Park	1	MTD- Filtering	19	8.1	20	72%[c]	14
Salem Village Park	10	MTD- Filtering	18	7.5	18	65%[c]	12
Princess Anne Athletic Park Wet Swales	2	Wet Swales	18	10	22	19%[d]	4.10
Brigadoon Park Wet Pond	1	Wet Pond	94	40	97	55%[d]	53
Alexandria #3 Retrofit	7	Wet Pond	139	64	150	29%[b]	43
Brannon Drive	2	MTD-Hydrodynamic	70	28	70	20%[c]	14
Courthouse Estates #8 (A) Retrofit	2	Wet Pond	51	25	57	29%[b]	16
Emmerton Court	1	MTD-Hydrodynamic	62	26	64	20%[c]	12
Firehouse 19 East	7	MTD-Hydrodynamic	62	32	71	20%[c]	14
Glenwood Lake #7 Retrofit	7	Wet Pond	241	104	252	29%[b]	72
Hillcrest Lakes Retrofit	2	Wet Pond	42	14	39	29%[b]	11
Old Princess Anne Rd.	1	MTD-Hydrodynamic	108	51	111[a]	20%[c]	22
Rosemont Forest #2 Retrofit	7	Wet Pond	219	109	247	29%[b]	71
Salem Woods Park Lake Retrofit	7	Wet Pond	82	57	113	31%[e]	36

Project Name	Council District	Type of SWMF	Total Treated Area (ac)	Treated Impervious Area (ac)	Incoming TP Load (lbs/yr)f	Incremental TP Removal Efficiency (%)	TP Reduction (lbs/yr)
Woodbridge Pointe #4 Retrofit	7	Wet Pond	69	35	79	29%[b]	23
Salem-Ferrel Constructed Wetland	7	Constructed Wetland and Outfall Stabilization	22	12	26	58%[d]	15
Glenwood Wet Pond Retrofit	7	Wet Pond	143	62	150	4.5%[e]	6.73
Rock Creek Lake Retrofit	10	Wet Pond	101	49	112	29%[b]	32
Charlestown Lakes South Retrofit	7	Wet Pond	158	72	170	29%[b]	76
Indian Lakes Blvd Pond Retrofit	7	Wet Pond	105	61	125	4.5%[e]	6.25
Indian Lakes East Pond Improvements	1	Wet Pond	346	113	304[a]	11%[e]	34
Indian Lakes West Pond Improvements	1	Wet Pond	202	63	180	29%[b]	52

a- Incoming TP load accounts for upstream reduction
b- Virginia Stormwater Handbook efficiencies with downward reduction methodology
c- Virginia Stormwater Handbook efficiencies
d- Chesapeake Bay Program Retrofit Curves efficiencies
e- Virginia Stormwater Handbook efficiencies with downward reduction methodology and reduced treatment volume adjustment
f- *Incoming TP loads are calculated using James River rates (1.76 lbs/ac/yr for impervious areas and 0.50 lbs/ac/yr for pervious areas)*

Appendix B
Public Comments

Public Comments Process

In May of 2025, the City of Virginia Beach posted the 2025 Action Plan on the website. Solicitation of public input was announced at the start of a 15-day comment period via social media, blog post, VBTV, and distributed to over 10,000 subscribers of the City's "Be In The Know" newsletter email. Comments were gathered by a survey set up through the city's public engagement platform, SpeakUpVB. The comment period started May 15th and ended on June 1st, 2025

Additional opportunities for public comment will be provided as each project identified in this plan progresses. Projects will also be included in the Capital Improvement Program budget review process for public comment.

May 2025 Public Comment Survey Results:

A total of 11 comments were submitted on the 2025 Action Plan during the comment period from a total of 20 participants. A total of 95 people viewed the survey. The comments received are listed below without modification to the original comment submitted. The City's response is shown in italics following the comment.

1. Looks ok. Pungo definitely needs help. 3685 Muddy Creek Road down to Pleasant Ridge Road floods bad. Kids miss school because the bus can't make it. Other areas too like Horn Point Rd flood. So many areas need help! Blackwater too.

   Response: Acknowledged. The Action Plan focuses on reducing pollution loads into receiving waters within the Southern Rivers Watersheds. Virginia Beach is committed to increasing neighborhoods' resiliency to recurrent flooding and rising sea levels by investing in projects, programs, and services to protect residential homes, businesses, and city infrastructure. Additional information is available on the City's website at Stormwater & Flood Protection | City of Virginia Beach.

2. Leave nature alone.

   Response: Acknowledged. The City strives to limit nature disturbance while constructing water quality improvements projects to the extent practicable.

3. Add:
   *Raise public awareness about litter pouring into the ocean, ponds, rivers, lakes via storms drains and that none of the drains have filters. Label the storm drains. Why isn't this being done? Why was that task only for volunteers awhile back? Drain markers were way too important to drop the ball the leave for volunteers.

   Response: Acknowledged. The City participates in a variety of public outreach activities through various partnerships to raise awareness about stormwater pollution prevention. To learn more about these activities and volunteer opportunities such as our storm drain marking program please visit the Get Involved page on our website at Stormwater & Flood Protection | City of Virginia Beach.

   *Add rocks to the outer edges of storm drains. That will help catch a lot of debris, make it easier to clean, and help raise awareness. Have street sweepers avoid those. Or stop the sweeping contract. It mainly confuses people into thinking they don't ever need to help or honor their own curb compliance. Only dangerous roads that residents cannot safely maintain should be swept. Add to

hurricane prep lists: “Remove all litter and yard debris from your street to avoid flooding from trash clogged storm drains.“ Raise awareness about ordinance Sec 33-13, duty to maintain our curb areas. That applies to all businesses, all renters including apartment dwellers, and home owners. Maybe find stronger City Management who notices clogged drains and will personally step in and help.

Response: Acknowledged. Maintenance of the curb area by property owners supports stormwater pollution prevention. This activity is promoted through our Adopt-a-Drain program. The street sweeping program provides pollutant removal benefits by removing sediment which also contains nutrients that impact our local waterways. Stormwater drainage issues can be reported by calling VB311, email to pwclrks@vbgov.com, online through our service request portal at City of Virginia Beach - Service request types or through the mobile app VB Works. For more information visit our website at Mobile Apps Index | City of Virginia Beach.

Thanks for all your hard work.
Adding ponds is an added danger as we saw this past winter when a horrific tragedy occurred. Trees are far less of a danger and have lists of benefits, including blocking debris from getting to waterways.

Response: Acknowledged. The Virginia Department of Environmental Quality has recently added a tree planting BMP that may be used as a crediting tool for phosphorus reductions. While tree planting has limited phosphorus reduction crediting it will be considered in our project planning.

4. The city needs to address it’s own lawn maintenance ordinances. Allow the native grasses in people yards to grow; this may include grasses that exceed the maximum measurements currently established. Do it anyways because it will incentivize homeowners to stop the use of nitrogen fertilizers, and allow for the native grasses to return, helping to reduce water runoff. The ordinance to stop collection of rainwater locally needs to be revisited, as well. With the topic of runoff and water displacement up, we need to develop a city wide reeducation plan on proper water catchment and permaculture practices for homeowners. Allowing the use of collected water for personal gardening or filtration should absolutely be standard for a progressive place, such as Virginia Beach. The city also needs to draft an accountability plan for the water runoff and displacement of natural habitat in south eastern Virginia Beach by Amazon. The facilities located off Damnneck Road have removed massive amounts of wooded land from this area, which will in turn affect the waterways. Let’s also address how the corporation is being held accountable for any chemical pollution it may incur, which pertains to this waterway discussion, as well. I, among other residents, have already noticed an increase on our water and power bills, while simultaneously experiencing reduced water pressure and blackouts, since these facilities began operations. There are plenty of ways to help conserve our watersheds and support natural wildlife. Let’s start asking the right questions when it concerns who is having the most impact on the local environment. The city needs to look at it’s own hands first, then to the largest consumers of natural resources: corporations and real estate developers.

   Response: Acknowledged. New development activities are required to comply with City ordinances to ensure no increase in nutrient loading resulting from new development.

5. This action plan is feasible and makes sense. The Wet Swale project in the Athletic Village is necessary!

   Response: Acknowledged.

6. Are lawn care companies required to follow best management practices? My experience is many companies just load up the spreader and fertilizer does everywhere- street, sidewalks, and driveways included. Fertilizer retail spaces signage could advise consumers who would never see information of the damage indiscriminate fertilizer use causes or see this website. This is important information, but how many will see (or care) about it? As long as the lawn is green, most don't care. It is hard to mandate caring.

   Response: Acknowledged. The State of Virginia passed a law in 2013 banning the sale of fertilizer containing phosphorus for maintenance of lawns. The law also requires lawn service companies to apply fertilizer according to nutrient management standards. This information is available in the Code of Virginia, Title 3.2 Agriculture, Animal Care, and Food, Chapter 36. Fertilizer.

7. Set up several smaller water treatment facilities that can handle non flood drainage discharge.

   Response: Acknowledged. The volume of runoff generated by a single thunderstorm makes it difficult to treat in the same way as wastewater. This Action Plan includes proposed stormwater management facilities to manage stormwater runoff, to reduce suspended solids and nutrients. These facilities use natural methods which are more cost-effective than treatments plants to promote settling of solids and plant uptake of nutrients to treat stormwater before being discharged to our lakes, streams, and rivers.

8. On page 2, below the map, there is language that is very confusing. It begins "These items……" What are you trying to say? I read the entire report and the formal language therein is almost incomprehensible to me. The language I mention above is even more incomprehensible, I think, because it discusses what is not in the plan whereas the rest of the plan discusses what is in the plan.

   Response: Acknowledged. The text on page 2 of the Action Plan has been revised to address this comment and clarify the context of updating the 2018 Action Plan.

9. I have a couple of additional ideas that may be considered:
   - Widening/Raising of main arterial roads and also installing a gravel roadside interceptor in the southern rivers watershed such as Princess Anne Rd, Pungo Ferry Rd and Blackwater Rd to prevent vehicles from traveling off the road and into roadside ditches which then need repair
   - Controlled/Prescribed burning in certain locations that may help with natural leaf/wood litters along a forest floor that would remove those excess nutrients from litter and prevent larger fires
   - Definitely investigate forested buffers
   - Prevent/Curb illegal dumping in roadside ditches along Muddy Creek road
   - Work with neighboring cities (Chesapeake) and departments (Back Bay Wildlife Refuge, False Cape, Dam Neck Base) that also impact these waterways either positively or negatively

   These are just a few of the items i feel may be helpful. Outreach can always be beneficial.

Response: Acknowledged. The Department of Environmental Quality limits the stormwater management facility types that may be used for crediting reductions in phosphorus. These are available in the Virginia DEQ Stormwater Management Handbook. The City participates in a variety of public outreach activities through various partnerships to raise awareness about stormwater pollution prevention. To learn more about these activities and volunteer please visit the Get Involved page on our website at Stormwater & Flood Protection | City of Virginia Beach.

10. NO MORE TAXES!!!!!!!!; NO MORE TAXES!!!!; NO MORE TAXES; I do not believe sheet sweepers help at all. It looks like a waist of funds. The debris only gets pushed from one side of the street to the other and it does not remove the debris.

    Response: Acknowledged. The actions identified in the 2025 Action Plan are proposed to be funded through the Stormwater Utility Fee. Public Comments are welcome during the annual budget process in April each year. The street sweeping program provides pollutant removal benefits by removing sediment which also contains nutrients that impact our local waterways.

11. is this going to be another excuse to develope below the green line? Rezone agricultural to residential to decrease the total phosphorus use? Are you going to mandate pervious surfaces when new construction plans are being approved?

    Response: Acknowledged. The 2025 Action Plan does not include rezoning or new development. New development activities are required to comply with City ordinances to ensure no increase in nutrient loading resulting from new development. The projects proposed in the 2025 Action Plan will be implemented to treat areas that have already been developed.