City of Suffolk MS4 Permit Program Plan
VAR040029

November 1, 2018 – October 31, 2023

MS4 Program Plan November 1, 2018 - October 31, 2023

*This Program Plan was developed by City of Suffolk MS4 staff and is a planning document only. Per the MS4 Permit Fact sheet, "all enforceable provisions of the MS4 program are contained within the permit." SOPs are internal documents that are not enforceable. The permit requires written procedures to be in place with specific elements. This is the enforceable requirement, not the specifics of the actual procedures.
The purpose of SOPs is to give guidance to staff, and SOPs may be changed at any time through formal revision or verbally with employees, depending on the situation.

BMP	Permit Section	BMP Description	Measurable Goals	Metric	Responsible Party	Timeline	Associated Documents
		Program Plan Requirements					
	1.C	Roles and responsibilities	Identify the roles and responsibilties for each department, division, and subdivision in implementing the permit, also include the written agreement for any other entities implementing parts of the Program Plan	List of roles and responsibilites, written agreement	PW Engineering	As needed	"Responsible Party" column in Program Plan; Written agreement(s)
1. Public Outreach and Education							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
1.1		Update High Priority Public Education and Outreach Program					
1.1a	1.b 1.c	Design a plan to educate citizens on actions they can take to reduce impacts of stormwater pollution on waterways with an emphasis on impaired waters by first identifying at least 3 high-priority water quality issues	Clearly identify at least 3 high priority water quality issues	Issues identified	**askHRgreen.org** Stormwater Education Subcommittee	PY1	**Education and Outreach Plan**
1.1b	1.c	Rationale for selecting each of the 3 high priority issues	Explain the importance of each issue	Rationale identified	**askHRgreen.org** Stormwater Education Subcommittee	PY1	**Education and Outreach Plan**

1. Public Outreach and Education							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
1.1c	1.c.4	Provide a contact name and phone number where the public can find more information	Provide contact information	Information provided	PW Engineering	PY1	**City website- http://www.suffolkva.us/287/Public-Outreach**
1.1d	1.a.2	Increase public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including legal implications	Communicate hazards	Document communications	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**Education and Outreach Plan**
1.1e	1.a.3	Target individuals or groups most likely to have significant stormwater impacts	Identify the audience for each issue	Audience identified	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**Education and Outreach Plan**
1.1f	1.d	Strategies listed in Table 1 of permit	Identify two or more strategies to communicate to the public each issue	Strategies identified	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**Education and Outreach Plan**
1.1g	1.f.5	Schedule for communicating messaging	Document the anticipated time periods the messages will be communicated or made available to the public	Time periods documented	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**Education and Outreach Plan**
1.2	1.d	Regional Media Campaign to Address **High Priority Issues**					

1. Public Outreach and Education							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
1.2a		***Scoop the Poop* campaign:** By encouraging the public to pick up their dog waste rather than leaving it on their lawn, the public can help reduce bacteria in stormwater and our waterways.	Make *Scoop the Poop* information and giveaways available where citizens receive animal licenses and at pet-related events as appropriate	Target audience reached through activities.	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**askHRgreen.org** Annual Report
1.2b		**Promote Lawn Care campaign:** By informing the public of best management practices for lawn care, the public can help reduce nutrients and chemicals entering stormwater by applying correct amounts of fertilizer and chemicals, as well as prevent blockages of the stormwater system from yard debris by not blowing debris into drains.	Run media campaigns and make lawn care best management practice guides available.	Target audience reached through activities.	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**askHRgreen.org** Annual Report
1.2c		**Promote FOG campaign:** By informing the public of what not to flush down the drain and how to properly dispose of grease, medications, and hazardous waste, the public can help protect our waterways and prevent sewer blockages and overflows.	Participate in the **askHRgreen.org** regional media campaign via print, television (local municipal access, cable and local affiliate), radio, and social media	Target audience reached through activities.	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**askHRgreen.org** Annual Report
1.2d		**Promote Stormwater Pollution Prevention to Businesses:** Bay Star Businesses pledge to perform environmentally friendly practices such as recycling, conserving water and energy, and cleaning up litter at their business.	Participate in the **askHRgreen.org** regional Bay Star Businesses Program	Target audience reached through activities.	**askHRgreen.org** Stormwater Education Subcommittee	Continuously	**askHRgreen.org** Annual Report
1.3	1.d	Provide for Public Participation					

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1. Public Outreach and Education							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
1.3a		Local Outreach	Post volunteer opportunities on local website.	Number and types of events	**askHRgreen.org** Representative	Annually	City website- http://www.suffolkva.us/330/Events
1.3b		Regional Initiatives	Submit articles for **askHRgreen.org** blog for public participation in water quality improvement initiatives.	Number and types of events submitted	**askHRgreen.org** Representative	Annually	**askHRgreen.org** website
1.3c		Regional Outreach	Post volunteer opportunities on **askHRgreen.org** calendar	Number and types of events submitted	**askHRgreen.org** Representative & HRPDC Environmental Educator	Quarterly	**askHRgreen.org** website
1.3d		Distribute educational materials developed through **askHRgreen.org**	Distribute materials developed through **askHRgreen.org** to target audience in locality.	Number of materials distributed	**askHRgreen.org** Representative	Continuously	List of Giveaways (in Annual Report)
1.3e		Maintain and enhance **askHRgreen.org** website	Increase website visits each year	Annual askHRgreen.org website visits	HRPDC & **askHRgreen.org**	Permit Cycle	**askHRgreen.org** Annual Report
1.4	1.e	Participate in regional committees: **askHRgreen.org and** Regional Stormwater Workgroup		Maintain valid MOA	PW Engineering & HRPDC	Every 5 years (concurrent with MS4 permit cycle).	MOA

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1. Public Outreach and Education							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
1.4a	1.e	Regional Cooperation	Participate in the regional processes, including the Regional Stormwater Workgroup and **askHRgreen.org**	Number of meetings attended/Number of meetings held	PW Engineering	Annually	Attendance Chart (in Annual Report)
1.4b	1.e	***askHRgreen.org***	Participate in at least 50% of **askHRgreen.org** Stormwater Education Subcommittee meetings	Number of meetings attended/Number of meetings held	PW Engineering	Annually	Attendance Chart (in Annual Report)
1.5	1.f	Evaluation and Assessment	Evaluate and assess progress towards meeting measurable goals.		PW Engineering	Annually	Annual report

2. Public Involvement/Participation							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
2.1	2.a	Public Involvement					
2.1a	2.a.1	Develop and implement procedures for public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns.	Implement procedures	Procedures	PW Engineering	PY1	SOP SPW-ENG 30-015-01 (Public Reporting)
2.1b	2.a.2	Establish methods to receive, respond to, and document public input on the MS4 program or complaints	Establish methods	Methods and documentation	PW Engineering	PY1	SOP SPW-ENG 30-015-01 (Public Reporting)
2.1c	2.b	Webpage dedicated to the MS4 program and stormwater pollution prevention. Website should include:	Maintain MS4 webpage	Presence of webpage	PW Engineering	Before 2/1/19	City website- http://www.suffolkva.us/265/MS4-Program-Overview
2.1c(1)	2.b.1	MS4 Permit and Coverage Letter	Post permit and coverage letter within 3 months of permit effective date	Presence of materials on website	PW Engineering	Before 2/1/19	City website- http://www.suffolkva.us/265/MS4-Program-Overview
2.1c(2)	2.b.2	Most current Program Plan	Update program plan at least annually and post to website	Presence of materials on website	PW Engineering	As updates are needed	City website- http://www.suffolkva.us/265/MS4-Program-Overview
2.1c(3)	2.b.3	Annual Reports	Post copies of annual report to City website within 30 days of submittal to DEQ.	Presence of materials on website	PW Engineering	Annually	City website- http://www.suffolkva.us/265/MS4-Program-Overview

2. Public Involvement/Participation							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
2.1c(4)	2.b.4	Method for public to report potential illicit discharges, improper disposal or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns.	Improve public's ability to report illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns	Presence of reporting mechanism on website	PW Engineering	Continuous	City website- http://www.suffolkva.us/265/MS4-Program-Overview
2.1c(5)	2.b.5	Method for public to provide input on MS4 program	Improve citizen's ability to communicate with City regarding the MS4 program.	Presence of reporting mechanism on website	PW Engineering	Continuous	City website- http://www.suffolkva.us/265/MS4-Program-Overview
2.2	2.c	Public Participation			PW Engineering		
2.2a	2.c	Public involvement in a minimum of four activities per year from two or more categories in Table 2		# events, # of items distributed, # of participants, # of pounds collected, or # of volunteer hours	PW Engineering	Annually	Public Participation Events Spreadsheet (in Annual Report)
	Activity 1	Recycling Drives/ Tire Amnesty Days	Organize semi-annual recycling drive/tire amnesty days where citizens can drop off tires, household hazardous waste, electronics, and items to be shredded	tonnage of hazardous waste, tonnage of tires, number of participants	PW Engineering	Time period activities will occur: semi-annually	Public Participation Events Spreadsheet (in Annual Report)

2. Public Involvement/Participation							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
	Activity 2	Suffolk Public Schools Marshfield Studies	Assist with semi-annual Marshfield Studies at Bennett's Creek Park, educating elementary students about watersheds and how to protect our waterways.	# of student participants	PW Engineering	Time period activities will occur: semi-annually	Public Participation Events Spreadsheet (in Annual Report)
	Acitivity 3	International Coastal Cleanup	Organize cleanup event where boaters and kayakers remove trash from the Nansemond River and on shore participants clean up litter before it reaches the river.	# of participants, pounds of trash collected	PW Engineering	Time period activities will occur: annually	Public Participation Events Spreadsheet (in Annual Report)
	Activity 4	Clean the Bay Day	Organize clean up events in different parts of the city on Clean the Bay Day via boat and land	# of participants, pounds of trash collected	PW Engineering	Time period activities will occur: annually	Public Participation Events Spreadsheet (in Annual Report)
2.3		Evaluation and Assessment	Evaluate and assess whether the activities are beneficial to improving water quality.		PW Engineering	Annually	Annual report

3. Illicit Discharge Detection and Elimination							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
3.1	3.a	Storm Sewer System Map and Information Table					
3.1a	3.a.1	MS4 map	Develop and maintain an accurate MS4 map within the 2010 census urbanized area, including MS4 outfalls discharging to surface waters, unique outfall ID, name and location of receiving waters, MS4 regulated service area, and SWMF owned or operated by the permitee.	Updated Map	PW Engineering	Annually	MS4 Map at http://www.suffolkva.us/270/Illicit-Discharge-IDDE
3.1b	3.a.2	MS4 outfall or point of discharge information table	Table listing outfall ID, latitude and longitude of outfall, acreage draining to outfall, receiving water, predominant land use, HUC of receiving water, impairment listing, predominent land use, EPA approved TMDL(s).	Updated Table	PW Engineering	Annually	Information Table at http://www.suffolkva.us/270/Illicit-Discharge-IDDE
3.1c	3.a.3	Provide to DEQ a GIS-compatible shapefile of the MS4 map	Provide file to DEQ	Provide to DEQ	PW Engineering	No later than 7/1/19	Shapefile (provided to DEQ)
3.1d	3.a.4	New outfalls or recently approved TMDLs	Update MS4 map and outfall information table to include new outfalls or TMDLs approved during the immediate preceding reporting period.	Updated map and table	PW Engineering	No later than October 1 each year, incorporate updates through June 30	Map and Information Table at http://www.suffolkva.us/270/Illicit-Discharge-IDDE

3. Illicit Discharge Detection and Elimination							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
3.1e	3.a.5	Provide written notification to downstream MS4s	Identify and notify, in writing, any downstream adjacent MS4 of any known physical interconnection established or discovered after permit effective date.	Develop map, Regional Stormwater Workgroup Meetings, letters	PW Engineering	Annually (if necessary)	Written notification to other MS4s (if necessary)
3.1f	3.b	Prohibit illicit discharges through ordinance	Continue implementing and enforcing the illicit discharge/stormwater ordinance.	Current Ordinance	PW Engineering/ Fire Dept	As necessary	Ordinance Sec. 35-52 and 35-53 at https://library.municode.com/va/suffolk/codes/code_of_ordinances?nodeId=PTIICO_CH35STMA_ARTIIIVI_S35-52ILDI
3.2		Dry Weather Screening (DWS)					
3.2a	3.c.2	Maintain and implement dry weather screening protocol	Implement written dry weather field screening methodologies for IDDE. Track the unique outfall identifier, time since last precipitation event, estimated quantity of the last precipitation event, site description, whether a discharge was observed and if so, rate of discharge, and visual characteristics	SOP	PW Engineering	Continuously	SOP SPW-ENG 30-003-01 (Dry Weather Screening)

3. Illicit Discharge Detection and Elimination							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
3.2b	3.c.2.a	Develop a prioritized schedule for field screening and the rationale for the prioritization	Maintain list of scheduled dry weather screenings and rationale for prioritization	List of scheduled outfalls to be screened	PW Engineering	Annually	Prioritization Rationale in SOP SPW-ENG 30-003-01 (Dry Weather Screening), Prioritized Schedule available upon request
3.2c	3.c.2.c	Field screening of prioritized outfalls	Screen minimum of 50 outfalls per year; less than 50% of outfalls screened in previous 12 month period	Documentation of screening performed and results	PW Engineering	Annually	Dry Weather Screening Report (in Annual Report)
3.3	3.c	IDDE program implementation					
3.3a	3.c.3-5	Maintain and implement written procedures for IDDE	Implement written IDDE procedures that include a timeframe to conduct an investigation, methods to determine the source, and methods for conducting follow-up investigations	SOP	PW Engineering	Continuously	SOP SPW-ENG 30-001-01 (IDDE)

3. Illicit Discharge Detection and Elimination							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
3.3b		Public IDDE Reporting	Promote & publicize IDDE reporting	Presence of contact information on website and online reporting form	PW Engineering	Continuously	City website- https://www.suffolkva.us/FormCenter/Public-Works-5/Report-Illegal-Dumping-or-Illicit-Discha-49
3.3c	3.c.6	IDDE activity tracking	Track illicit discharge detection and elimination activities.	Number of investigations and actions taken	PW Engineering/ Fire Dept	Ongoing	List of IDDE Investigations (in Annual Report)
3.4	Part 3.G	Spill reporting					
3.4a	3.G	Report non sewer spills and releases from small MS4 operated properties that reach State waters to DEQ.	Report spills to the DEQ's Pollution Response Program (PREP), if applicable	Number of internal reports. If applicable, obtain PREP number.	PW Engineering/ Fire Dept	Fire Dept report in accordance with Part 3.G	Haz Mat Report (in Annual Report)
3.4b	3.G	Report Sanitary Sewer Overflows through SSORS database.	Continue to utilize SSORS to report Sanitary Sewer Overflows	Number of overflows	Public Utilities	Continuously	List from SSORS (in Annual Report)
3.5		Evaluation and Assessment	Evaluate and assess progress towards meeting measurable goals.		SW Program Administrator/ Fire Dept	Annually	Annual report

*The City cannot "ensure" that third parties properly implement E&S controls. The City requires implementation, and the goal is always to "ensure" compliance using appropriate enforcement tools.

4. Construction Site Storm Water Runoff Control

BMP	Permit Section	BMP Description	Measurable Goals	Metric	Responsible Party	Timeline	Associated Documents
4.1	4.a.1	Legal Authorities for Construction activities	Continue to implement the SWM, E&SC, & CBPA ordinances	SWM, E&SC, & CBPA Ordinance citations	SW, E&SC, & CBPA Program Administrators	Continuously	Ordinance Ch. 34 Article II (E&SC) at https://library.municode.com/va/suffolk/codes/code_of_ordinances?nodeId=PTIICO_CH34EN_ARTIIERSECO and Ch. 35 (SWM) at https://library.municode.com/va/suffolk/codes/code_of_ordinances?nodeId=PTIICO_CH35STMA
4.1a		LD Activities > 10,000 SF	Continue to implement the Stormwater Management Ordinance & the Erosion and Sedimentation Control Ordinance	Stormwater Management Ordinance & Erosion and Sedimentation Control Ordinance	PW Engineering	Continuously	Ordinance Ch. 34 Article II (E&SC) and Ch. 35 (SWM) at above links
4.1b		CBPA LD Activities >2,500 SF	Continue to implement the Chesapeake Bay Preservation Ordinance and Stormwater Management Ordinance	Chesapeake Bay Preservation Ordinance & Stormwater Management Ordinance	PW Engineering	Continuously	Ordinance Ch. 34 Article II (E&SC) and Ch. 35 (SWM) at above links

4. Construction Site Storm Water Runoff Control							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
4.1c		Individual Lot or CPOD LD Activities > 10,000 SF	Continue to implement the SWM, E&SC, & CBPA ordinances	SWM, E&SC, & CBPA Ordinances	PW Engineering	Continuously	Ordinance Ch. 34 Article II (E&SC) and Ch. 35 (SWM) at above links
4.2		Compliance and Enforcement					
4.2a		Written E&SC inspection procedures	Implement inspection procedures	Procedures	PW Engineering	Continuously	SOP SPW-ENG 30-010-00 (Land Disturbance Inspections)
4.2b		Written E&SC procedures for requiring compliance through corrective action or enforcement action	Implement corrective or enforcement action procedures	Procedures	PW Engineering	Continuously	SOP SPW-ENG 30-010-00 (Land Disturbance Inspections)
4.2c		Roles and responsibilities of each department, division, or subdivision in implementing the construction site SW runoff control program	Documentation	Presence of documentation	PW Engineering	Continuously	List of Roles and Responsibilities in Construction and Post-Construction
4.2d		E&SC enforcement actions	Continue to implement enforcement provisions per local Erosion and Sediment Control Ordinance	# enforcement actions	PW Engineering	Annually	ESC and SWM Enforcement and Inspection Summary (in Annual Report)

4. Construction Site Storm Water Runoff Control							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
4.2e		E&SC Modifications due to inadequacy	Continue to implement provisions of the local Erosion and Sediment Control Ordinance and Stormwater Mangement Ordinance requiring changes to the plan due to inadequacy.	# of Field Changes	PW Engineering	Annually	ESC and SWM Enforcement and Inspection Summary (in Annual Report)
4.3		Evaluation and Assessment	Evaluate and assess progress towards meeting measurable goals.		PW Engineering	Annually	Annual Report

5. Post Construction Storm Water Management in New Development and Redevelopment							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
5.1	5.a	Post Construction Stormwater Management Program					
5.1a	5.a.1	Local VSMP	Implement the approved VSMP	Approved VSMP	PW Engineering	Ongoing	VSMP official as of July 1, 2014
5.1b	5.a.1	Stormwater Management Ordinance	Implement the stormwater criteria of the Stormwater Management Ordinance for new development and redevelopment	Stormwater Management Ordinance	PW Engineering	Ongoing	Ordinance Ch. 35 (SWM) at https://library.municode.com/va/suffolk/codes/code_of_ordinances?nodeId=PTIICO_CH35STMA
5.2		Inspection and maintenance program for City-owned and private BMPs					

5. Post Construction Storm Water Management in New Development and Redevelopment							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
5.2a	5.b	Written inspection and maintenance procedures for managing City-owned or operated BMPs	Implement procedures, inspect locally owned BMPs at least annually (or have an approved alternative schedule)	# of inspections; description of significant maintenance activities	Public Works, Public Utilities, Capital Programs, Parks & Recreation, Police, Fire Dept, Public Schools, Water Production, Economic Development	Ongoing	SOP SPW-ENG 10-011-01 (Inspecting City-owned BMPs), SOP SPW-ENG 30-016-01 (City BMP Maintenance), Inspection Report Summary (in Annual Report)
5.2b	5.c.1	Inspection and enforcement program for privately-owned BMPs	Implement program, inspect privately owned BMPs annually	# of inspections; # of enforcement activities	PW Engineering	Ongoing	SOP SPW-ENG 30-06-01 (Private BMP Inspections), Inspection Report Summary (in Annual Report)
5.2.c	5.c.1.b	BMP Maintenance Agreements	Require BMP maintenance agreements as directed by the Stormwater Management Ordinance.	# of Agreements & Inspection Schedules	PW Engineering	Ongoing	List of Maintenance Agreements (in Annual Report)

5. Post Construction Storm Water Management in New Development and Redevelopment							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
5.2c	5.c.2	Utilize legal authority for enforcement of maintenance responsibilities	Utilize legal authority for enforcement of maintenance responsibilities if maintenance is neglected by owner	# of 30 Day Letters and NOVs	PW Engineering	As necessary	Ordinance Ch. 35 Article 3 at https://library.municode.com/va/suffolk/codes/code_of_ordinances?nodeId=PTIICO_CH35STMA_ARTIIIVI_S35-53EN, List of Enforcement Actions taken (in Annual Report)
5.3		Tracking and Reporting					
5.3a	5.d	Electronic Database of all known BMPs that discharge into the MS4	Maintain an electronic database or spreadsheet of all known City-owned or operated and privately-owned BMPs that discharge into the MS4. The database shall also include all BMPs implemented by the City to meet Ches. Bay TMDL load reduction.	Data as required by Permit section 5.d (1-9)	PW Engineering	Ongoing	DEQ's BMP Warehouse

5. Post Construction Storm Water Management in New Development and Redevelopment							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
5.3b	5.e	Update database or spreadsheet with new BMPs	Update electronic database or spreadsheet no later than 30 days after a new BMP is brought online or newly discovered.	Database or spreadsheet with new BMP information	PW Engineering	As needed	DEQ's BMP Warehouse
5.3c	5.f	Report Construction BMPs	Use the DEQ Construction Stormwater Database to report each BMP installed after July 1, 2014 to address the control of post-construction runoff from land disturbing activities for which the City is required to obtain a General VPDES for Discharges of Stormwater from Construction Activities	Confirmation statement	PW Engineering	Ongoing	Confirmation statement (in Annual Report)
5.3d	5.g	Electronically report new BMPs	Electronically report stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template.	Confirmation statement	PW Engineering	Annually by Oct 1	Confirmation statement and date information was submitted (in Annual Report)

5. Post Construction Storm Water Management in New Development and Redevelopment							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
5.4		Evaluation and Assessment	Evaluate and assess progress towards meeting measurable goals.		PW Engineering	Annually	Annual Report

*The City cannot "ensure" that contractors properly implement pollution prevention controls. The City requires implementation, and the goal is always to "ensure" compliance using appropriate enforcement tools.

6. Pollution Prevention/Good Housekeeping for Facilities Owned or Operated by the Permittee							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
6.1	6.a	Maintain and Implement Written Procedures for Municipal Activities at City owned/operated Facilities					
6.1a	6.a.1	Preventing Illicit Discharges	Maintain and implement written procedures describing spill prevention and control and pollution prevention procedures for municipal facilities specifically to prevent illicit discharges	SOP(s)/SWPPP	Public Works	Continuously	"Operations and Maintenance: Pollution Prevention Guide"
6.1b	6.a.2	Proper Waste Disposal	Continue to implement and update procedures for proper waste disposal, including yard waste	SOP(s)/ SWPPP	Public Works	Continuously	"Operations and Maintenance: Pollution Prevention Guide "
6.1c	6.a.3	Manage Municipal Wastewater and Vehicle Wash Water	Develop and implement procedures to prevent the discharge of wastewater and municipal vehicle wash water into the MS4 without a separate VPDES permit	Procedures	Operations Personnel	Continuously	"Operations and Maintenance: Pollution Prevention Guide "
6.1e	6.a.4	Utility Construction and Maintenance Water Discharges	Require BMPs when discharging water pumped from utility construction and maintenance activities	Procedures	Public Utilities	Continuously	"Operations and Maintenance: Pollution Prevention Guide "

6. Pollution Prevention/Good Housekeeping for Facilities Owned or Operated by the Permittee							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
6.1f	6.a.5	Bulk Storage BMPs	Require BMPs for bulk storage areas (salt storage, top soil stockpiles)	BMPs Used	PW Operations	Continuously	"Operations and Maintenance: Pollution Prevention
6.1g	6.a.6	Manage Leaking Municipally-owned Vehicles	Prevent the discharge of pollutants to the MS4 from leaking municiple automobiles and equipment	BMPs Used	PW Fleet Maintenance/ PW Operations	Continuously	"Operations and Maintenance: Pollution Prevention Guide "
6.1h	6.a.7	Manage Fertilizers and Pesticides	Implement procedures to ensure materials are applied in accordance with manufacturer's recommendations	Procedures	PW Operations/ Mosquito Control/ Parks and Recreation	Continuously	"Operations and Maintenance: Pollution Prevention Guide "
6.2		Storm Water Pollution Prevention Plans (SWPPP)					
6.2a	6.c 6.e 6.h	High-priority facilities	Identify municipal high-priority facilities that have a high potential to discharge stormwater pollutants	# & type of high-priority facilities	PW Engineering	By Oct 31, 2019; review annually	List of high-priority facilities and SWPPP sites
6.2b	6.c 6.d 6.f 6.g	SWPPP Implementation	Maintain and implement SWPPPs for identified high-priority facilities; review SWPPP contents after unauthorized discharge or spill; maintain SWPPP onsite	SWPPP	PW Engineering/ PW Refuse/ Fleet Maintenance	Continuously	List of high-priority facilities and SWPPP sites
6.3		Nutrient Management Plans (NMPs)					

6. Pollution Prevention/Good Housekeeping for Facilities Owned or Operated by the Permittee							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
6.3a	6.i	NMP Implementation	Maintain and implement turf and landscape nutrient management plans on all lands owned or operated by City where nutrients are applied to contiguous area >1 acre. Ensure nutrients applied to achieve final stabilization of a land disturbance project follow manufacturer's recommendations.	Number of sites and acreage of sites with Nutrient Management Plans	PW Engineering	Continuously	List of NMP Covered Sites
6.3b	6.k	Avoid deicing agents	Operator shall not apply deicing agents containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces	Statement of non-use of nutrient containing deicing agents	PW Operations	Annually	Statement (in Annual Report)
6.4		Contractors					
	6.l	Contractors minimize the discharge of pollutants	Require through the use of contract language, training, SOPs, etc, that contractors employed by the City and engaging in activities with potential to discharge pollutants use appropriate control measures to minimize discharge of pollutants to MS4	Contract language, SOPs, training, etc.		Continuously	Statement (in Annual Report)
6.5		Employee Education & Training					
6.5a	6.m	Written training plan	Maintain and implement a training plan for applicable staff	Training Plan	PW Engineering	PY1	Training Plan

6. Pollution Prevention/Good Housekeeping for Facilities Owned or Operated by the Permittee							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
6.5b	6.m.1	IDDE Training for field personnel	Provide training to field personnel in the recognition and reporting of illicit discharges	# of training sessions / # employees trained	PW Engineering	No less than once every 24 months	Training Summary (in Annual Report)
6.5c	6.m.2	Pollution Prevention/Good Housekeeping Training for employees performing road, street, and parking lot maintenance	Provide training to Streets & Landscape Divisions for road, street & parking lot maintenance	# of training sessions / # employees trained	PW Engineering	No less than once every 24 months	Training Summary (in Annual Report)
6.5d	6.m.3	Pollution Prevention/Good Housekeeping Training for employees working in and around maintenance, public works, or recreational facilities	Provide training to employees working in and around maintenance, public works, or recreational facilities.	# of training sessions / # employees trained	PW Engineering	No less than once every 24 months	Training Summary (in Annual Report)
6.5e	6.m.4	Pesticide & Herbicide Certifications	Ensure employees or contractors who apply pesticides and herbicides are trained or certified.	Certifications obtained	PW Operations, Parks and Rec	Continuously	List of Certifications (in Annual Report)

6. Pollution Prevention/Good Housekeeping for Facilities Owned or Operated by the Permittee							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
6.5f	6.m.5 6.m.6	E&SC & SWM Certifications	Ensure that plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Erosion and Sediment Control Law and the Stormwater Management Act and verify that contractors have obtained	Certifications obtained	PW Engineering	Continuously	List of Certifications (in Annual Report)
6.5g	6.m.7	Emergency Response employee training	Document spill management training for emergency responders	Certifications obtained	Fire Dept, Police Dept.	Continuously	Training Plan
6.6		Evaluation and Assessment	Evaluate and assess progress towards meeting measurable goals.		PW Engineering	Annually	Annual report

TMDL Special Conditions							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
SC-1	Part II A	Chesapeake Bay TMDL					
SC-1a	A.11	Update the Chesapeake Bay TMDL Action Plan	Update the Bay TMDL Action Plan to meet 40% reduction of pollutants of concern (POC)	Updated Bay TMDL Action Plan	SW Program Administrator	12 months after permit effective date (Nov 1, 2019)	Updated Bay TMDL Action Plan
SC-1b	A.12	Provide opportunity for public comment on the updated Bay TDML Action Plan	Opportunity provided for public comment	Public comment period for no less than 15 days	SW Program Administrator	Prior to submittal of updated Bay TMDL Action Plan	Record of Comments
SC-1c	A.4	Implement Bay TMDL Action Plan	Implement the Bay TMDL Action Plan to meet 40% of the Level 2 (L2) reductions of pollutants of concern (POC) by the end of the permit cycle	BMPs implemented	SW Program Administrator	End of PY5	Bay TMDL Action Plan
SC-2	Part II B	Local TMDL					
SC-2a	B.1.a	Local TMDL Action Plan for TMDLs approved by EPA prior to July 1, 2013	Develop a local TMDL Action Plan	Local TMDL Action Plan	SW Program Administrator	No later than 18 months after permit effective date (May 1, 2020)	TMDL Action Plan for Bacteria Upd. 6/25/16 http://www.suffolkva.us/DocumentCenter/View/214/Action-Plan-for-Bacteria-Reduction-PDF?bidId=
SC-2b	B.3.d	Identify the significant sources of the POC	Identify the significant sources	Sources identified	SW Program Administrator	No later than 18 or 30 months after permit effective date, as applicable	TMDL Action Plan for Bacteria (see above)

TMDL Special Conditions							
BMP	**Permit Section**	**BMP Description**	**Measurable Goals**	**Metric**	**Responsible Party**	**Timeline**	**Associated Documents**
SC-2c	B.3.g	Outreach strategy to enhance public (including staff) education on reducing bacteria discharges	Develop and implement an outreach strategy	Outreach Strategy	askHRgreen and SW Program Administrator	No later than 18 or 30 months after permit effective date, as applicable	TMDL Action Plan for Bacteria (see above)
SC-2d	B.3.h	Schedule of anticipated actions for this permit term	Schedule of anticipated actions provided	Schedule of actions	SW Program Administrator	No later than 18 or 30 months after permit effective date, as applicable	TMDL Action Plan for Bacteria (see above)
SC-2e	B.7	Public comment period for the updated Local TDML Action Plan	Opportunity provided for public comment	Public comment period for no less than 15 days	SW Program Administrator	Prior to submittal of updated Local TMDL Action Plan	Record of Comments
SC-3	B.4	Bacteria TMDL					
SC-3a	B.4.a	Implement at least 3 strategies from Table 5	Identify strategies	At least 3 strategies implemented	SW Program Administrator	As listed in schedule of anticipated actions	TMDL Action Plan for Bacteria (see above)

APPENDIX A

MCM 1:

Public Education and Outreach

High Priority Issues - Education and Outreach Plan Permit Cycle: Nov. 1, 2018 - October 31, 2023

Date Developed - April 19, 2019

	High Priority Issue	Rationale for Selecting this Issue	Target Audience	Strategies Used	Anticipated Schedule - FY19 and beyond
1	Pet Waste: Scoop the Poop	Reducing impacts to waterways with local bacteria impairments and seasonal algal blooms	Dog owners	Paid media campaign (TV, radio, newspapers)	Summer 2019
				askHRgreen e-newsletter and social media posts	Each Summer
				Green Learning Guide for every 3rd grader	Dec. 2018
				Bulk purchase of pet waste stations	Fall 2019
				Printed brochures	Ongoing
				Promotional items - Dog waste bag holders, bumper stickers, and hand sanitizers	Ongoing
				Information on askHRgreen.org	Ongoing
2	Lawn Care	Reducing algal blooms and nutrients concentrations in surface waters	Homeowners	Paid media campaign (TV, radio, newspapers)	Summer 2019
				askHRgreen e-newsletter and social media posts -fertilizer	Each Spring
				askHRgreen e-newsletter and social media posts -leaves and lawn debris	Each Fall
				Rainbarrel Workshops	Spring 2019
				Promotion of soil test kits	Spring 2019
				"Drains to Waterways" storm drain medallions	Ongoing
				Printed brochures	Ongoing
				Promotional items - message pens, soil test kits	Ongoing
				Information on askHRgreen.org	Ongoing
3	Proper Disposal of Fats, Oils, and Greases (FOG)	Preventing sanitary sewer overflows caused by impropoer disposal of fats, oils, and grease	Restaurant owners and employees, grease haulers, and general public	Paid media campaign (radio ads, social media ads, and targeted display ads)	Nov. and Dec. 2018 & Nov. and Dec. 2019
				askHRgreen e-newsletter and social media posts	Each Winter
				Training and certification website - www.HRFOG.com	Ongoing
				Promotional items - grease can lids, scrapers, sponges, sink strainers	Ongoing
				Printed brochures	Ongoing
				Information on askHRgreen.org	Ongoing
4	Pollution prevention education to commerical entities: 1) Auto Care Businesses, 2) Pet Care/Groomers /Boarding Businesses, 3) Landscaping and Lawn Service Providers	Prevention of Illicit discharges from businesses most likley to contribute oils, bacteria, and nutrients	Owners and employees of businesses most likely to contribute oils, bacteria, and nutrients	Bay Star Businesses program	Ongoing
				Three new rack card brochures tailored to each business type	Nov. 2018
				Direct mailing to landscapers	March 2019
				Promotional items - Bay Star Businesses window clings and notepads	Ongoing
				Information on askHRgreen.org	Ongoing

Regional Priorities for Stormwater Public Outreach

Phase I & Phase II Localities

askHRgreen.org Stormwater Education Committee

1. Pollution Prevention to local groups of commercial, industrial, and institutional entities
    a. Businesses that wash/maintain vehicles (mobile auto detailing, car rental companies, auto repair shops, dealerships)
        i. Website, blog
        ii. Printed materials
        iii. Bay Star Businesses
        iv. TBD (trade workshop, video, direct mail)
    b. Pet care/groomers/boarding companies
        i. Website, blog
        ii. Printed materials
        iii. Pet-centric events participation
        iv. Bay Star Businesses
        v. TBD (trade workshop, video, direct mail)
    c. Landscaping and lawn service providers
        i. Proper use, application, and disposal of pesticides and fertilizer by public and commercial entities
            1. Website, blog
            2. Promotion of available certification programs (i.e. Ches Bay Landscape Professionals, DEQ certification – "Green & Clean Initiative", etc.)
            3. Printed materials for businesses and/or citizens (i.e. questions to ask landscape providers)
            4. Bay Star Businesses
            5. TBD (trade workshop, video, direct mail)
    d. Carpet cleaning companies
        i. Website, blog
        ii. Printed materials
        iii. Bay Star Businesses
        iv. TBD (trade workshop, video, direct mail)
2. Proper disposal of pet and yard waste
    a. Website, blog, social media, enewsletter, news release
    b. Paid media campaigns
    c. Printed materials
    d. Promotional items
    e. Pet waste station grant program
3. Public reporting of illicit discharges
    a. Public education on what is an illicit discharge?
    b. Printed materials
    c. Website, blog, social media, enewsletter
    d. Storm Drain Medallion program
4. Methods to minimize water quality impacts of residential car washing
    a. Website, blog, social media, enewsletter
    b. Printed materials
5. Private property owners to implement voluntary BMPs/retrofits

    a. Bay Star Homes Regional Program
        i. Public education on rain barrels, rain gardens, tree planting, downspout disconnects, etc.
        ii. Promotion of local events/workshops
6. Public involvement opportunities for clean-ups and restoration projects
    a. Regional promotion of annual cleanup programs: The Great American Cleanup, Clean the Bay Day, and International Coastal Cleanup
        i. Website, blog, social media, enewsletter, news release
7. Proper disposal of used oil and HHW
    a. Regional promotion of HHW collection events
        i. Website, blog, social media, enewsletter, news release
        ii. Seasonal media campaigns of the askHRgreen.org Fats, Oils and Grease Committee
8. Locality litter prevention program
    a. Regional litter prevention "Team Up to Clean Up" campaign from the askHRgreen.org Recycling & Beautification Committee
        i. TBD: printed materials, presentation materials, video

**Golf courses – use of Integrated Management Practice (IMP) plans and reducing runoff of fertilizer and pesticides - This is not part of regional outreach plan, will be covered by individual locality efforts.*

MEMORANDUM OF AGREEMENT
ESTABLISHING THE
HAMPTON ROADS REGIONAL STORMWATER MANAGEMENT PROGRAM

WHEREAS, Section 15.2-4200 of the Code of Virginia enables local governments to establish Planning District Commissions; and

WHEREAS, the eighteen local governments that are signatories to this Agreement have acted, in accordance with Section 15.2-4200 of the Code of Virginia, to establish the Hampton Roads Planning District Commission (HRPDC); and

WHEREAS, the HRPDC has been requested and has undertaken various studies to support local government stormwater management programs, including compliance with Virginia Stormwater Management Program (VSMP) Municipal Separate Storm Sewer (MS4) Permits; and

WHEREAS, the signatory local governments have requested the HRPDC to administer and coordinate a regional stormwater management program; and

WHEREAS, pursuant to the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has promulgated implementing regulations, 40 Code of Federal Regulations Part 122, which established the National Pollutant Discharge Elimination System (NPDES) Permits for Municipal Separate Storm Sewer System (MS4) Discharges; and

WHEREAS, pursuant to the Virginia Stormwater Management Act, 62.1-44.15, et. seq. of the Code of Virginia, 1950 As Amended, the Board of Soil and Water Conservation has promulgated implementing regulations 4 VAC 50-60, et. seq., which establish the requirements that localities obtain permits for their MS4 discharges; and,

WHEREAS, the majority of the eighteen signatory local governments are required by their MS4 permits to conduct certain activities, including reporting on their discharges, conducting public information and education programs, and certain other activities; and

WHEREAS, the Water Quality Monitoring and Reporting Act and implementing regulations promulgated by the State Water Control Board establish requirements for the preparation of Total Maximum Daily Load (TMDL) Implementation Plans, which apply to activities conducted by localities in general as well as activities conducted in implementing MS4 permit requirements; and,

WHEREAS, the Chesapeake Bay Preservation Act and the Virginia Erosion and Sediment Control Law and implementing regulations also establish stormwater management requirements that govern one or more of the eighteen signatory local governments; and,

WHEREAS, sixteen local governments and the HRPDC executed the Memorandum of Agreement Establishing the Hampton Roads Regional Stormwater Management

Program on September 5, 2003 and that Agreement expired on December 31, 2007; and,

WHEREAS, eighteen local governments and the HRPDC executed the Memorandum of Agreement Establishing the Hampton Roads Regional Stormwater Management Program on March 6, 2008 and that Agreement expires on June 30, 2013, and

WHEREAS, eighteen local governments and the HRPDC executed the Memorandum of Agreement Establishing the Hampton Roads Regional Stormwater Management Program on July 1, 2013 and that Agreement expires on June 30, 2018.

NOW THEREFORE, the signatory parties enter into the following Agreement.

This Memorandum of Agreement entered into this first day of July 2018, among and between the eighteen local governments in Hampton Roads and the HRPDC, establishes and maintains the Hampton Roads Regional Stormwater Management Program.

BASIC PREMISES

All local governments in Hampton Roads operate stormwater management programs.

The Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth and Virginia Beach received VPDES Permits in 1996. Those permits, which were renewed in 2001, govern the discharges from their MS4s to waters of the state and impose certain operational and reporting requirements on those systems. In 2005, these permits were converted to VSMP permits. These permits must be renewed on a five (5) year basis and the localities applied for renewed permits in 2005. Localities operated programs under administratively continued permits until June 30, 2016. The new permit became effective on July 1, 2016.

The Cities of Poquoson, Suffolk and Williamsburg and the Counties of Gloucester, Isle of Wight, James City, and York were all identified by the EPA as requiring VPDES permits under Phase II of the MS4 regulations. Those localities that operate MS4s obtained VPDES permits in March 2003. Those permits also imposed certain operational and reporting requirements on those systems. In 2005, these permits were converted to VSMP permits. These permits must be renewed on a five (5) year basis with the next renewal planned for 2013.

It was determined that permit coverage for Isle of Wight County was not required, and the County Phase II MS4 Permit was terminated on April 15, 2016.

Although Gloucester County was initially identified by the EPA as requiring a Phase II MS4 permit, it was subsequently determined that permit coverage for Gloucester County was not required.

The City of Franklin, the Counties of Gloucester, Isle of Wight, Southampton and Surry and the Towns of Smithfield and Windsor are governed by stormwater management

requirements established under the Virginia Stormwater Management Act and the Virginia Erosion and Sediment Control Law. The Chesapeake Bay Preservation Act also governs Gloucester and Surry Counties and the Towns of Smithfield and Windsor.

As of July 1, 2014, all localities have implemented stormwater management programs that meet the minimum requirements established in the Virginia Stormwater Management Act. The Virginia Stormwater Management Act imposes operational and reporting requirements on all localities that are required to implement stormwater management programs.

The local governments are interested in managing stormwater in a manner which protects and does not degrade waters of the state and which meets locally established quality of life goals and objectives. The Clean Water Act and the VSMP require that stormwater quantity and quality be managed to the maximum extent practicable.

In carrying out their stormwater management responsibilities, the aforementioned local governments have developed a consensus on regional goals to guide the operation of their stormwater management programs. Initially, approved by the HRPDC at its Executive Committee Meeting of September 15, 1999, they are:

1. Manage stormwater quantity and quality to the maximum extent practicable (MEP)

    - Implement best management practices (BMP) and retrofit flood control projects to provide water quality benefits.
    - Support site planning and plan review activities.
    - Manage pesticide, herbicide and fertilizer applications.

2. Implement public information activities to increase citizen awareness and support for the program.

3. Meet the following needs of citizens:

    - Address flooding and drainage problems.
    - Maintain the stormwater infrastructure.
    - Protect waterways.
    - Provide the appropriate funding for the program.

4. Implement cost-effective and flexible program components.

5. Satisfy MS4 stormwater permit requirements:

    - Enhance erosion and sedimentation control.
    - Manage illicit discharges, spill response, and remediation.

This Agreement establishes the administrative framework, which will be used by the local governments in Hampton Roads to address certain stormwater management

requirements under the above-cited state and federal laws and regulations.

Eighteen local governments in the Hampton Roads Region will be participants in and signatories to the Agreement.

HRPDC RESPONSIBILITIES

Under the terms of this Agreement, the HRPDC staff is responsible for the following:

- Provide technical support and policy analysis related to stormwater and water quality issues to local government staff.

- Provide the necessary administrative, technical and clerical resources to support program activities in order to ensure that the MS4 permit-holding cities and counties meet applicable stormwater management requirements.

- Prepare an annual work program and budget for the Hampton Roads Regional Stormwater Management Program. The annual work program will be incorporated into the HRPDC Unified Planning Work Program and the annual budget will be incorporated into the HRPDC budget.

- Assist the signatories in coordinating reporting on stormwater related activities to other state and federal agencies to ensure that program requirements are met in a cost-effective manner, which minimizes duplicative reporting and the administrative burden on the signatories.

- Conduct a regional stormwater education program. This will include public education activities and may include outreach to specific economic sectors and groups. The stormwater education subcommittee of askHRGreen.org will be responsible for guiding the development of original materials, including publications, media advertising and promotional items. This may also include development of locality-specific materials or coordination of bulk purchases. The stormwater education subcommittee of askHRGreen.org will coordinate with HRPDC staff on the educational and outreach components of the Hampton Roads Regional Stormwater Management Program.

- Develop and conduct a regional training program for municipal employees, contractors, civic leaders and other interested parties. The training program will emphasize stormwater management, pollution prevention and permit issues.

- Respond equitably and in a timely fashion to requests from all signatory local governments for technical assistance. The time frame for responses will be based on experience, the complexity of individual requests and the overall work load of program staff.

- Provide other technical support, as requested, to the signatory local

governments.

- Upon request from one or more participating localities, conduct technical studies to support compliance by the localities with MS4 permit requirements and VSMP program requirements.

- Facilitate development of multi-jurisdictional management plans for shared watersheds, as requested.

- Take steps, in conjunction with the signatory local governments, to obtain financial support for program activities from outside sources, including state, federal and private grants, to the extent that this may be accomplished without creating a conflict of interest, as determined by the signatory local governments.

- Contract with and manage consultants, including both private firms and academic institutions, to support the regional program, including provision of requested services to local governments in excess of the common program elements.

- Represent the Hampton Roads Regional Stormwater Management Program at federal, state, regional and local governmental, civic, professional and political organizations, agencies, and committees.

- Provide technical and administrative support, as appropriate, to those localities that are required to develop stormwater management programs to meet VSMP requirements, but that are not required to obtain MS4 permits for their stormwater discharges.

- Prepare annual program reports, or components thereof, which comply with the provisions of the MS4 permits and stormwater management programs of the signatory localities.

- Facilitate local government involvement in TMDL studies being prepared through the Virginia Department of Environmental Quality and EPA and facilitate preparation of TMDL Implementation Plans for impaired waters in the Hampton Roads Region as requested.

- Prepare an annual report of activities undertaken through the Hampton Roads Stormwater Management Program. This report will include summaries of related activities undertaken on a cooperative basis by the signatories.

- Identify state and federal regulatory actions that may affect local government stormwater programs, serve on regulatory advisory panels (RAPs) as necessary, conduct policy analysis, and develop policy recommendations on behalf of the HRPDC.

- Coordinate the compilation of regional data for MS4 permit annual reports to the appropriate regulatory authority

LOCAL GOVERNMENT RESPONSIBILITIES

Under the terms of the Agreement, the signatory local governments are responsible for the following:

- Appoint one voting member and alternates, as appropriate, to the Regional Environmental Advisory Committee to represent the local government stormwater and water quality related concerns. Generally, the voting representative should be the MS4 permit or program administrator.

- Appoint a representative and alternates, as appropriate, to the stormwater education subcommittee of askHRGreen.org.

- Provide, in a timely fashion, all locally generated data required by their MS4 permits and such other data as may be necessary to accomplish locally requested services.

- Provide timely technical review of HRPDC analyses and conclusions.

- Participate in regional efforts to conduct public outreach and education activities in regard to the state's TMDL study process and efforts to develop TMDL Implementation Plans for impaired waters lying within the locality or within watersheds that include the locality.

- Provide input on regulatory issues to HRPDC staff and serve on RAPs or provide input to the regional RAP representative as appropriate.

- Support HRPDC efforts to obtain additional funding to support the regional programs, to the extent that this may be accomplished without creating a conflict of interest, as determined by the signatory local governments.

- Provide annual funding to support the agreed-upon regional program.

METHOD OF FINANCING

The majority of program costs will be allocated according to a formula reflecting each locality's share of the regional population. Costs for additional projects or services will be allocated based on a formula developed by the HRPDC staff and approved by the HRPDC with the concurrence of the signatory local governments. For example, legal services have been split between the localities with MS4 permits and the maintenance costs for the regional online BMP database have been split by the subset of localities still using the system.

AVAILABILITY OF FUNDS

Performance by the HRPDC of its responsibilities under this Agreement is subject to the availability of funding from the signatory local governments. Failure of the local governments to provide the necessary funding to support these activities will constitute a Notice to Modify or Terminate the Agreement.

MODIFICATIONS

Modifications to this Memorandum of Agreement must be submitted in writing, approved by the HRPDC, and accepted by all signatories.

DURATION AND TERMINATION

This Agreement will have a term of five years, extending from the date of full execution of the renewed Agreement by the signatories or June 30, 2018, whichever occurs last through June 30, 2023. To conform to local government charter and Virginia Code requirements, the funding provisions of this Agreement will be subject to annual appropriations.

No later than January 1, 2023, the signatories will institute a formal reevaluation of the Hampton Roads Regional Stormwater Management Program. This reevaluation will serve as the basis for appropriate modification of the Agreement and the Hampton Roads Regional Stormwater Management Program.

Any signatory may terminate its participation in the Hampton Roads Regional Stormwater Management Program by written Notice To Terminate to all other parties. Such termination will be effective with the start of the following Fiscal Year. Depending upon the terms of individual VSMP permits, termination of participation in the Hampton Roads Regional Stormwater Management Program in the middle of a permit term may result in changes to permit conditions and require renegotiation of the individual locality's VSMP permit from the state (Virginia Department of Environmental Quality).

OWNERSHIP OF PROPERTY

It is not the intent of the signatories that the Memorandum of Agreement will result in the purchase, ownership, leasing, holding or conveying of any real property.

INDEMNITY

It is the intent of the signatories that no signatory will be held liable for any damage or associated penalties caused by or associated with the failure of any other signatory to discharge its duties or to exercise due diligence in discharging its duties under this Agreement, and that no signatory, by entering this Agreement, waives any defenses or immunities available to it at law, including, but not limited to, those set forth in Section 15.2-970 of the Code of Virginia.

It is the intent of the signatories that no signatory will be held liable for any damage or

associated penalties caused by or associated with the failure of any other signatory to comply with the terms and conditions of the signatory's VSMP permit.

LIST OF SIGNATORIES

Signature pages will be signed in counterparts.

CITY OF CHESAPEAKE

CITY OF FRANKLIN

GLOUCESTER COUNTY

CITY OF HAMPTON

ISLE OF WIGHT COUNTY

JAMES CITY COUNTY

CITY OF NEWPORT NEWS

CITY OF NORFOLK

CITY OF POQUOSON

CITY OF PORTSMOUTH

SOUTHAMPTON COUNTY

CITY OF SUFFOLK

SURRY COUNTY

CITY OF VIRGINIA BEACH

CITY OF WILLIAMSBURG

YORK COUNTY

TOWN OF SMITHFIELD

TOWN OF WINDSOR

HAMPTON ROADS PLANNING DISTRICT COMMISSION

This listing of participants will be followed by individual signature pages.

IN WITNESS THEREOF, the Chief Administrative Officer of the local governments and the Executive Director of the Hampton Roads Planning District Commission hereby execute this Agreement.

CITY OF SUFFOLK

By: _____
Patrick G. Roberts, City Manager

Date: 2/8/18

Date: 2/13/18

Attest: _____

Resolution Number 09/10-27

A RESOLUTION APPROVING THE TERMS AND CONDITIONS OF A MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF SUFFOLK, VIRGINIA AND SUFFOLK PUBLIC SCHOOLS

BE IT RESOLVED by the Suffolk City School Board as follows:

Section 1: That all terms and conditions of the attached Memorandum of Understanding between the City of Suffolk, Virginia and Suffolk Public Schools, be, and the same are hereby approved.

Section 2: That the School Superintendent is hereby authorized and directed to execute the said Memorandum of Understanding on behalf of Suffolk Public Schools.

READ AND ADOPTED February 11, 2010

TESTE: Cynthia B. Davis
Clerk

Approved as to form and content:

Wendell M. Waller, *Esquire*
School Board Attorney

MEMORANDUM OF UNDERSTANDING
Between the
CITY OF SUFFOLK, VIRGINIA
and
SUFFOLK PUBLIC SCHOOLS

This Memorandum of Understanding (MOU) is made and entered into this 11th day of February, 2010 by and between the City of Suffolk (hereinafter "the City") and Suffolk Public Schools (hereinafter "Schools").

WHEREAS, pursuant to the Clean Water Act, the U.S. Environmental Protection Agency has promulgated implementing regulations, 40 CFR Part 122, which established the National Pollutant Discharge Elimination System (NPDES) permits for Municipal Separate Storm Sewer System (MS4) discharges; and

WHEREAS, pursuant to the Virginia Stormwater Management Act, §10.1-603.2, et seq. of the Code of Virginia, the Soil and Water Conservation Board has promulgated implementing regulation 4 VAC 50-60-10, et seq., which establishes the Virginia Stormwater Management Permit (VSMP) program requirements that localities obtain VSMP permits for their MS4 discharges; and

WHEREAS, pursuant to the Virginia Water Quality Monitoring, Information and Restoration Act (WQMIRA), §62.1-44.19:4 et seq. of the Code of Virginia, the State Water Control Board has established requirements for the preparation of Total Maximum Daily Load (TMDL) Implementation Plans, which apply to activities conducted by localities in general as well as activities conducted in implementing MS4 permit requirements; and

WHEREAS, the Chesapeake Bay Preservation Act and the Virginia Erosion and Sediment Control Law and implementing regulations also establish stormwater management requirements that govern the City of Suffolk, and

WHEREAS, the City of Suffolk is required by its MS4 permit to conduct certain activities, including reporting on their discharges, conducting public information and education programs, and certain other activities; and

WHEREAS, the City of Suffolk and Suffolk Public Schools have the common objective of helping to bring about the conservation and wise use of land, water, and related resources for the health and well being of the residents of the City of Suffolk.

THEREFORE, these two entities now enter into this MOU which assigns responsibility for each of the City's MS4 permit requirements that relate to Schools.

THE CITY AGREES TO:

- General:
    - Obtain and maintain the MS4 permit that includes stormwater discharges from Schools properties;
    - Provide oversight for permit compliance and provide resources as described below to comply with permit conditions;
    - Coordinate all Schools facility visits with the authorized School office or management staff at least 24-hours in advance whenever possible and sign-in at each Schools' facilities;
    - Conduct all monitoring required by the MS4 permit;
    - Prepare and submit annual reports as required by the MS4 permit;

- Existing Structural and Source Controls:
    - Prepare and maintain an inventory of stormwater management facilities on Schools properties as well as the estimated acreage treated by each facility;
    - Perform required inspections as required to ensure stormwater management facilities function properly;
    - Track and report inspections, stormwater management facility conditions and maintenance performed;

- Areas of New Development and Significant Redevelopment:
    - Participate in the design of new stormwater management facilities by reviewing plans and construction to identify opportunities to provide stormwater controls above and beyond what is required. Comments will be provided in a timely fashion;
    - Provide permit reports and perform required inspections consistent with City policies/procedures and as required to ensure stormwater management facilities function properly once construction is completed;

- Roadways:
    - Schedule and manage, in coordination with Schools, an annual parking lot sweeping program;
    - Collect and report required information from the sweeping programs;

- Retrofitting:
    - Identify, in coordination with Schools, potential opportunities to retrofit or provide additional stormwater management facilities on Schools properties. Opportunities may include wet or dry ponds, rain gardens, porous pavements, infiltration trenches, and other stormwater management practices. The Schools will:
        - Prepare plans and plats, and obtain all necessary permits for stormwater management facility construction;
        - Serve as the Responsible Land Disturber designate until replaced by a qualified contractor;

        - Provide funding for projects required by new construction and expansion of existing impervious services;
        - Conduct pre-construction and on-site progress meetings one week in advance. Schools staff attendance is not mandatory;
    - Perform required structural maintenance consistent with City policies/procedures and as required to ensure stormwater management facilities function properly once retrofitting is completed;

- Pesticide, Herbicide, and Fertilizer Application:
    - Include Schools properties and practices in the City's Nutrient and Integrated Pest Management Plans;
    - As deemed necessary, provide required training to appropriate Schools staff in proper pesticide, herbicide and fertilizer storage and application;
    - Prepare and submit required reports to the State;

- Illicit Discharges and Improper Disposal:
    - Work with Schools to ensure that illicit discharges to the MS4 are located and eliminated, and that there are programs in place to collect used motor fluids, solvents, and other hazardous materials;
    - Conduct all required monitoring including dry weather screening;

- Industrial and High Risk Runoff:
    - Conduct in coordination with Schools, routine inspections of Schools properties for potential discharges of significant materials and take appropriate action including the installation of source controls, if necessary;
    - Provide required training materials to appropriate Schools staff in pollution prevention practices that are to be employed in and around municipal facilities;

- Construction Site Runoff:
    - Continue to review and inspect all Schools projects that require a land disturbance permit from the City;

- Storm Sewer Infrastructure Management:
    - Prepare and maintain an inventory of storm sewer infrastructure on Schools properties as well as the estimated acreage and associated land uses discharged through the MS4 for each HUC and impaired waterbody;
    - Inspect and maintain all storm sewers that serve through drainage on Schools properties; interconnected and discharges directly;
    - Notify, in writing, any downstream regulated MS4 to which it is physically interconnected and discharges directly;

- Public Education:
    - Develop a public education and outreach program as required by the MS4 permit;
    - Include school educational programs as part of the outreach program, and work with authorized Schools point of contact;
    - Maintain a web page of MS4-related information;

- Water Quality Base Effluent Limits:
    - Update its MS4 Program Plan to include measurable goals, schedules, and strategies to ensure MS4 Program consistency with any TMDL for which wasteloads have been allocated to the MS4;

THE SCHOOLS AGREE TO:

- General:
    - Review and offer comment on MS4 permit conditions;
    - Support the City by implementing practices and procedures required by the permit, and by providing City Staff a point of contact through which access to Schools staff and facilities will be coordinated;
    - Allow City staff the required access to Schools facilities to conduct all activities required by the MS4 permit;
    - Provide information on Schools activities needed to prepare and submit annual reports as required by the MS4 permit;

- Existing Structural and Source Controls:
    - As needed, provide all available information on existing stormwater management facilities, including copies of as-builts, site plans, grading plans, construction specifications and inspection reports for all facilities by the Schools as part of the MS4;
    - Continue to perform routine maintenance duties of existing stormwater management facilities;

- Areas of New Development and Significant Redevelopment:
    - Coordinate the design and construction of all new stormwater management facilities with the City's to consider opportunities to provide stormwater management controls above and beyond what is required. If no comments are received, Schools will move forward with design and construction;
    - Continue to get private maintenance agreements (PMAs) for all new Schools-funded stormwater management facilities on Schools properties;
    - Continue to perform routine grounds maintenance duties including mowing, maintenance of turf and vegetation, maintenance of fences and litter collection;

- Roadways:
    - Perform snow removal activities for school facilities;

- Retrofitting:
    - Review and offer comment on progress plans and specifications, and receive final design plans prior to permit submissions;
    - Have full usage of any newly constructed LID facility and is not obligated to expand or modify any existing facility in order to meet the intended performance standards;
    - Address future stormwater management needs associated with the expansion of impervious surfaces by avoiding City funded facilities, adding capacity to those facilities or compensating the City for the use of those facilities. This will ensure

that City funded facilities provide stormwater management above and beyond what would be required as part of the normal development process;

- Pesticide, Herbicide, and Fertilizer Application:
  - Ensure that employees and contractors applying pesticides and herbicides are properly certified per the Virginia Pesticide Control Act (§3.1-249.27 et seq. of the Code of Virginia);
  - Assist the City in providing required training in proper pesticide, herbicide and fertilizer storage and application by ensuring and documenting that authorized Schools staff attends and implements the training provided;
  - Track and provide the City the numbers of acres of land upon which pesticides, herbicides and fertilizer are applied, and the amounts of each that are applied;

- Illicit Discharges and Improper Disposal:
  - Work with the City to ensure that illicit discharges to the MS4 are located and eliminated, and that there are programs in place to collect used motor fluids, solvents, and other hazardous materials;

- Industrial and High Risk Runoff:
  - Assist the City in conducting routine inspections of Schools properties for potential discharges of significant materials (defined at 4 VAC 50-60-10) by taking appropriate action including the installation of source controls, if necessary;
  - Assist the City in providing required training in pollution prevention practices that are to be employed in and around municipal facilities by ensuring and documenting that authorized Schools staff participate in training programs;

- Construction Site Runoff:
  - Ensure that program administrators and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and attendant regulations;
  - Conform to all City and State construction permit conditions, and obtain all required permits;

- Storm Sewer Infrastructure Management:
  - Provide all available information on existing storm sewer infrastructure for all through drainage to be maintained by the City as part of the MS4 within one year of execution of this MOU;
  - Maintain all storm sewer infrastructure, including catch basins and pipes, that collect and transmit stormwater on Schools properties except for storm sewers that serve through drainage;

- Public Education:
  - Support inclusion of watershed management into curriculums, and support distribution of materials to school communities as needed;

- Water Quality Based Effluent Limits:
    - Support the City in updating its MS4 Program Plan by reviewing and offering comment on any measurable goals, schedules, and strategies developed to ensure MS4 Program consistency with any TMDL for which wasteloads have been allocated to the MS4.

MODIFICATIONS:
Modifications to this MOU must be submitted in writing and accepted by both signatories.

DURATION AND TERMINATION:
It is understood that this memorandum shall remain in effect unless both undersigned parties agree to changes. Changes will be made in writing and a new memorandum shall be signed by both parties. It is understood that this memorandum can be terminated at any time by either undersigned party with 90 days written notice provided to the other party. If this MOU is to be terminated, the City and Schools will be required to obtain separate MS4 permits from the permit issuing authority. To conform to local government charter and Virginia Code requirements, the funding provisions of the MOU will be subject to annual review and appropriation as appropriate.

EFFECTIVE DATE:
This MOU and transfer of permit responsibility, coverage and liability from Schools to the City shall take effect the day following approval by the Virginia Soil and Water Conservation Board.

IN WITNESS THEREOF, the City of Suffolk and the Superintendent of Suffolk Public Schools hereby execute this agreement.

Selena Cuffee-Glenn
City Manager
City of Suffolk

7/1/10
(Date)

Milton R. Liverman
Superintendent
Suffolk Public Schools

2-12-2010
(Date)

Approved as to both form and content:

Wendell M. Waller, *Esquire*
School Board Attorney

Approved as to form:

C. Edward Roettger, Jr.
City Attorney

APPENDIX B

MCM 2:

Public Involvement and Participation

Standard Operating Procedure:

Receiving, Responding to, and Documenting Public Reports, Complaints, and Input

Created November 2018

1. Background and Purpose

1.1. In accordance with VSMP General Permit No. VAR040029, procedures for the following shall be implemented:

1.1.1.1. The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns;

1.1.1.2. The public to provide input on the MS4 program plan;

1.1.1.3. Receiving public input or complaints;

1.1.1.4. Responding to public input received on the MS4 program plan or complaints;

1.1.1.5. Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the City's response.

1.2. This SOP details the above mentioned procedures that will be followed.

2. Policies

2.1. All public reports, input, and complaints should be responded to in a timely fashion (within 2 business days of receipt).

2.2. Reports of illicit discharges and spills to the MS4 should be investigated as soon as feasible upon receipt of report in an effort to reduce potential pollution. Priority will be given to investigations of potential threats to human health and safety.

2.3. All public reports, input, and complaints should be documented, and documentation should be maintained for a minimum of three years.

3. Definitions

3.1. **MS4** - Municipal Separate Storm Sewer System, means all separate storm sewers operated by a municipality or designated under 9VAC25-870-380.

3.2. **Illicit Discharge** - any discharge to a MS4 that is not composed entirely of stormwater, except for discharges allowed and identified by the permit. Which are:

3.2.1. Nonstormwater discharges or flows that are covered by a separate individual or general VPDES or VSMP permit.

3.2.2. Individual nonstormwater discharges or flows that have been identified in writing by the Department of Environmental Quality (DEQ) as de minimis discharges that are not significant sources of pollutants to surface waters and do not require a separate VPDES permit.

3.2.3. Nonstormwater discharges or flows in the following categories that have not been identified by the operator or State Water Control Board as significant contributors of pollutants to the small MS4:

3.2.3.1. Water line flushing, managed in a manner to avoid an instream impact
3.2.3.2. Landscape irrigation
3.2.3.3. Diverted stream flows
3.2.3.4. Rising ground waters
3.2.3.5. Uncontaminated ground water infiltration
3.2.3.6. Uncontaminated pumped ground water
3.2.3.7. Discharges from potable water sources
3.2.3.8. Foundation drains
3.2.3.9. Air conditioning condensation
3.2.3.10. Irrigation water
3.2.3.11. Springs
3.2.3.12. Water from crawl space pumps
3.2.3.13. Footing drains
3.2.3.14. Lawn watering
3.2.3.15. Individual residential car washing
3.2.3.16. Flows from riparian habitats and wetlands
3.2.3.17. Dechlorinated swimming pool discharges
3.2.3.18. Street wash water
3.2.3.19. Discharges from firefighting activities
3.2.3.20. Discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners
3.2.3.21. Other activities generating discharges identified by the department as not requiring VPDES authorization.

3.2.4. The discharge of materials resulting from a spill that is necessary to prevent loss of life, personal injury, or severe property damage. The operator shall take, or ensure that the responsible party takes, all reasonable steps to minimize or prevent any adverse effect on human health or the environment. This permit does not transfer liability for a spill itself from the party(ies) responsible for the spill to the operator nor relieve the party(ies) responsible for a spill from the reporting requirements.

3.3. **Cityworks database** – an online database that stores/tracks Dry Weather Screenings, Illicit Discharge Investigations, BMP Inspections, and other City functions. Cityworks enables users to store all documents relating to their work activities and access historical documentation.

4. Health and Safety

4.1. All safety procedures detailed in SOP SPW-ENG 30-002-02 (Incident Response and Investigation) should be followed when responding to illicit discharge and spill investigations.

5. Equipment

5.1. Computer
5.2. Phone
5.3. All equipment listed in SOP SPW-ENG 30-002-02 for incident response.

6. Procedure

6.1. Illicit Discharges, spills to the MS4, or other potential stormwater pollution concerns

6.1.1. The public reports illicit discharges, spills, or other stormwater pollution concerns by calling Public Works at 757-514-7725 (available on MS4 Program webpage), where their call will be forwarded to the appropriate personnel. Reports can also be made on the City of Suffolk website online reporting form at https://www.suffolkva.us/FormCenter/Public-Works-5/Report-Illegal-Dumping-or-Illicit-Discha-49. A link for the form is also available on the MS4 Program webpage https://www.suffolkva.us/265/MS4-Program-Overview in the "Reporting" section. The following fields must be completed on the form:

6.1.1.1. Type of Discharge (animal waste, detergent or wash water, garbage, industrial waste, leaf litter or yard waste, oil (cooking or petroleum), untreated sewage, vehicle fluids, other issue)
6.1.1.2. Contact Name, Phone Number, Email
6.1.1.3. Location of issue being reported
6.1.1.4. Brief description of issue and specifics
6.1.1.5. Responsible Party
6.1.1.6. Date of Occurrence

6.1.2. The Environmental Program Manager and Environmental Specialist receive email notification from the online reporting form at the address idischarge@suffolkva.us .

6.1.3. The Environmental Program Manager or Environmental Specialist responds to the citizen by phone or email within two business days of receipt (if necessary) and investigates or relays the information to an Engineering Technician who investigates the illicit discharge according to SOP SPW-ENG 30-002-02.

6.1.4. Once the issue has been investigated and/or resolved, the citizen will be notified of findings and actions taken (if necessary).

6.1.5. When corresponding with citizens, employees will gather all relevant information and make every effort to answer all questions thoroughly and make every effort to resolve the issue.

6.2. Improper Disposal

6.2.1. Residents can report improper disposal on the City of Suffolk website online reporting form at https://www.suffolkva.us/FormCenter/Public-Works-5/Report-Illegal-Dumping-or-Illicit-Discha-49. A link for the form is also available on the MS4 Program webpage https://www.suffolkva.us/265/MS4-Program-Overview in the "Reporting" section. The fields mentioned above in Section 6.1.1 must be completed on the form. Citizens may also call Public Works Engineering at 757-514-7725 (also available on the "MS4 Program Overview" webpage), where their call will be forwarded to the appropriate personnel.

6.2.2. The Environmental Program Manager and Environmental Specialist receive email notification from the online reporting form at the address idischarge@suffolkva.us .

6.2.3. If the report involves dumping into the stormwater system, the Environmental Program Manager or Environmental Specialist relay the information to an Engineering Technician who may contact the citizen for more information if necessary and conduct an investigation. Depending on the circumstance, the offending resident may be educated on illicit discharges, another City department may be contacted to remediate the issue, or enforcement measures may be taken.

6.2.4. If the report involves waste dumping that is not related to the stormwater system, the Public Works Refuse division will be contacted to collect and dispose of the dumped waste. The Public Works Roadways division may also be contacted to deploy a crew to pick up litter along the roadway.

6.2.5. Once the issue has been investigated and/or resolved, the citizen will be notified of findings and actions taken (if necessary).

6.3. Complaints regarding land disturbing activities

6.3.1. Residents can report complaints regarding land disturbing activities on the City of Suffolk website by clicking on the link on the MS4 Program webpage https://www.suffolkva.us/265/MS4-Program-Overview in the "Reporting" section. This links to the email address LDA@suffolkva.us that is sent to the Construction Manager, Development Plan Manager, and Environmental Programs Manager. Citizens may also call Public Works Engineering at 757-514-7725 (also available on the "MS4 Program Overview" webpage), where their call will be forwarded to the appropriate personnel.

6.3.2. The corresponding staff person from those mentioned above responds to the citizen complaint as soon as possible and investigates the matter.

6.3.3. If a land disturbance violation is observed, the enforcement procedures detailed in SOP SPW-ENG 30-010-00 (Land Disturbance Inspections) are performed.

6.4. Public input on MS4 Program and Program Plan

6.4.1. Residents can provide input on the MS4 Program Plan by clicking on the link on the MS4 Program webpage https://www.suffolkva.us/265/MS4-Program-Overview in the "Reporting" section. This links to the email address MS4@suffolkva.us that is sent to the Environmental Programs Manager and the Environmental Specialist. Citizens may also call

Public Works Engineering at 757-514-7725 (also available on the "MS4 Program Overview" webpage), where their call will be forwarded to the appropriate personnel.

6.4.2. Upon receipt of public input or complaints, a member of the Stormwater Department will respond to the resident via phone or email as soon as possible (within two business days) and provide additional information on the program if necessary. All complaints will be addressed promptly, and employees will always be courteous and informative.

7. Documentation

7.1. Illicit discharge reports, reports of spills or other stormwater pollution concerns, and all associated correspondence and photos will be inputted into the Cityworks database, including any follow-up investigations and associated documents. Copies of all documents and photos associated with the investigation will also be saved in the IDDE folder on N drive at N:\Engineering\Environmental Programs\MS4 Permit Master Folder\IDDE.

7.2. All documentation (and associated emails, etc) related to public input or complaints on the MS4 Program will be saved on N Drive at N:\ Engineering\Environmental Programs\MS4 Permit Master Folder\Public Input on MS4 Program. Documentation also includes the City's response to comments and complaints and will be maintained for a minimum of three years.

7.3. All documentation (and associated emails, etc) of complaints regarding land disturbing activities will be saved on the N Drive at . Documentation also includes the City's response to complaints and will be maintained for a minimum of three years.

8. Comments

N/A

9. References

9.1. VSMP General Permit No. VAR040029
9.2. SOP SPW-ENG 30-002-02 (Incident Response and Investigation)
9.3. SOP SPW-ENG 30-010-00 (Land Disturbance Inspections)

APPENDIX C

MCM 3:

Illicit Discharge Detection and Elimination

Standard Operating Procedure:

Administration of the Illicit Discharge Detection and Elimination Program

Created May 2012

Updated February 2019

1. Background and Purpose

1.1. Provisions of the Clean Water Act (1987) require NPDES permits for storm water discharges. The state equivalent VSMP permit requires the City of Suffolk to "maintain, implement and enforce a program to detect and eliminate illicit discharges as defined at9VAC25-870-10, into the small MS4." Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies.

2. Policies

2.1. The policy of the city of Suffolk is to administer an illicit discharge detection and elimination program that is in compliance with VSMP general permit no. VAR040029.

2.2. When investigating illicit discharges, priority will be given to discharges of sanitary sewage and those that may be a risk to human health and public safety.

2.3. Any discharges authorized under a separate VPDES or state permit require no further action under this permit.

3. Definitions

3.1. **NPDES** - National Pollutant Discharge Elimination System, meaning the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and enforcing pretreatment requirements under §307, 402, 318, and 405 of the Clean Water Act

3.2. **VSMP** - Virginia Stormwater Management Program, meaning the state program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing requirements pursuant to the federal Clean Water Act

3.3. **MS4** - Municipal Separate Storm Sewer System, means all separate storm sewers operated by a municipality or designated under 9VAC25-870-380

3.4. **Illicit Discharge** - any discharge to a MS4 that is not composed entirely of stormwater, except for discharges allowed and identified by the permit. Which are:

3.4.1. Nonstormwater discharges or flows that are covered by a separate individual or general VPDES or VSMP permit.

3.4.2. Individual nonstormwater discharges or flows that have been identified in writing by the Department of Environmental Quality (DEQ) as de minimis discharges that are not significant sources of pollutants to surface waters and do not require a separate VPDES permit.

3.4.3. Nonstormwater discharges or flows in the following categories that have not been identified by the operator or State Water Control Board as significant contributors of pollutants to the small MS4:

3.4.3.1. Water line flushing, managed in a manner to avoid an instream impact

3.4.3.2. Landscape irrigation

3.4.3.3. Diverted stream flows

3.4.3.4. Rising ground waters
3.4.3.5. Uncontaminated ground water infiltration
3.4.3.6. Uncontaminated pumped ground water
3.4.3.7. Discharges from potable water sources
3.4.3.8. Foundation drains
3.4.3.9. Air conditioning condensation
3.4.3.10. Irrigation water
3.4.3.11. Springs
3.4.3.12. Water from crawl space pumps
3.4.3.13. Footing drains
3.4.3.14. Lawn watering
3.4.3.15. Individual residential car washing
3.4.3.16. Flows from riparian habitats and wetlands
3.4.3.17. Dechlorinated swimming pool discharges
3.4.3.18. Street wash water
3.4.3.19. Discharges from firefighting activities
3.4.3.20. Discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners
3.4.3.21. Other activities generating discharges identified by the department as not requiring VPDES authorization.

3.4.4. The discharge of materials resulting from a spill that is necessary to prevent loss of life, personal injury, or severe property damage. The operator shall take, or ensure that the responsible party takes, all reasonable steps to minimize or prevent any adverse effect on human health or the environment. This permit does not transfer liability for a spill itself from the party(ies) responsible for the spill to the operator nor relieve the party(ies)responsible for a spill from the reporting requirements.

3.5. **Best Management Practice** - the schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land disturbing activities.

4. Health and Safety

SAFETY IS ALWAYS THE PARAMOUNT CONSIDERATION: IF YOU HAVE CONCERN THAT A SITUATION IS UNSAFE, DO NOT PUT YOURSELF INTO THAT SITUATION. <u>CONTACT A SUPERVISOR AND ASK FOR ASSISTANCE.</u>

4.1. Sampling

4.1.1. Sampling is sometimes conducted in areas where safety hazards exist. Sampling personnel must always be aware of possible hazards and must take the necessary precautions to avoid dangerous situations. Some of the more common hazards are discussed below.

4.1.2. Protection from Traffic. If the sample is collected from a manhole in a street, traffic control is an important consideration. The sampling vehicle should be parked between the working area and oncoming traffic. Personnel should wear approved safety vests when the manhole is located in a vehicular traffic area. Cones and flags may be utilized where appropriate. Also refer below to b. Confined Space Entry.

4.1.3. Samples should be obtained from the manhole as quickly as possible. Sampling crews should replace the manhole cover and move the vehicle and equipment to a location off the street. All sample analyses should be performed in a safe location away from the vehicular traffic area.

4.1.4. Confined Space Entry. Manholes and enclosed storm drains are confined spaces and as such must not be entered for any reason without adequate safety precautions. These precautions can only be certified and evaluated by a "Confined Space Qualified Person" with the appropriate monitoring equipment. Entry includes any time any part of your body breaks the plane of the entry port. Therefore field personnel should not enter or place any part of their body into any confined space, unless they have had appropriate confined space training and have all associated safety measures in place.

4.1.5. Removing Manhole Covers. Manhole covers should be carefully removed using the pickaxe provided. Hands and feet should not be used to assist in either opening or closing the manholes. Under no circumstances should any field personnel enter a manhole, unless they are a “Confined Space Qualified Person”.

4.1.6. Emergencies. Every member of the sampling crew must be aware of procedures to be followed in case of an emergency. All field personnel should have a list of emergency telephone numbers, including the local hospital's general emergency number. All injuries and other problems should receive immediate medical attention and should also be reported as soon as practical to the field supervisor.

4.1.7. Hazardous Waste Streams. Storm sewers may receive industrial wastes that contain corrosive or toxic materials. Skin contact with a waste stream must be avoided and long-handled samplers will be provided to each sampling crew. Sampling personnel should always be aware of possible hazards and should take all necessary precautions to ensure safety.

4.1.8. Other Hazards. A wide variety of insects and rodents may inhabit manholes or sampling sites. Sampling personnel should always be on the lookout for these creatures to avoid painful and dangerous bites or stings. These hazards include snakes; field personnel must wear snake boots while sampling.

4.1.9. Sampling personnel are always exposed to the possibility of infections. Disposable rubber gloves should be used to avoid skin contact with the waste stream. Personnel should wash their hands or use the provided hand sanitizer as required. Open cuts or sores should never be allowed to come into contact with a waste stream.

4.2. Analysis

4.2.1. During sample analysis with the Chemetrics kit, sampling personnel should avoid any internal or external contact with chemicals in the chlorine, detergent, and ammonia reagents. Skin and eyes may become irritated if exposed to the chemicals. Each member of the sampling team should wear protective safety goggles and disposable rubber gloves while performing the analyses. If exposure does occur, large amounts of water should be used to flush the exposed area. If necessary, seek medical attention immediately.

4.2.2.The analyses should be performed in a well-ventilated area to avoid inhalation of chemical fumes. Specific hazards associated with each chemical are noted in the instruction manual included in each test kit and in the SDS.

4.3. First Aid

4.3.1. Members of sampling crews should know first aid procedures and, if possible, one person in any sampling group should remain in a safe location during the course of the work. Included in first aid training should be procedures for resuscitation.

4.3.2. Each member of every sampling team should know at least the basics of first aid. A first aid kit will be provided to each sampling team. The supervisor will be available via phone, radio, or some type of communication device and should be contacted in the event of a serious injury.

4.4. Accident Reports

Reports should be filled out for all accidents regardless of the extent of the injury. In this way, conditions that cause repeated injuries may be isolated and corrected.

5. Equipment
   - 5.1.1. HQ40d Portable Multi- Parameter Meter (including pH, and Conductivity Probes)
   - 5.1.2. CHEMets Kit (Detergents, Ammonia, Chlorine)
   - 5.1.3. Camera
   - 5.1.4. Dipper pole
   - 5.1.5. 1 Liter Bottle
   - 5.1.6. Stopwatch
   - 5.1.7. Gloves
   - 5.1.8. Safety glasses
   - 5.1.9. Sampling Bottles
   - 5.1.10. Tape Measure
   - 5.1.11. Bottle of Deionized Water for rinsing sampling equipment.
   - 5.1.12. Data Sheets
   - 5.1.13. Paper Towels
   - 5.1.14. Bag/ Container for Trash

6. Procedure

6.1. Locate potential illicit discharges:

6.1.1. Desktop Assessment of Illicit Discharge Potential- utilizing GIS and historical IDDE records, locate high industrial areas, areas of older infrastructure, and areas with history of illicit discharge. These areas correspond to ranking list of high priority outfalls for dry weather screening (See Outfall Monitoring Plan of Action in Dry Weather Screening SOP).

6.1.1.1. See Chapter 5 IDDE Manual for detailed procedure

6.1.2. Field Assessment of high illicit discharge potential areas- these areas correspond to ranking list of high priority outfalls for dry weather screening (See Outfall Monitoring Plan of Action in Dry Weather Screening SOP). History of previous illicit discharges is also taken into consideration.

6.1.2.1. See Chapter 7 IDDE Manual for detailed procedure

6.1.3. Incident response and investigation- investigating reports from citizens and City employees.

6.1.3.1. See SOP SPW-ENG 30-002-02

6.1.4. Dry weather screening

6.1.4.1. See Section 7 of this document

6.2. Find the source

6.2.1. See Chapter 13 IDDE manual for detailed procedure.

6.2.2. Depending on the nature of the illicit discharge, a variety of methods may be utilized to locate the source. The following is a list of common illicit discharge issues and possible methods for locating the source and is not all inclusive of potential illicit discharges. Alternative methods may be utilized to locate the source depending on the unique situation.

6.2.3. All illicit discharge investigations should be conducted within two business days of receipt of notification. Priority will be given to discharges of sanitary sewage and those that may be a risk to human health and public safety.

6.2.4. Some illicit discharges are obvious (oily sheen on water, sewage present) or are originating from an obvious source. If the contaminant present it obvious, sampling the water may not be necessary, and the investigator may proceed with Section 6.6 to remove and correct the problem.

6.2.5. If there is enough liquid from the illicit discharge, a sample of the water should be tested for some or all of the following parameters and results recorded (pH, Detergents, Ammonia, Chlorine, Salinity, and Temperature). The parameters tested depend on the nature of the discharge (see 5.2.5 below). This data will assist the Environmental Specialist or Environmental Technician in determining if the flow is from storm water, a cross connection, an illicit discharge from sewage, a tidally influenced flow, or an illicit discharge of some other source.

6.2.6. Collect quantitative characteristics such as temperature, pH, and conductivity as noted on the field sheet.

6.2.7. Note physical indicators of an illicit discharge such as odor, color, nearby stains, and floatables.

6.2.8. If enough liquid is present, determine if it is necessary to collect a sample.

6.2.8.1. Test pH and conductivity. If the pH and conductivity measurements are out of the range for Spring Water or Groundwater listed in Table 1 below, test for Detergents, Ammonia, and/or Chlorine.

6.2.8.2. If Detergent, Ammonia, and/or Chlorine levels are out of the range for Spring Water or Groundwater listed in Table 1, it may be determined that a sample should be collected.

6.2.8.3. Physical indicators that are indicative of contamination from sewage, etc, may also be cause for sample collection.

6.2.9. Note whether a sample was collected and what it will be tested for. (Also see Section 5.5: Procedures for Lab Samples).

6.2.10. If feasible, track the source of the illicit discharge up the stormwater system, starting with the nearest drop inlet and inspecting each drain for evidence of contamination.

6.2.11. In some cases, the assistance of other departments may be needed to locate the source (i.e. VDH for septic or private water line issues, Public Utilities for sewer or public water line issues).

6.2.12. If the source of an illicit discharge cannot be determined or the non-stormwater discharge cannot be identified after 6 months of the opening of the investigation, document that the source remains unidentified in accordance with Section I E 3 c of the VSMP general permit.

6.2.13. If an illicit discharge is intermittent and is not observed during the first investigation, follow up investigations will be conducted. If unsuccessful in observing the discharge during follow-up investigations, document as such in accordance with Section I E 3 of the VSMP general permit.

6.2.14. If an illicit discharge is continuous or is expected to occur more frequently than a one-time discharge, conduct follow-up investigations to verify that the discharge has been eliminated. The follow-up investigation may include recurring inspections of the discharge location at a frequency or specific time of day, etc. determined by the nature of the discharge.

6.3. While on site at the illicit discharge, the following observations should be recorded:

6.3.1. Date & Time of the Discharge

6.3.2. Amount & Type of the Discharge

6.3.3. Location of the Discharge

6.3.4. Responsible Party name, phone number & address

6.3.5. Impact to waterways (i.e. fish kill, sheen, sediment plume, etc.)

6.4. Photographs documenting the impact of the discharge along with the cleanup effort should be taken. These along with the information recorded for 5.3 should be input into the Cityworks database following procedures detailed in the Cityworks IDDE SOP. This report should be updated along with the progress of the discharge.

6.5. Procedures for Lab Samples:

6.5.1. If it has been determined that it is necessary to sample discharge water, call HRSD's lab to ensure they are able to analyze the sample. If they are not able to analyze the sample,

schedule a different day to sample that outfall that works for HRSD. If they are able to analyze the sample, continue with sampling procedures.

6.5.2. Fill a clean sample bottle with discharge water by using the pole and dipper bottle (if necessary). Always wear latex gloves when sampling.

6.5.3. Secure a label to the sample bottle and fill in Sample ID, Date, Time, Initials of sampler, and Sample Parameters to be tested.

6.5.4. Fill out a Chain of Custody form with Sample ID, Sample Date and Time, Sampler Name, and Sample Parameters to be tested.

6.5.5. Place the sample in a cooler on ice and deliver to the HRSD Lab.

6.5.6. When delivering the sample, sign and date the Chain of Custody in the "Relinquished By" box with the time the sample is being relinquished to the lab.

After lab results are received from HRSD, if HF-183 bacteria are not detected, no further action is needed. If HF-183 bacteria are present in the sample, further investigation of storm drains and outfalls in the area should be conducted to locate the potential source.

6.6 Remove and correct the problem

6.5.7. Depending on the nature of the illicit discharge, a variety of methods may be utilized to remediate the problem. The following is a list of common illicit discharge issues and possible methods for remediation and is not all inclusive of potential illicit discharges/remediation methods. Alternative remediation methods may be utilized depending on the unique situation.

6.5.7.1. If there is a sewage cross connection, the City Department of Public Utilities will be contacted (514-7000) immediately to correct the problem. It will be the responsibility of Utilities to make all proper notifications to the state and to ensure proper cleanup efforts are undertaken. If sewage is believed to be present in septic areas, VDH will be contacted to conduct further investigation and enforcement.

6.5.7.2. If there is another source of the flow, such as a chemical spill,and the responsible party cannot be determined a spill cleanup contractor will be contacted to conduct the cleanup effort. The Public Works Engineering department will be responsible for making sure the state is notified only when the responsible party cannot be determined.

6.5.7.3. If the flow is coming from an industrial discharge, the Environmental Specialist or Civil Engineer will inquire if the Industry has an Industrial VPDES permit from DEQ. If not, DEQ will be notified regarding the discharge.

6.5.7.4. If oil/gasoline are present, follow oil up the stormwater system to locate source. Contact Fire Department if a large spill is located. Educate the public if leaking vehicles are found, if there is potential dumping, or if no source is evident.

6.5.7.5. If there are grass clippings/brush or trash/illegal dumping blocking storm drains, educate the public in the area (door hangers). Contact the property owner or Public Works Operations to remove debris.

6.7. If the illicit discharge involves an ordinance violation, a Notice of Violation will be issued to the responsible party, and a time period is set for corrective action to be completed. If the discharge can be considered a criminal action (i.e. the responsible party knowingly discharged

contaminants to the stormwater system), the person responsible will immediately be issued a Uniform State Summons.

6.8. If the discharge involves other agencies (Federal, VA-state or Local), the Fire Marshal's Office will take the lead in the investigation, clean- up, and enforcement action for the violations when necessary. Public Works Engineering will assist as necessary.

6.9. After an illicit discharge has been stopped, removed, and/or corrected, a follow-up visit should be conducted to ensure the issue has been resolved. If a notice of violation was issued, the follow up visit should take place after the "correct by" date in the NOV letter. The results of the follow up visit should be included in the report for the original illicit discharge complaint. If the issue has not been resolved after corrective action has been taken, a new investigation must be opened.

7. Reporting and Records

7.7. Reports

7.7.1. All reports should include the date(s) the illicit discharge was observed and reported, the results of the investigation (including the source, if identified), if any follow up investigations were conducted, resolution of the investigation, and the date the investigation was closed.

7.7.2. All illicit discharges and all spills **greater than 25 gallons of petroleum product** must be immediately notified to the DEQ. In the event that the person who created the spill is present, it is their responsibility to contact the proper regulating agency; otherwise, it is the City of Suffolk's responsibility to ensure DEQ are notified.

7.7.2.1. The Environmental Specialist or Civil Engineer for Public Works Engineering or the Fire Marshal will contact DEQ within 24 hours of the incident as stated in the General Permit, VAR04, Part III G. The Incident Reporting (IR) number from the DEQ representative, as well as the DEQ representative name and phone number will be obtained during the notification. The incident may be reported on the DEQ PREP online reporting form rather than via phone. The IR number should be obtained when reporting online as well. Note the date and time the discharge or spill was reported to the DEQ.

7.7.2.2. The Environmental Specialist or Civil Engineer for Public Works Engineering or the Fire Marshal will thoroughly complete the cover letter and written report for each discharge or spill. The written report will be emailed or mailed to the DEQ within 5 days of the incident as per the General Permit, VAR04, Part III G.

7.7.2.3. The City of Suffolk's Public Works Engineering Department will save an electronic copy of the written report and cover letter for each illicit discharge up to 5 years.

7.7.3. If the illicit discharge is a sewage spill, Public Utilities must provide a copy of all reports sent to the DEQ to the Environmental Specialist or Civil Engineer at the Department of Public Works Engineering in a timely fashion. The Department of Utilities and the Hampton Roads Sanitation District (HRSD) report illicit discharges to the Sanitary Sewer Overflow Reporting System (SSORS).

7.8. Records – All reports should be saved in the following ways:

7.8.1. Cityworks

7.8.1.1. Illicit discharge complaints, outfall monitoring, and Dry weather screenings are all entered into Cityworks per procedures detailed in associated Cityworks SOPs. This allows multiple people to edit the files, and easily generate reports.

7.8.2. N drive

7.8.2.1. Create a new folder in N:\Engineering\Environmental Programs\MS4 Permit Master Folder\IDDE \IDDE Complaint Tracking and save all documents associated with the illicit discharge in the corresponding folder. These folders should be maintained for a minimum of the five year permit term.

8. Dry Weather Screening (for complete procedure, see SOP SPW-ENG 30-03-01)

8.7. Dry weather screening is an important tool in the Illicit Discharge Detection and Elimination program. It allows for a proactive approach in reducing illicit discharges to the stormwater system by putting action to the research and analysis of spatial data done in the desktop assessment of illicit discharge potential. Dry weather screening also increases the chance of discovering illicit discharges over waiting for citizen reports of stormwater issues.

8.8. Equipment

8.8.1. HQ40d Portable Multi- Parameter Meter (including pH, and Conductivity Probes)
8.8.2. CHEMets Kits (Detergents, Ammonia, Chlorine)
8.8.3. Camera
8.8.4. 1 Liter Bottle
8.8.5. Stop Watch
8.8.6. Gloves
8.8.7. Safety glasses
8.8.8. Sampling Bottles
8.8.9. Tape Measure
8.8.10. Bottle of Deionized Water for rinsing sampling equipment.
8.8.11. Data Sheets
8.8.12. Paper Towels
8.8.13. Bag/ Container for Trash

8.9. In-office preparation:

8.9.1. Refer to “Outfall Monitoring Plan of Action” attached at the end of this document for prioritizing and scheduling screenings for outfalls.

8.9.2. Note the current air temperature. Verify that there has been no rainstorm big enough to cause runoff in the last 72 hrs. No screening will be performed for 72 hours following a storm event.

8.9.3. Use HRSD’s https://telogdata.hrsd.com rain gauge information to determine the amount of rain for the previous three days. Refer to Figure 1 to determine the closest pump station to where you will be sampling. If for some reason that is unavailable use www.wundergound.com KVASUFF02 (Lake Cahoon)

8.9.4. Identify and prepare maps and field sheets for the locations to be inspected.

8.9.5. Label outfalls to be inspected with the Cityworks Facility ID. Note the major land use categories in the outfall drainage area.

8.9.6. Prepare the field sheets and record as much background data as possible.

8.9.7. If the outfall is discharging to tidal waters, schedule screening/inspection during low tide.

8.9.8. Gather and calibrate all necessary equipment.

8.10. Field Observations:

8.10.1. Using the Dry Weather Screening Field Collection Sheet, note the general description for the outfall. (ie. closed or open conveyance, material, shape, and dimensions)

8.10.2. Determine whether flow is present and proceed with appropriate procedures. If flow is not present at the time of inspection, assess the outfall for physical indicators of an illicit discharge (ie. Outfall damage, deposit stains, abnormal vegetation, poor pool quality, pipe benthic growth, and sediment accumulation).

8.10.3. If flow is present at the time of inspection, collect quantitative characteristics such as flow, temperature, pH, and conductivity as noted on the field sheet.

8.10.4. Note physical indicators of an illicit discharge for flowing outfalls such as odor, color, turbidity, and floatables as well as indicators for both flowing and non-flowing outfalls such as outfall damage, deposits or stains, abnormal vegetation, poor pool quality, benthic growth, and sediment accumulation.

8.10.5. If flow is present, determine if it is necessary to collect a sample.

8.10.5.1. Test pH and conductivity. If the pH and conductivity measurements are out of the range for Spring Water or Groundwater listed in Table 1, test for Detergents, Ammonia, and/or Chlorine.

8.10.5.2. If Detergent, Ammonia, and/or Chlorine levels are out of the range for Spring Water or Groundwater listed in Table 1, it may be determined that a sample should be collected.

8.10.5.3. Physical indicators that are indicative of contamination from sewage, etc, may also be cause for sample collection.

8.10.6. Note whether a sample was collected, whether it was collected from flow or pool, and what it will be tested for. (Also see Section 6.3: Procedures for Lab Samples).

8.10.7. Note any other concerns such as necessary repairs or trash at outfall.

8.10.8. Follow procedures and reporting requirements found in SOP SPW-ENG 30-001-01 (IDDE) Sections 6 and 7.

8.10.9. Use Table 1 below to determine if a sample should be taken at an outfall.

8.11. Table 1

Table 5-3. Summary of Chemical Characteristics of Source Samples Collected in Birmingham, Alabama (Pitt et al. 1993)

Source	Conductivity (µS/cm)	Fluoride (mg/L)	Hardness (mg/L as $CaCO_3$)	Detergent (mg/L)	Fluorescence % scale	Potassium (mg/L)	Ammonia (mg/L)	Color (units)	Chlorine (mg/L)
Spring Water									
mean	301	0.03	240	0.00	6.80	0.73	0.01	0.0	0.00
COV	0.04	1.00	0.03	n/a	0.43	0.10	2.00	n/a	n/a
distribution	normal	normal	normal	uniform	normal	normal	L-norm	uniform	uniform
Shallow Groundwater									
mean	51.4	0.06	27.3	0.00	29.9	1.19	0.24	8.0	0.02
COV	0.84	0.50	0.39	n/a	1.55	0.44	1.26	1.42	1.62
distribution	normal	L-norm	normal	uniform	L-norm	normal	normal	L-norm	normal
Tap Water									
mean	112	0.97	49.3	0.00	4.63	1.55	0.03	0.0	0.88
COV	0.01	0.01	0.03	n/a	0.08	0.04	0.23	n/a	0.68
distribution	normal	normal	normal	uniform	normal	normal	normal	uniform	bi-modal
Landscaping Irrigation									
mean	105	0.90	40.2	0.00	214	6.08	0.37	10.0	0.03
COV	0.07	0.11	0.04	n/a	0.16	0.26	0.25	0.36	1.02
distribution	normal	normal	normal	uniform	normal	normal	normal	normal	normal
Sewage									
mean	420	0.76	143	1.50	251	5.97	9.92	37.9	.01
COV	0.13	0.23	0.11	0.82	0.20	0.23	0.34	0.55	2.00
distribution	normal	normal	normal	normal	normal	normal	L-norm	normal	L-norm
Septic Tank Discharge									
mean	502	0.93	56.8	3.27	382	18.8	87.2	70.6	0.07
COV	0.42	0.39	0.36	1.33	0.22	0.42	0.40	0.39	1.30
distribution	normal	normal	L-norm	L-norm	normal	normal	normal	normal	normal
Carwash									
mean	485	12.30	157	49.0	1190	42.7	0.24	222	0.07
COV	0.06	0.19	0.05	0.10	0.11	0.37	0.28	0.35	1.14
distribution	normal	normal	normal	normal	normal	normal	normal	normal	bi-modal
Laundry									
mean	563	32.82	36.2	26.9	1024	3.48	0.82	46.7	0.40
COV	0.21	0.38	0.08	0.25	0.12	0.11	0.14	0.27	0.26
distribution	normal	normal	normal	normal	normal	normal	normal	normal	normal
Radiator Waste									
mean	3280	149.32	5.60	15.0	22046	2802	26.3	2999	0.03
COV	0.21	0.16	1.88	0.11	0.04	0.13	0.89	0.01	0.52
distribution	normal	normal	normal	normal	normal	normal	normal	normal	normal
Plating Waste									
mean	10352	5.13	1430	6.81	293	1009	65.6	104	0.08
COV	0.45	0.47	0.32	0.68	0.70	1.24	0.66	0.91	1.20
distribution	normal	normal	normal	normal	normal	L-norm	normal	normal	L-norm

9. Comments

9.7. N/A

10. References

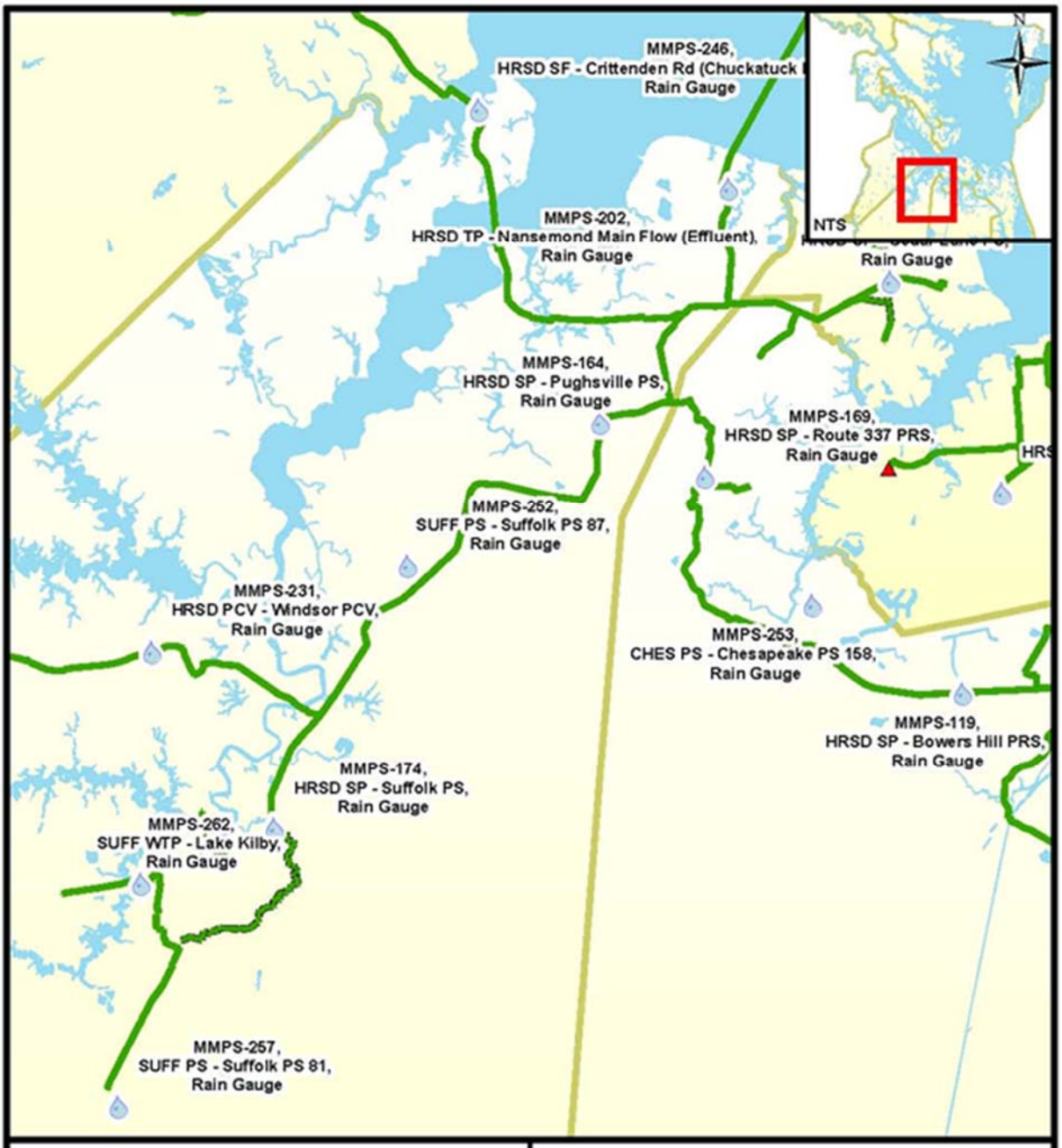
10.7. "Illicit Discharge Detection and Elimination a Guidance Manual for program Development and Technical Assessments." Center for Watershed Protection and Pitt, Robert. October 2004

10.8. HRSD/ City of Hampton. Field Screen Plan and Procedures manual. April 2010.

10.9. Town of Parker Colorado Department of Public Works. Illicit Discharge Detection and Elimination Manual. June 2004.

10.10. Dry Weather Screening. Dallas / Fort Worth Regional Protocol. March 2005.

10.11. Pathogens in Urban Stormwater Systems. UWRRC Technical Committee Report. August 2014.



Legend

Rain Gauge

PumpStationPoint
Subtype

PRS

PS

Interceptor
Subtype

Force Interceptor

Gravity Interceptor

Siphon

HRSD Rain Gages

HRSD Rain Gages located in Suffolk

HAMPTON ROADS SANITATION DISTRICT

DRY WEATHER SCREENING FIELD COLLECTION SHEET

Section 1: Background Data

Subwatershed:		Cityworks ID:	
Date:		Time:	
Inspector(s):			
Temperature:	Wind:	Rainfall (in.) Past 24hr:	Past 48hr:

Land Use in Drainage Area (Check all that apply):

- □ Agriculture
- □ Commercial
- □ Forest
- □ Industrial
- □ Multifamily
- □ Open Spaces
- □ Public
- □ ROW
- □ Single Family
- □ Water
- □ Waterways
- □ Wetlands

Notes (e.g., origin of outfall):

Section 2: Outfall Description

Drainage Type	Material	Shape	Dimensions (in.)	Submersion
□ Closed Pipe	□ HDPE □ CMP □ RCP □ PVC □ Steel □ Other_____	□ Circular □ Elliptical □ Box □ Other_____	*Diameter/ Dimensions:*	*In Water:* □ No □ Partially □ Fully *Sediment:* □ No □ Partially □ Fully
□ Open Drainage	□ Concrete □ Earthen □ Rip-rap □ Other_____	□ Trapezoid □ Parabolic □ Other_____	Depth_____ Top _____ Bottom _____	
□ In Stream	(applicable when collecting samples)			
Is flow present?	□ Yes □ No *If no, skip to section 5*			
Flow type	□ Trickle □ Moderate □ Substantial			

Section 3: Field Data For Flowing Outfalls

Parameter		Result	Unit	Equipment
□ Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stop watch; floatable
□ Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet/Inches	Tape measure
	Measured length		Feet/Inches	Tape measure
	Time of travel		Seconds	Stop watch; floatable
Temperature			Fahrenheit	Thermometer
pH			pH units	Instrument
Conductivity			S/cm	Instrument
Ammonia			mg/L	Test strip
Detergents			mg/L	CHEMets kit

Section 4: Physical Indicators *(Flowing outfalls only)*

Are any physical indicators present **in the flow**? □ Yes □ No *(If no, skip to section 5)*

Indicator	Description	Severity Index		
Odor	□ None □ Rancid/sour □ Petroleum/Gas □ Sulfide □ Other_____	□ 1 Faint	□ 2 Easily Detectable	□ 3 Noticeable from a distance
Color	□ Clear □ Brown □ Gray □ Yellow □ Green □ Orange □ Red □ Other_____	□ 1 Faint in sample bottle	□ 2 Clearly visible in sample bottle	□ 3 Visible in outfall flow
Turbidity	See severity	□ 1 Slightly cloudy	□ 2 Cloudy	□ 3 Heavy with clear origin (e.g. oil, sheen, suds, ect.)
Floatables (Not trash or organic debris)	□ None □ Sewage (Toilet paper, etc.) □ Suds □ Petroleum (oily sheen, etc.) □ Other:_____	□ 1 Slight; origin not obvious	□ 2 Some; origin detectable	□ 3 Heavy; obvious origin

Section 5: Other Physical Indicators

Are physical indicators not related to flow present? □ Yes □ No *(If no, skip to section 6)*

Indicator	Description	Comments
Outfall damage	□ Spalling □ Peeling paint □ Cracking □ Corrosion □ Chipping	
Deposits/Stains	□ Flow line □ Oil □ Paint □ Other_____	
Abnormal vegetation	□ Excessive □ Inhibited	
Poor pool quality	□ Odor □ Excessive algae □ Color □ Floatables □ Suds □ Oily sheen □ Other_____	
Pipe benthic growth	□ Brown □ Orange □ Green □ Other_____	

Section 6: Illicit Discharge Potential

□ Unlikely	□ Potential Presence of two or more indicators	□ Suspect One or more with a severity of 3	□ Obvious

Section 7: Data Collection

1. Sample for the lab?	□ Yes □ No	*Test for:*
2. If yes, collected from:	□ Pool □ Flow	

Section 8: Operational Concerns

Note the need for trash clean up, structural repair, etc.

Standard Operating Procedure:

Dry Weather Screening

Created May 2012

Updated February 2019

1. Background and Purpose

1.1. As authorized by the Clean Water Act, the EPA issued the National Pollutant Discharge Elimination System (NPDES) stormwater Phase II program regulations. The legislation was a federal mandate established to address discharges from small MS4s in an effort to reduce sources of stormwater pollution that impact water quality. The City of Suffolk is considered a small MS4 operator. The second phase of MS4 regulations required that operators of small MS4s in "urbanized areas", must reduce pollutants in stormwater to the maximum extent practicable (MEP) to protect water quality. Phase II localities in Virginia are required to hold VSMP General Permits for the discharge of stormwater. In accordance with the current Suffolk MS4 permit (VAR040029), Section II.B.3.d of Permit No. VAR040029 requires:

1.2. The MS4 program "shall maintain, implement, and enforce illicit discharge detection and elimination procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge." –Part 1.e.3.c

2. Policies

2.1. This document is intended for use as a field guide and contains detailed instructions and sampling procedures. It describes the sampling procedures, schedule, responsibilities of field personnel, and QA/QC procedures to be followed. Personnel are not required to memorize this document but rather to use it as a field reference guide.

3. Definitions

3.1. MS4 - Municipal Separate Storm Sewer System, means all separate storm sewers operated by a municipality or designated under 9VAC25-870-380.

3.2. Outfall – a point source at the point where a municipal separate storm sewer system discharges to surface waters and does not include open conveyances connecting two MS4s, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

3.3. Illicit Discharge - any discharge to a MS4 that is not composed entirely of stormwater, except for discharges allowed and identified by the permit. Which are:

3.3.1. Nonstormwater discharges or flows that are covered by a separate individual or general VPDES or VSMP permit.

3.3.2. Individual nonstormwater discharges or flows that have been identified in writing by the Department of Environmental Quality (DEQ) as de minimis discharges that are not significant sources of pollutants to surface waters and do not require a separate VPDES permit.

3.3.3. Nonstormwater discharges or flows in the following categories that have not been identified by the operator or State Water Control Board as significant contributors of pollutants to the small MS4:

3.3.3.1. Water line flushing, managed in a manner to avoid an instream impact

3.3.3.2. Landscape irrigation
3.3.3.3. Diverted stream flows
3.3.3.4. Rising ground waters
3.3.3.5. Uncontaminated ground water infiltration
3.3.3.6. Uncontaminated pumped ground water
3.3.3.7. Discharges from potable water sources
3.3.3.8. Foundation drains
3.3.3.9. Air conditioning condensation
3.3.3.10. Irrigation water
3.3.3.11. Springs
3.3.3.12. Water from crawl space pumps
3.3.3.13. Footing drains
3.3.3.14. Lawn watering
3.3.3.15. Individual residential car washing
3.3.3.16. Flows from riparian habitats and wetlands
3.3.3.17. Dechlorinated swimming pool discharges
3.3.3.18. Street wash water
3.3.3.19. Discharges from firefighting activities
3.3.3.20. Discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners
3.3.3.21. Other activities generating discharges identified by the department as not requiring VPDES authorization.

3.3.4. The discharge of materials resulting from a spill that is necessary to prevent loss of life, personal injury, or severe property damage. The operator shall take, or ensure that the responsible party takes, all reasonable steps to minimize or prevent any adverse effect on human health or the environment. This permit does not transfer liability for a spill itself from the party(ies) responsible for the spill to the operator nor relieve the party(ies)for a spill from the reporting requirements.

3.4. **Cityworks database** – an online database that stores/tracks Dry Weather Screenings, Illicit Discharge Investigations, BMP Inspections, and other City functions. Cityworks enables users to store all documents relating to their work activities and access historical documentation.

3.5. **PPE** – Personal Protective Equipment, dictated by job being performed. A listing of any terms and definitions which may be applicable to understanding the SOP.

4. Health and Safety

SAFETY IS ALWAYS THE PARAMOUNT CONSIDERATION: IF YOU HAVE CONCERN THAT A SITUATION IS UNSAFE DO NOT PUT YOURSELF INTO THAT SITUATION. CONTACT A SUPERVISOR AND ASK FOR ASSISTANCE.

4.1. Sampling

4.1.1. Sampling is sometimes conducted in areas where safety hazards exist. Sampling personnel must always be aware of possible hazards and must take the necessary precautions to avoid dangerous situations. Some of the more common hazards are discussed below.

4.1.2. Protection from Traffic. If the sample is collected from a manhole in a street, traffic control is an important consideration. The sampling vehicle should be parked between the working area and oncoming traffic. Personnel should wear approved safety vests when the manhole is located in a vehicular traffic area. Cones and flags may be utilized where appropriate. Also refer below to 4.1.4 Confined Space Entry.

4.1.3. Samples should be obtained from the manhole as quickly as possible. Sampling crews should replace the manhole cover and move the vehicle and equipment to a location off the street. All sample analyses should be performed in a safe location away from the vehicular traffic area.

4.1.4. Confined Space Entry. Manholes and enclosed storm drains are confined spaces and as such must not be entered for any reason without adequate safety precautions. These precautions can only be certified and evaluated by a "Confined Space Qualified Person" with the appropriate monitoring equipment. Entry includes any time any part of your body breaks the plane of the entry port. Therefore field personnel should not enter or place any part of their body into any confined space, unless they have had appropriate confined space training and have all associated safety measures in place.

4.1.5. Removing Manhole Covers. Manhole covers should be carefully removed using the pickaxe provided. Hands and feet should not be used to assist in either opening or closing the manholes. Under no circumstances should any field personnel enter a manhole, unless they are a “Confined Space Qualified Person”.

4.1.6. Emergencies. Every member of the sampling crew must be aware of procedures to be followed in case of an emergency. All field personnel should have a list of emergency telephone numbers, including the local hospital's general emergency number. All injuries and other problems should receive immediate medical attention and should also be reported as soon as practical to the field supervisor.

4.1.7. Hazardous Waste Streams. Storm sewers may receive industrial wastes that contain corrosive or toxic materials. Skin contact with a waste stream must be avoided and long-handled samplers will be provided to each sampling crew. Sampling personnel should always be aware of possible hazards and should take all necessary precautions to insure safety.

4.1.8. Other Hazards. A wide variety of insects and rodents may inhabit manholes or sampling sites. Sampling personnel should always be on the lookout for these creatures to avoid painful and dangerous bites or stings. These hazards include snakes, field personnel must wear snake boots while sampling.

4.1.9. Sampling personnel are always exposed to the possibility of infections. Disposable rubber gloves should be used to avoid skin contact with the waste stream. Personnel should wash their hands or use the provided handsanitizer as required. Open cuts or sores should never be allowed to come into contact with a waste stream.

4.2. Analysis

4.2.1. During sample analysis with the Chemetrics kit, sampling personnel should avoid any internal or external contact with chemicals in the chlorine, detergent,, and ammonia reagents. Skin and eyes may become irritated if exposed to the chemicals. Each member of the sampling team should wear protective safety goggles and disposable rubber gloves while performing the analyses. If exposure does occur, large amounts of water should be used to flush the exposed area. If necessary, seek medical attention immediately.

4.2.2. The analyses should be performed in a well-ventilated area to avoid inhalation of chemical fumes. Specific hazards associated with each chemical are noted in the instruction manual included in each test kit and in the SDS.

4.3. First Aid

4.3.1. Members of sampling crews should know first aid procedures and, if possible, one person in any sampling group should remain in a safe location during the course of the work. Included in first aid training should be procedures for resuscitation.

4.3.2. Each member of every sampling team should know at least the basics of first aid. A first aid kit will be provided to each sampling team. The supervisor will be available via phone, radio or some type of communication device and should be contacted in the event of a serious injury.

4.4. Accident Reports

4.4.1. Accident reports should be completed for all accidents regardless of the extent of the injury. In this way, conditions that cause repeated injuries may be isolated and corrected.

4.5. Surroundings

4.5.1. Take care to notice your surroundings when screening an outfall that is away from the road or in the woods. Be on the lookout for overhead hanging limbs, barbed wire fences, snakes, snapping turtles, loose ground, fallen trees, or anything else that is potentially dangerous.

5. Equipment

1.1. HQ40d Portable Multi- Parameter Meter (including pH, and Conductivity Probes)
1.2. CHEMets Kits (Detergents, Ammonia, Chlorine)
1.3. 1 Liter Bottle
1.4. Camera
1.5. Stopwatch
1.6. Gloves
1.7. Safety glasses
1.8. Sampling Bottles

1.9. Tape Measure
1.10. Bottle of Deionized Water for rinsing sampling equipment.
1.11. Data Sheets
1.12. Paper Towels
Bag/ Container for Trash

6. Procedure

6.1. In-office preparation:

6.1.1. Refer to "Outfall Monitoring Plan of Action" attached at the end of this document for prioritizing and scheduling screenings for outfalls.
6.1.2. Note the current air temperature. Verify that there has been no rainstorm big enough to cause runoff in the last 72 hrs. No screening will be performed for 72 hours following a storm event.
6.1.3. Use HRSD's https://telogdata.hrsd.com rain gauge information to determine the amount of rain for the previous three days. Refer to Figure 1 to determine the closest pump station to where you will be sampling. If for some reason that is unavailable use www.wundergound.com KVASUFF02 (Lake Cahoon)
6.1.4. Identify and prepare maps and field sheets for the locations to be inspected.
6.1.5. Label outfalls to be inspected with the Cityworks Facility ID. Note the major land use categories in the outfall drainage area.
6.1.6. Prepare the field sheets and record as much background data as possible.
6.1.7. If the outfall is discharging to tidal waters, schedule screening/inspection during low tide.
6.1.8. Gather and calibrate all necessary equipment.

6.2. Field Observations:

6.2.1. Using the Dry Weather Screening Field Collection Sheet, note the general description for the outfall (ie. closed or open conveyance, material, shape, and dimensions).
6.2.2. Determine whether flow is present and proceed with appropriate procedures. If flow is not present at the time of inspection, assess the outfall for physical indicators of an illicit discharge (ie. Outfall damage, deposit stains, abnormal vegetation, poor pool quality, pipe benthic growth, and sediment accumulation).
6.2.3. If flow is present at the time of inspection, collect quantitative characteristics such as flow, temperature, pH, and conductivity as noted on the field sheet.
6.2.4. Note physical indicators of an illicit discharge for flowing outfalls such as odor, color, turbidity, and floatables as well as indicators for both flowing and non-flowing outfalls such as outfall damage, deposits or stains, abnormal vegetation, poor pool quality, benthic growth, and sediment accumulation.
6.2.5. If flow is present, determine if it is necessary to collect a sample.
6.2.5.1. Test pH and conductivity. If the pH and conductivity measurements are out of the range for Spring Water or Groundwater listed in Table 1 below, test for Detergents, Ammonia, and/or Chlorine.
6.2.5.2. If Detergent, Ammonia, and/or Chlorine levels are out of the range for Spring Water or Groundwater listed in Table 1, it may be determined that a sample should be collected.

6.2.5.3. Physical indicators that are indicative of contamination from sewage, etc, may also be cause for sample collection.

6.2.6. Note whether a sample was collected, whether it was collected from flow or pool, and what it will be tested for. (Also see Section 6.3: Procedures for Lab Samples).

6.2.7. Note any other concerns such as necessary repairs or trash at outfall.

6.2.8. Follow procedures and reporting requirements found in SOP SPW-ENG 30-001-01 (IDDE) Sections 6 and 7.

6.2.9. Use Table 1 below to determine if a sample should be taken at an outfall.

6.3. Table 1

Table 5-3. Summary of Chemical Characteristics of Source Samples Collected in Birmingham, Alabama (Pitt et al. 1993)

Source	Conductivity (µS/cm)	Fluoride (mg/L)	Hardness (mg/L as $CaCO_3$)	Detergent (mg/L)	Fluorescence % scale	Potassium (mg/L)	Ammonia (mg/L)	Color (units)	Chlorine (mg/L)
Spring Water									
mean	301	0.03	240	0.00	6.80	0.73	0.01	0.0	0.00
COV	0.04	1.00	0.03	n/a	0.43	0.10	2.00	n/a	n/a
distribution	normal	normal	normal	uniform	normal	normal	L-norm	uniform	uniform
Shallow Groundwater									
mean	51.4	0.06	27.3	0.00	29.9	1.19	0.24	8.0	0.02
COV	0.84	0.50	0.39	n/a	1.55	0.44	1.26	1.42	1.62
distribution	normal	L-norm	normal	uniform	L-norm	normal	normal	L-norm	normal
Tap Water									
mean	112	0.97	49.3	0.00	4.63	1.55	0.03	0.0	0.88
COV	0.01	0.01	0.03	n/a	0.08	0.04	0.23	n/a	0.68
distribution	normal	normal	normal	uniform	normal	normal	normal	uniform	bi-modal
Landscaping Irrigation									
mean	105	0.90	40.2	0.00	214	6.08	0.37	10.0	0.03
COV	0.07	0.11	0.04	n/a	0.16	0.26	0.25	0.36	1.02
distribution	normal	normal	normal	uniform	normal	normal	normal	normal	normal
Sewage									
mean	420	0.76	143	1.50	251	5.97	9.92	37.9	.01
COV	0.13	0.23	0.11	0.82	0.20	0.23	0.34	0.55	2.00
distribution	normal	normal	normal	normal	normal	normal	L-norm	normal	L-norm
Septic Tank Discharge									
mean	502	0.93	56.8	3.27	382	18.8	87.2	70.6	0.07
COV	0.42	0.39	0.36	1.33	0.22	0.42	0.40	0.39	1.30
distribution	normal	normal	L-norm	L-norm	normal	normal	normal	normal	normal
Carwash									
mean	485	12.30	157	49.0	1190	42.7	0.24	222	0.07
COV	0.06	0.19	0.05	0.10	0.11	0.37	0.28	0.35	1.14
distribution	normal	normal	normal	normal	normal	normal	normal	normal	bi-modal
Laundry									
mean	563	32.82	36.2	26.9	1024	3.48	0.82	46.7	0.40
COV	0.21	0.38	0.08	0.25	0.12	0.11	0.14	0.27	0.26
distribution	normal	normal	normal	normal	normal	normal	normal	normal	normal
Radiator Waste									
mean	3280	149.32	5.60	15.0	22046	2802	26.3	2999	0.03
COV	0.21	0.16	1.88	0.11	0.04	0.13	0.89	0.01	0.52
distribution	normal	normal	normal	normal	normal	normal	normal	normal	normal
Plating Waste									
mean	10352	5.13	1430	6.81	293	1009	65.6	104	0.08
COV	0.45	0.47	0.32	0.68	0.70	1.24	0.66	0.91	1.20
distribution	normal	normal	normal	normal	normal	L-norm	normal	normal	L-norm

6.3 Procedures for Lab Samples:

6.3.1 If it has been determined that it is necessary to sample discharge water, call HRSD's lab to ensure they are able to analyze the sample. If they are not able to analyze the sample, schedule a different day to sample that outfall that works for HRSD. If they are able to analyze the sample, continue with sampling procedures.

6.3.2 Fill a clean sample bottle with discharge water by using the pole and dipper bottle (if necessary). Always wear latex gloves when sampling.

6.3.3 Secure a label to the sample bottle and fill in Sample ID, Date, Time, Initials of sampler, and Sample Parameters to be tested.

6.3.4 Fill out a Chain of Custody form with Sample ID, Sample Date and Time, Sampler Name, and Sample Parameters to be tested.

6.3.5 Place the sample in a cooler on ice and deliver to the HRSD Lab.

6.3.6 When delivering the sample, sign and date the Chain of Custody in the "Relinquished By" box with the time the sample is being relinquished to the lab.

6.3.7 After lab results are received from HRSD, if HF-183 bacteria are detected, no further action is needed. If HF-183 bacteria are present in the sample, further investigation of storm drains and outfalls in the area should be conducted to locate the potential source. Other departments may be contacted to assist in locating the source (VDH for septic issues, Public Utilities for sewer issues).

7. **Records**

7.1. All photos and information documented on Dry Weather Screening field sheets should be inputted into the Cityworks database following procedures in Cityworks SOP: Using Cityworks to Record Dry Weather Outfall Screenings. Also any lab analysis results should be attached on Cityworks.

7.2. A copy of photos and scanned field sheets should be saved on N Drive for a minimum of the five year permit term.

8. Comments

8.1. N/A

9. References

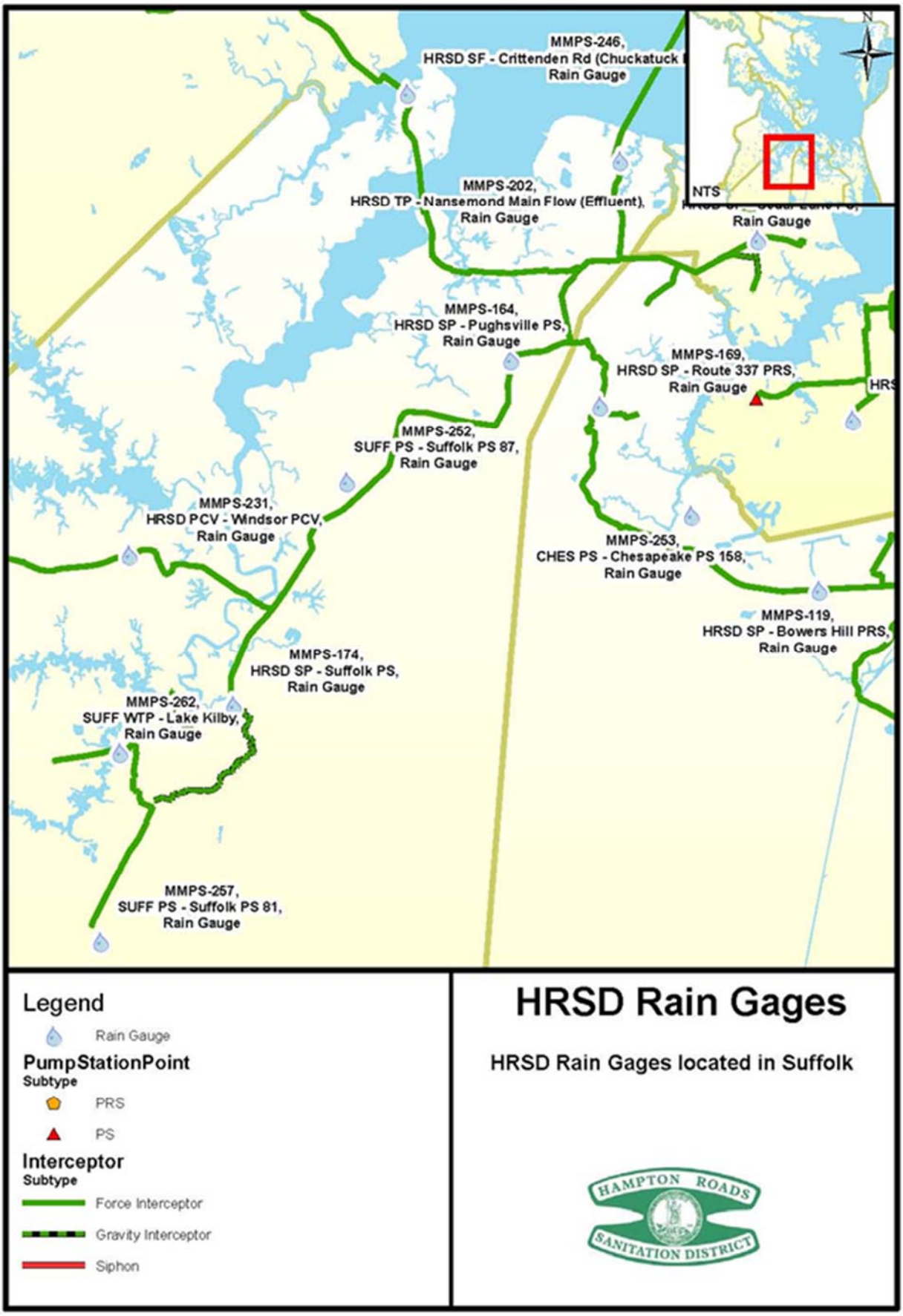
9.1. Center for Watershed Protection. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. October 2004.

9.2. HRSD/ City of Hampton. Field Screen Plan and Procedures manual. April 2010.

9.3. Town of Parker Colorado Department of Public Works. Illicit Discharge Detection and Elimination Manual. June 2004.

9.4. Dry Weather Screening. Dallas / Fort Worth Regional Protocol. March 2005.

9.5. Pathogens in Urban Stormwater Systems. UWRRC Technical Committee Report. August 2014.


MMPS-246,
HRSD SF - Crittenden Rd (Chuckatuck
Rain Gauge
MMPS-202,
HRSD TP - Nansemond Main Flow (Effluent),
Rain Gauge
NTS
Rain Gauge
MMPS-164,
HRSD SP - Pughsville PS,
Rain Gauge
MMPS-169,
HRSD SP - Route 337 PRS,
Rain Gauge
MMPS-252,
SUFF PS - Suffolk PS 87,
Rain Gauge
MMPS-231,
HRSD PCV - Windsor PCV,
Rain Gauge
MMPS-253,
CHES PS - Chesapeake PS 158,
Rain Gauge
MMPS-119,
HRSD SP - Bowers Hill PRS,
Rain Gauge
MMPS-174,
HRSD SP - Suffolk PS,
Rain Gauge
MMPS-262,
SUFF WTP - Lake Kilby,
Rain Gauge
MMPS-257,
SUFF PS - Suffolk PS 81,
Rain Gauge
Legend
Rain Gauge
PumpStationPoint
Subtype
PRS
PS
Interceptor
Subtype
Force Interceptor
Gravity Interceptor
Siphon
HRSD Rain Gages
HRSD Rain Gages located in Suffolk
HAMPTON ROADS
SANITATION DISTRICT

DRY WEATHER SCREENING FIELD COLLECTION SHEET

Section 1: Background Data

Subwatershed:		Cityworks ID:	
Date:		Time:	
Inspector(s):			
Temperature:	Wind:	Rainfall (in.) Past 24hr:	Past 48hr:

Land Use in Drainage Area (Check all that apply):

- □ Agriculture
- □ Commercial
- □ Forest
- □ Industrial
- □ Multifamily
- □ Open Spaces
- □ Public
- □ ROW
- □ Single Family
- □ Water
- □ Waterways
- □ Wetlands

Notes (e.g., origin of outfall):

Section 2: Outfall Description

Drainage Type	Material	Shape	Dimensions (in.)	Submersion
□ Closed Pipe	□ HDPE □ CMP □ RCP □ PVC □ Steel □ Other_____	□ Circular □ Elliptical □ Box □ Other_____	*Diameter/ Dimensions:*	*In Water:* □ No □ Partially □ Fully *Sediment:* □ No □ Partially □ Fully
□ Open Drainage	□ Concrete □ Earthen □ Rip-rap □ Other_____	□ Trapezoid □ Parabolic □ Other_____	Depth_____ Top _____ Bottom _____	
□ In Stream	(applicable when collecting samples)			
Is flow present?	□ Yes □ No *If no, skip to section 5*			
Flow type	□ Trickle □ Moderate □ Substantial			

Section 3: Field Data For Flowing Outfalls

Parameter		Result	Unit	Equipment
□ Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stop watch; floatable
□ Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet/Inches	Tape measure
	Measured length		Feet/Inches	Tape measure
	Time of travel		Seconds	Stop watch; floatable
Temperature			Fahrenheit	Thermometer
pH			pH units	Instrument
Conductivity			S/cm	Instrument
Ammonia			mg/L	Test strip
Detergents			mg/L	CHEMets kit

Section 4: Physical Indicators *(Flowing outfalls only)*

Are any physical indicators present **in the flow**? □ Yes □ No *(If no, skip to section 5)*

Indicator	Description	Severity Index		
Odor	□ None □ Rancid/sour □ Petroleum/Gas □ Sulfide □ Other_____	□ 1 Faint	□ 2 Easily Detectable	□ 3 Noticeable from a distance
Color	□ Clear □ Brown □ Gray □ Yellow □ Green □ Orange □ Red □ Other_____	□ 1 Faint in sample bottle	□ 2 Clearly visible in sample bottle	□ 3 Visible in outfall flow
Turbidity	See severity	□ 1 Slightly cloudy	□ 2 Cloudy	□ 3 Heavy with clear origin (e.g. oil, sheen, suds, etc.)
Floatables (Not trash or organic debris)	□ None □ Sewage (Toilet paper, etc.) □ Suds □ Petroleum (oily sheen, etc.) □ Other:_____	□ 1 Slight; origin not obvious	□ 2 Some; origin detectable	□ 3 Heavy; obvious origin

Section 5: Other Physical Indicators

Are physical indicators not related to flow present? □ Yes □ No *(If no, skip to section 6)*

Indicator	Description	Comments
Outfall damage	□ Spalling □ Peeling paint □ Cracking □ Corrosion □ Chipping	
Deposits/Stains	□ Flow line □ Oil □ Paint □ Other_____	
Abnormal vegetation	□ Excessive □ Inhibited	
Poor pool quality	□ Odor □ Excessive algae □ Color □ Floatables □ Suds □ Oily sheen □ Other_____	
Pipe benthic growth	□ Brown □ Orange □ Green □ Other_____	

Section 6: Illicit Discharge Potential

□ Unlikely	□ Potential Presence of two or more indicators	□ Suspect One or more with a severity of 3	□ Obvious

Section 7: Data Collection

1. Sample for the lab?	□ Yes □ No	*Test for:*
2. If yes, collected from:	□ Pool □ Flow	

Section 8: Operational Concerns

Note the need for trash clean up, structural repair, etc.

Outfall Monitoring Plan of Action

This document is intended to develop a method for scheduling outfall dry weather screening. For dry weather screening and follow up screening procedures, refer to the Dry Weather Screening SOP and the Illicit Discharge Detection and Elimination Manual.

The goal of outfall monitoring and dry weather screening is to identify and eliminate illicit discharges within the city's MS4 area. As of November 1, 2018, there are 1357MS4 outfalls shown in the GIS layer "Stormwater Structures" spread throughout the 2010 Census urbanized area. This includes multiple structure types such as "outfalls," "BMP outfall downstream," "ditch entrance," "ditch downstream," as well as other structures that are identified to be the point where conveyed stormwater enters a natural receiving channel. These outfalls and their associated drainage and service areas will be used to determine the MS4 regulated area. Some of the MS4 outfalls are associated with stormwater management facilities and will not be included in dry weather screening. Only outfalls which convey public water are included in the City's Dry Weather Screening program.

All MS4 outfalls were scored based on the illicit discharge potential. Priority outfalls for dry weather screening are scheduled for the permit cycle based on IDP score. The following are factors determining IDP Score for outfalls (using GIS data):

- Proximity to industry (outfall drainage area intersects parcels zoned for industrial use)
    - Score 1
- Sewer proximity (sewer is over 40 years old (older than 1978) and overlaps stormwater infrastructure; includes force mains and gravity mains)
    - Score 1
- Proximity to rivers and creeks (named creeks only)
    - Score .5 within 200 ft
    - Score 1 within 100 ft
- Proximity to reservoirs
    - Score .5 within 200 ft
    - Score 1 within 100 ft
- Other Factors
    - Shingle Creek Watershed, Score 1

Shingle Creek has aging infrastructure, a relatively high amount of industrial activity, and continuing poor water quality, and was thus deemed a higher priority for targeted outfall monitoring.

All outfalls located in the MS4 area have been given a rating using the above scoring system. Each year, starting from the top of the list in Permit Year 1 (the highest priority outfalls), 50 outfalls will be screened. After 50 outfalls have been screened, the screener can determine another 50 outfalls from the remainder of the list to screen, with a goal of screening 100 total outfalls per year (from July 1 to June 30). The remaining outfalls to be screened may be chosen based upon a variety of factors (locations in close proximity to other outfalls, history of illicit discharge, etc), or the screener can continue screening outfalls in consecutive order on the list.

The screening date of each outfall will be recorded on the spreadsheet that lists outfalls according to their priority rating. This will ensure that no more than 50% of outfalls are screened in the previous 12 month period, per permit requirements.

Prior to screening outfalls, a folder with an outfall map should be created for each outfall to be screened. Field sheets for each outfall should be completed in the field during the outfall screening. During the screening process, detailed pictures should be taken of each outfall that show the condition of the structure, receiving channel, and any evidence of current or past illicit discharge. Also, the physical features of the outfall as they are described in GIS should be verified and edits should be made to the GIS database if necessary. As field collection and plan capture efforts for the City's stormwater conveyance system continue, the list of MS4 outfalls will grow. Outfall photos and screening information should be entered into Cityworks as soon as possible following screening, as well as any GIS updates that are needed. However, this may be delayed for a short time to take advantage of an extended period of dry weather.

Newly identified outfalls should be evaluated for Illicit Discharge Potential and incorporated into the screening schedule. Also, previously reported outfalls may be determined not to be MS4 outfalls if they do not drain public water and removed from the reporting and screening list. This list will be updated annually and submitted with the Annual Report. Outfalls captured during an annual inspection cycle will most likely not be adapted into the schedule for that inspection cycle unless it makes logistical sense.

A minimum of 50 outfalls must be screened each year per the conditions of the Phase II MS4 General Permit. If an illicit discharge is discovered during dry weather screening, follow the Illicit Discharge Detection and Elimination SOP.

Outfalls that are located on secure sites should be scheduled to coincide with BMP inspections if possible, otherwise separate arrangements will need to be made for entry to the site.

APPENDIX D

MCM 4:

Construction Site Stormwater Runoff Control

Roles and Responsibilities: Construction Site Stormwater Runoff Control Program

Department	Roles and Responsibilities
Public Works Engineering- Development and Construction Inspection Divisions	• E&SC inspections and enforcement for all private development , including Single Family construction, and all City projects (excluding Public Utilities and Public Works CIP projects) requiring a Construction General Permit. • Plan review for all SWM and E&SC plans
Public Works Engineering- Capital Improvement Projects (CIP) Division	• E&SC inspections and enforcement for Public Works transportation CIP projects.
Public Works Operations	• E&SC inspections and enforcement for Public Works Operations projects
Public Utilities	• E&SC inspections and enforcement for Public Utilities projects

Roles and Responsibilities: Post Construction Stormwater Runoff Control Program

Department	Roles and Responsibilities
Public Works Engineering- Stormwater Division	• Annual post construction SWM inspections for private and City-owned BMPs

Standard Operating Procedure:

Project Inspection (Land Disturbance)

Created October 2013

Revised March 2019

1. Background and Purpose

1.1. Projects within the City of Suffolk that create Land Disturbance in excess of 2,500 sq ft inside of the CBPA or 10,000 sq ft outside of the CBPA are required to have an approved E&S plan and regular inspections by city staff to ensure compliance with the adopted standards set forth by the Department of Environmental Quality and Environmental Protection Agency. These inspections ensure that the City of Suffolk complies with the regulations and requirements within the city's VSMP Program.

2. Policies

2.1. Land Disturbance inspections will be conducted by Public Works Engineering Construction inspectors to ensure compliance with the project SWPPP, the approved E&S plan, the approved storm water management plan, additional control measures to address approved TMDL's, and Chapter 34 and 35 of the City of Suffolk Municipal Code.

3. Definitions

3.1. The following is a list of commonly used terms associated with performing Land Disturbance inspections :

Chesapeake Bay Protection Area (CBPA) – Any land designated by a local government pursuant to Part III (9VAC25-830-70 et seq.) of the Chesapeake Bay Preservation Area Designation and Management Regulations and §62.1-44.15:74 of the Chesapeake Bay Preservation Act. A CBPA shall consist of a Resource Protection Area and a Resource Management Area as defined in 9VAC25-830.

Erosion and Sediment Control (E&SC) Plan – A plan associated with a project SWPPP that details the design and implementation of erosion and sediment control measures and devices for a specific project.

Land Disturbance – A manmade change to the land surface that potentially changes its runoff characteristics.

Operator –Individual with day-to-day operational control over SWPPP implementation.

Responsible Land Disturber (RLD) – Individual responsible for the Land Disturbance on a particular project. The RLD may be a certified Professional Engineer, Architect, Land Surveyor, or hold a Responsible Land Disturber Certificate.

Stormwater Pollution Prevention Plan (SWPPP) – A document that identifies the potential sources of pollutants that may reasonably be expected to affect the quality of storm water

discharges from a construction site. It also identifies and requires the implementation of control measures for the project.

TMDL – "Total Maximum Daily Load" – sum of the individual waste load allocations for point sources, load allocations for nonpoint sources, natural background loading and margin of safety.

Virginia Erosion and Sediment Control Handbook (VESCH) – Handbook containing guidelines for compliance with the Stormwater Act.

4. Health and Safety

4.1. A wide variety of insects, reptiles, and rodents may inhabit project sites and the surrounding areas. These hazards include snakes, bees, and mosquitos; field personnel should wear appropriate clothing while performing inspections and be cognizant of the potential dangers in the field. Inspection personnel should also be able to identify poison ivy so it can be avoided. Weather conditions involving heat and cold, unstable ground creating loose footing, and working in close proximity to heavy equipment will also be factors when inspecting project sites involving land disturbance. Approved footwear and long pants are mandatory and additional clothing types and safety apparel should be considered depending upon circumstances. The use of sunscreen and insect repellant may also be needed during warmer months. Inspection personnel should always be on the lookout for these factors to help avoid harmful situations.

5. Equipment

5.1. Steel toe boots
5.2. Camera
5.3. Hard Hat
5.4. Safety Glasses
5.5. Safety Vest
5.6. Erosion and Sediment Control Handbook
5.7. Approved ESC, Site, or Engineering Plan
5.8. Field Book, NOV Form, NTC Form, and Stop Work Placard
5.9. Pen
5.10. Notepad or other writing material

6. Procedure

6.1. Site Inspections

6.1.1. A Pre-construction Meeting involving the site inspector, contractor, subcontractors and/or owner is mandatory prior to any land disturbance. The inspector to be assigned to the project should schedule this meeting with the contractor and owner(s) allowing ample time to review the project plans and prepare comments to address during the meeting. The inspector should at this time review and confirm that the project has obtained state permit coverage if required. If state permit coverage is required, the developer or contractor must have a copy of the state permit onsite before any land disturbance begins. The meeting should be held, if possible, at the project site. A date should be set at the meeting by the contractor to begin land disturbance, and agreed upon by the project inspector. A preliminary SWPPP inspection should also be performed with the operator to identify information that will be required during land disturbance.

6.1.2. All inspection reports, violations and daily reports will be maintained electronically within the Cityworks system.

6.1.3. Land Disturbance: Each land disturbing project which exceeds 2500 sq. ft. in the CBPA and 10,000 sq. ft. outside of the CBPA must have an approved E&SC plan. The inspector reviewing each of these sites must inspect the land disturbing activity for compliance to the approved E&SC plan. Inspections will be required during initial installation of E&S measures to confirm they follow the approved E&S plan. In addition, for projects exceeding one acre of disturbance, the VSMP authority will be responsible for the review of the SWPPP and E&SC plan and determine its effectiveness as it pertains to the project site. Once the contractor has begun tree and stump removal and grading or excavating, regular inspections should be scheduled following the guidelines set forth in the VESCH and by DEQ. Daily site visits may be warranted to verify that all first step measures are in place according to the approved plan and are satisfactory to the site inspector. Additional or alternate measures may be required in lieu of what is shown on the approved ESC plan included in the site SWPPP.

6.1.4.Site Inspections: Project inspections for E&S measures will be required to be performed continuously as required by DEQ until release of the project E&S surety. Projects obtaining a General Construction Permit will be required to be inspected at a frequency determined by the site inspector, but not less than once every 12 weeks, unless approved by the Construction Manager. SWPPP inspections will be required for those projects until a termination letter has been submitted too, and approved by the City. All activities associated with the construction of a project should be noted within the inspector's daily construction log or SWPPP and E&S inspection form and placed under the corresponding

project in Cityworks. Photos with captions should be included as necessary to help the reader understand what has taken place.

In general, E&SC inspections are warranted after each runoff producing rain event, or at least once every two weeks. All requirements for project E&SC inspections are located in the VESCH.

6.2. Enforcement:

6.2.1. The following is a list of general site conditions and the associated enforcement plan of action.

6.2.2. If a project involving land disturbance is found to be in good order, with no violations observed, a site inspection report (either E&S or Stormwater) shall be filled out and placed in the Cityworks project folder for the respective inspection cycle and no further action is required until the next required inspection.

6.2.1. If a project is found to be in noncompliance, an E&S or Stormwater Site Inspection Form shall be filled out describing the violation and a copy sent to the Responsible Land Disturber via fax, e-mail, USPS, or hand delivery. The inspection form should identify items requiring repair, maintenance or installation, and give a specific date as to when the site will re-inspected. The maximum allowable time given on the form should be seven days. Questions concerning severability of deficiencies should be discussed with the Construction Manager or reviewing Engineer to determine if a NTC or NOV is required. Typically, an additional Inspection report may be an alternative method of enforcement for issues that may not warrant a NTC or NOV. If an additional inspection report has been issued, the time limit for correction shall be less than given on the previously issued report.

6.2.2. If a project is found to be in noncompliance and has deficiencies requiring immediate attention, or the RLD has failed to comply with the initial site inspection form, a Notice to Comply (NTC) form (or (NOV) Notice of Violation Form for Stormwater) shall be filled out and issued to the site RLD or Operator. The NTC or NOV, will identify the deficiencies requiring immediate attention, and include a timeframe as to when these repairs will need to be corrected. The NTC or NOV form should be e-mailed to the RLD or Operator with a signed copy of the original form sent via USPS registered mail or hand delivered with the operators signature required. Consultation with the City's Construction Manager or Civil Engineer in an appropriate time frame for correction may be warranted.

6.2.3. If the NTC or NOV has been sent to an appropriate address and the registered mail receipt has been returned signed as to indicate acceptance (or the notice was signed in person), and still no correction has been made after the given time period, a STOP WORK order will be issued for all Land Disturbing activities at the site. The Stop Work order shall be placed at all entrances to the site, and a copy shall be sent via registered mail to the RLD, operator, and the site owner, and will be in effect for seven (7) days, at which time another STOP WORK order must be issued to remain in force without interruption. At this time, it is advisable that a meeting with the project owner, RLD or operator, and contractor be initiated with City personnel to resolve the deficiencies.

A Stop Work Order may also be placed at a location where land disturbing activities have commenced without obtaining the proper permits, paying associated fees, or observation that sediment is leaving the site.

6.2.4. Additional Enforcement Actions: If the RLD or owner has not initiated contact with the site inspector, or the corrective actions indicated on the STOP WORK order have not begun on the project site to a point satisfactory to the project inspector so as to prevent sedimentation of downstream properties and control sediment laden runoff, the project inspector should make sure that the STOP Work Order is current and then contact the Construction Manager. The Construction Manager, at this time should evaluate the site conditions, and if warranted, begin the process of revoking the site permit, or calling the Erosion and Sediment Control Bond and have a third party contractor hired to mobilize immediately to control site runoff and erosion from impacting downstream properties, ditches, wetland areas, ponds, lakes, streams or rivers. If the site permit has been revoked, the City of Suffolk will require that the property owner re-submit the Erosion and Sediment Control Plan to be re-evaluated and approved prior to resuming construction on the subject property. Once the E&S Bond has been pulled, and the City has initiated a third party contractor to address the violations stated in the STOP WORK order, a STOP WORK ORDER will remain in effect on the project until all violations have been corrected to the satisfaction of the City of Suffolk Director of Public Works (or designee), and the E&S plan has been re-submitted and approved by same.

7. Documentation

7.1. The inspection reports, photos, Daily Logs and notes should be kept in the project folder. As an alternative, a copy may also be saved on the N drive under N:\Engineering\P.W. Engineering\(Inspectors Name- file location\(Project Name -folder).

7.2. Any correspondence regarding inspections or violations, maintenance required and performed, and monthly calendars indicating rain events and inspections should also be kept in the folder.

8. References

8.1. Virginia Erosion and Sediment Control Handbook

8.2. City of Suffolk Municipal Code Article I – Sec. 34 and 35

APPENDIX E

MCM 5:

Post-Construction Stormwater Management

Standard Operating Procedure:

Inspections of City Owned Stormwater Management Facilities

Created January 2013
Updated January 2019

1. Background and Purpose

1.1. Stormwater management facility (SWMF) inspections are conducted annually to ensure compliance with the Municipal Separate Storm Sewer System (MS4) General Permit and the Virginia Stormwater Management Act.

2. Policies

2.1. Inspections of city owned SWMFs will be conducted by Public Works Engineering Stormwater Division staff in accordance with the City Stormwater Management Ordinance and MS4 permit minimum control measure 6.

3. Definitions

3.1. The following is a list of commonly used terms associated with stormwater management facilities:

Bioretention -Planting areas installed in shallow basins in which the stormwater runoff is treated by filtering through the bed components, biological and biochemical reactions within the soil matrix and around the root zones of the plants, and infiltration into the underlying soil strata. Properly constructed bioretention areas replicate the ecosystem of an upland forest floor through the use of specific shrubs, trees, ground covers, mulches and deep, rich soils.

Control Structure – A manmade device, usually concrete or steel, that regulates the flow and detention time of water in a stormwater maintenance facility.

Constructed Stormwater Wetland – Manmade shallow pools that create growing conditions suitable for both emergent and aquatic vegetation.

Detention Basin – An impoundment that temporarily stores runoff for a specified period and discharges it through a hydraulic outlet structure to a downstream conveyance system. A detention basin is usually dry during non-rainfall periods.

Extended-Detention Basin – An extended-detention basin is an impoundment that temporarily stores runoff for a specified period and discharges it through a hydraulic outlet structure to a downstream conveyance system. An extended-detention basin is usually dry during non-rainfall periods.

Embankment – is a raised impounding structure made from compacted soil.

Forebay – A sediment basin or small pool constructed at each incoming discharge point, the purpose of the forebay is to allow sediment to settle out in a concentrated area, prior to delivery to the entire facility, where it can be accessed and removed more effectively.

General Infiltration Practices – Any BMP that temporarily impounds stormwater runoff and discharges it via infiltration into the surrounding soil.

Infiltration Basin – A vegetated, open impoundment where incoming stormwater runoff is stored until it gradually infiltrates into the soil strata.

Inlet – Any pipe or channeling structure (i.e. flume, ditch, etc.) associated with the storm drainage system that carries runoff "into" a stormwater facility to be treated.

Manufactured BMP System -A structural measure which is specifically designed and sized by the manufacturer to intercept stormwater runoff and prevent the transfer of pollutants downstream.

Outlet -Any pipe or channeling structure (i.e. dam, spillway, etc.) associated with the storm drainage system that discharges storm water "out of" a facility after it has been treated.

Outfall – Area at which water is released into a receiving stream or other water body.

Principal Spillway – The primary outlet device for a stormwater impoundment, it usually consists of either a riser structure in combination with an outlet conduit, which extends through the embankment, or a weir control section cut through the embankment.

Retention Basin -A stormwater facility that includes a permanent impoundment, or pool of water, and, therefore, is normally wet, even during non-rainfall periods. A retention basin is considered one of the most reliable and versatile BMPs available.

Vegetated Emergency Spillway – A vegetated emergency spillway is an open channel, usually trapezoidal in cross-section, which is constructed beside an embankment. It consists of an inlet channel, a control section, and an exit channel, and is lined with erosion-resistant vegetation.

Weir – A damming structure used to raise or divert water or to regulate or measure the flow.

4. Health and Safety

4.1. A wide variety of insects, reptiles, and rodents may inhabit BMPs and the surrounding areas. Sampling personnel should always be on the lookout for these creatures to avoid painful and dangerous bites or stings. These hazards also include snakes; field personnel should wear snake boots while conducting BMP inspections. Unstable ground, loose footing, and deteriorating structures should be taken into account. Some Retention ponds can also be far deeper than they look; care should be used not to fall or slip into the water. Structures should not be entered.

5. Equipment

5.1. Snake boots
5.2. Camera
5.3. Inspection Form
5.4. Folder
5.5. Bush Axe
5.6. Elevation Rod
5.7. Pick or Hook for manhole access

6. Procedure

6.1. Annual inspections: Routine annual inspections of City-owned BMPs should be conducted as stated in the City's Stormwater Management Ordinance. Before beginning any inspection, the site should be checked for any changes or updates that have occurred since the time of last inspection, such as new construction or site renovations.

6.1.1. Inspect the Site: Visually observe site, taking care to note any deficiencies that require repair as outlined on the inspection form. Compare the site with past photos and the original site plan to determine if any element needs repair. This includes all structural components, and any elements included as part of the checklist.

6.1.2. The site should be documented and photographed, and photos saved in the appropriate location with a folder identifying the date and type of visit. All photographs should be compressed to reduce file size upon initial download onto server.

6.1.3. Create inspection report and letter (in memo format) in Cityworks based on the type of facility inspected (See SOP "Using Cityworks for BMP Inspections"). Check where appropriate and note each discrepancy. Include photos and add captions as necessary to help the reader understand what maintenance work is needed. Save the inspection report, letter, and photos on N drive in the folder created above and attach the inspection report and letter to the inspection on City Works. A hard copy of the inspection report and letter should be maintained in the folder associated with that BMP.

6.1.4. The memo and inspection report should be emailed to the appropriate department head that is responsible for the maintenance of the BMP.

6.1.5 If maintenance of a BMP is required, procedures in SOP SPW-ENG 30-016-01 Maintenance of City-Owned BMPs should be followed.

7. Documentation

7.1. A hard copy of the inspection report, letter, and photos should be kept in the folder and saved on the N drive under N:\Engineering\Environmental Programs\Stormwater\Stormwater BMP Inspections. All documents should also be attached to the inspection on Cityworks per procedures detailed in the SOP "Using Cityworks for BMP Inspections".

7.2. Any correspondence regarding maintenance required and performed should also be kept in the hardcopy BMP folder and saved in the BMP folder on the N drive.

8. References

8.1. Any documents used to develop the SOP which may provide further information on the subject.

8.2. Virginia Stormwater Management Handbook – Volumes I & II

8.3. Virginia Erosion and Sediment Control Handbook

8.4. City of Suffolk Municipal Code Article I – Sec. 35

8.5. Cityworks SOP "Using Cityworks for BMP Inspections"

9. Attachments

9.1. BMP Inspection Form (Basic)

9.1.1. A more Print friendly version of the inspection forms can be found at N:\Engineering\Environmental Programs\Stormwater\Stormwater BMP Inspections\Standard Forms.

City of Suffolk, Stormwater Program

BMP Inspection Form

General Information	
Facility I.D.:	Date of Inspection:
Neighborhood / Site:	Street:
Inspector:	
Facility Type:	

Inspection Item:	Satisfactory	Un-Satisfactory	N/A
Forebay (> 50% filled with sediment = Unsatisfactory condition)			
Inlet(s) (Signs of erosion, low spots, accumulated sediment or debris)			
Outlet (Signs of erosion, damaged, obstructions)			
Principal Spillway (Signs of erosion, obstructions, seeping)			
Emergency Spillway (Signs of erosion, obstructions)			
Basin Bottom and Side Slopes (Erosion, ground cover, woody vegetation)			
Safety Devices (Fences, Gates, Locks, Signs)			
Embankments (Adequate ground cover, signs of erosion, woody vegetation, low spots, cracking, animal burrows, signs of instability)			
Structural Components (signs of settling, cracking, bulging)			

Inspection Item:	Satisfactory	Un-Satisfactory	N/A
Routine Maintenance (Does facility require mowing or trash pickup)			
Condition of Aquatic Environment (Excessive algae, dominance of one vegetation type, evidence of non-stormwater discharges, evidence of fish kill)			
Vegetation (Is vegetation healthy and providing appropriate cover or is unwanted vegetation present?)			
Storage Volume (Evidence of significantly reduced/increased storage volume)			
Debris / Sediment Accumulation (Floating debris or sediment accumulation not otherwise noted)			
Standing Water (Is there standing water in appropriate and/or inappropriate areas?)			
Safety and Aquatic Bench			

Notes:
1.

Inspectors Signature	Date:

9.2. BMP Inspection Form (Bioretention)

City of Suffolk, Stormwater Program

BMP Inspection Form

General Information	
Facility I.D.:	Date of Inspection:
Neighborhood / Site:	Street:
Inspector:	
Facility Type: Bioretention Filter	

Inspection Item:	Satisfactory	Un-Satisfactory	N/A
Debris Cleanout (Removal of accumulated trash or debris, sediment, etc.)			
Facility Stabilization (Signs of erosion, damaged or denuded areas, etc.)			
Oil and Grease (filter surface clogging, signs of oil & grease entry)			
Overflow Structure (overflow grate/throat clear of debris, obstructions)			
Bioretention Planting Soil (evidence of soil erosion, basin clean of sediments)			
Organic Layer (Mulch/media covers entire area, no voids and in good condition)			
Routine Maintenance (Are plants being pruned, grass cut, weeds controlled, litter removed)			
Plants (Specified number and types of plants still in place, no dead or diseased plants, no evidence of plant stress from inadequate watering, deficient stakes or wires)			

Notes:
1. General comment: Landscaping inspections should be part of routine maintenance for bioretention facilities, as plants contribute greatly to the overall functionality of the system. Dead plants or plants diseased beyond treatment must be replaced by plants meeting original design specifications. New plants should be watered sufficiently until well established. Any deficient stakes or wires must be replaced. The mulch layer shall be inspected to ensure it is adequate and replaced as needed.

Inspector's Signature:	Date:

9.3. BMP Inspection Form (Manufactured)

City of Suffolk, Stormwater Program

BMP Inspection Form

General Information	
Facility I.D.:	Date of Inspection:
Neighborhood / Site:	Street:
Inspector:	
Facility Type: Manufactured BMP System	

Inspection Item:	Satisfactory	Un-Satisfactory	N/A
Structural Components (signs of settling, cracking, bulging)			
Media (Signs that mulch and/or filter media should be replaced)			
Routine Maintenance (Does facility require mowing or trash pickup)			
Vegetation (Is vegetation healthy and providing appropriate cover or is unwanted vegetation present?)			
Debris / Sediment Accumulation (Trash, floating/floatable debris, or sediment accumulation not otherwise noted)			

Notes:

1.) Check with Filterra® Owners documentation to ensure that the facility is being properly maintained according to the manufacturer's recommendations to ensure the life of the system.

2.) Please provide this office with a copy of maintenance records or similar documentation proving that the systems are being checked and maintained regularly by qualified personnel as required per agreement.

Inspector's Signature:	Date:

Standard Operating Procedure:

Maintenance of City-Owned Stormwater Management Facilities

Created January 2019

1. Background and Purpose

1.1. Stormwater management facilities (SWMF) owned by the City should be maintained to ensure adequate functionality of the system, and all maintenance should be conducted in accordance with the written procedures required in Part I.E.5.b(1) of the MS4 General Permit No. VAR040029.

2. Policies

2.1. All routine maintenance procedures (mowing grass and landscaping, trash removal, etc) will be performed in-house by staff in the department that is responsible for maintaining that BMP, or by a contracted maintenance company. Significant maintenance activities (embankment repair, tree removal, dredging, structural repairs, etc) will be performed by city staff or licensed contractors. Significant, non-routine maintenance activities will be reported to the Public Works Stormwater Division so that they may be reported to the DEQ in the MS4 Annual Report.

3. Definitions

3.1. The following is a list of commonly used terms associated with stormwater management facilities:

Bioretention -Planting areas installed in shallow basins in which the stormwater runoff is treated by filtering through the bed components, biological and biochemical reactions within the soil matrix and around the root zones of the plants, and infiltration into the underlying soil strata. Properly constructed bioretention areas replicate the ecosystem of an upland forest floor through the use of specific shrubs, trees, ground covers, mulches and deep, rich soils.

Control Structure – A manmade device, usually concrete or steel, that regulates the flow and detention time of water in a stormwater maintenance facility.

Constructed Stormwater Wetland – Manmade shallow pools that create growing conditions suitable for both emergent and aquatic vegetation.

Detention Basin- An impoundment that temporarily stores runoff for a specified period and discharges it through a hydraulic outlet structure to a downstream conveyance system. A detention basin is usually dry during non-rainfall periods.

Extended Detention Basin- An extended-detention basin is an impoundment that temporarily stores runoff for a specified period and discharges it through a hydraulic outlet structure to a downstream conveyance system. An extended detention basin is usually dry during non-rainfall periods.

Forebay- A sediment basin or small pool constructed at each incoming discharge point, the purpose of the forebay is to allow sediment to settle out in a concentrated area, prior to delivery to the entire facility, where it can be accessed and removed more effectively.

General Infiltration Practices- Any BMP that temporarily impounds stormwater runoff and discharges it via infiltration into the surrounding soil.

Infiltration Basin – A vegetated, open impoundment where incoming stormwater runoff is stored until it gradually infiltrates into the soil strata.

Inlet – Any pipe or channeling structure (i.e. flume, ditch, etc.) associated with the storm drainage system that carries runoff "into" a stormwater facility to be treated.

Manufactured BMP System -A structural measure which is specifically designed and sized by the manufacturer to intercept stormwater runoff and prevent the transfer of pollutants downstream.

Non-routine BMP Maintenance- BMP maintenance procedures that may be considered significant and are typically conducted by an outside contractor. These include embankment repair, tree removal, concrete repair, structural repairs, algae control, repair of aerators or fountains, dredging of functionally necessary areas, vactoring and filter replacement in manufactured BMPs.

Outlet -Any pipe or channeling structure (i.e. dam, spillway, etc.) associated with the storm drainage system that discharges storm water "out of" a facility after it has been treated.

Outfall – Area at which water is released into a receiving stream or other water body.

Principle Spillway – The primary outlet device for a stormwater impoundment, it usually consists of either a riser structure in combination with an outlet conduit, which extends through the embankment, or a weir control section cut through the embankment.

Retention Basin -A stormwater facility that includes a permanent impoundment, or pool of water, and, therefore, is normally wet, even during non-rainfall periods. A retention basin is considered one of the most reliable and versatile BMPs available.

Routine BMP Maintenance- BMP maintenance procedures that are minor and may be conducted by City personnel or a contracted landscaping company. These include mowing grass and landscaping, trash and debris removal, removal of dead or unwanted vegetation, replacement of vegetation, and repair and seeding of minor erosion areas.

Vegetated Emergency Spillway – A vegetated emergency spillway is an open channel, usually trapezoidal in cross-section, which is constructed beside an embankment. It consists of an inlet channel, a control section, and an exit channel, and is lined with erosion-resistant vegetation.

Weir – A damming structure used to raise or divert water or to regulate or measure the flow.

4. Health and Safety

4.1. A wide variety of insects, reptiles, and rodents may inhabit BMPs and the surrounding areas. Maintenance personnel should always be on the lookout for these creatures to avoid painful and dangerous bites or stings. Unstable ground, loose footing, and deteriorating structures should be taken into account. Some retention ponds can also be far deeper than they look; care should be used not to fall or slip into the water. Structures should not be entered without proper certification and equipment.

4.2. All department-specific safety procedures should be followed when conducting maintenance on stormwater facilities.

5. Equipment

5.1. A variety of landscaping equipment may be needed, varying by department.

6. Procedure

6.1. All City-owned BMPs are inspected by Public Works Engineering staff once per year to assess and document the current condition of the stormwater management facility and note any deficiencies. Inspection reports are emailed to the head of the department/division that is responsible for maintaining the facility. Maintenance of stormwater facilities may also be required as a result of citizen complaints, routine maintenance such as grass cutting, or other issues that may arise throughout the year.

6.2. The department/division head is responsible for determining if deficiencies are internally repairable or if a contracted professional is needed to perform the maintenance work. If internally repairable, the department/division head will direct personnel to complete the work. If a contractor must perform the work, the department head or his designee will work with a contractor to coordinate the repairs, as soon as funds are available. In the event that the work is extensive enough to need to go out to bid as an individual project, the department/division head will coordinate those efforts. Priority will be given to significant maintenance activities that are required to ensure a facility performs as designed. Below is a list of maintenance issues associated with BMPs and the recommended procedure to address each issue. The below procedures are not all inclusive, and other methods not listed may be required to address maintenance issues depending on the unique situation.

6.2.1. Grass mowing and removal of minor vegetation

Grass should be mowed around facilities and on side slopes of basins a minimum of once per year. Vegetation growing in the basin such as cattails should be mowed at the end of the growing season (if feasible) and removed from the site.

6.2.2. Trash or debris removal

Typical debris includes trash, leaves, grass clippings, minor sediment, and small sticks and branches. Debris along banks and slopes of stormwater ponds, in inlet and outlet openings, control structures, and at outfalls should be removed. Removing debris from these structures can prevent them from clogging and improve functionality of the system.

6.2.3. Erosion

Erosion includes small and large eroded areas along banks and side-slopes, as well as sinkholes. Repair will likely include filling eroded areas and possibly covering the area with erosion control matting. The area should be seeded in order to stabilize the area with vegetative cover. Undercutting erosion may also occur beneath inlet and outlet pipes and outfall pipes and may be repaired by supporting the pipe with rip rap or by some other method.

6.2.4. Cracking or spalling of concrete

Cracking or spalling of concrete structures associated with stormwater facilities may be minor and just require annual observation to ensure cracking does not worsen over time. For major spalling (structural failures, holes, crumbling, large cracks), the area should be repaired with plaster or mortar.

6.2.5. Bare areas

Bare areas should be seeded during the appropriate time of the year in order to establish adequate ground cover and stabilization.

6.2.6. Dead trees or other vegetation

Some stormwater management facilities may have required plantings per the approved plans for the facility. Should this vegetation die, it should be replaced with the same type of plantings. Plantings are an important part of the functionality of many types of stormwater facilities such as bioretention and filterra systems. The dead plantings should be removed from the facility.

6.2.7. Tree, shrub, and brush removal

Trees and shrubs that are not part of the approved landscape plan for a facility should be removed. There should be no volunteer woody vegetation growing within ten feet of any structures, including inlets, outlets, control structures, and outfall pipes, unless vegetation is part of an approved landscape plan. It is recommended to remove volunteer saplings as soon as possible to prevent the expense of removing a larger tree at a later time. Trees growing over inlet and outlet pipes may eventually damage the underlying pipe as roots grow.

6.2.8. Algae control

If an overgrowth of algae is present, treatment methods to reduce/remove the algae should be taken. An outside contractor may be hired to perform the work.

6.2.9. Structural repairs

Major repairs associated with stormwater structures including inlet and outlet pipes, outfall pipes, control structures, and manufactured BMPs, may include leaking from structures, joint failures in pipes, failing control structures, etc. .

6.2.10. Riprap repair

If riprap has been displaced or removed from the facility, the rip rap should be replaced to the original location and any filter fabric should be covered.

6.2.11. Repair of aerators or fountains

Aerators or fountains that are part of the approved plans for the facility should function properly.

6.2.12. Removal of fallen trees

Trees that have fallen in a facility should be removed from the site, especially if the tree is impeding flow at inlet and outlet pipes or from the outfall.

6.2.13. Dredging of functionally necessary areas

Over time, stormwater ponds accumulate sediment. Should it become evident that a pond may need sediment removal, sounding measurements

should be performed to determine if dredging is necessary. If dredging is necessary, an outside contractor may be hired to perform the work.

6.2.14. Vactoring sediment from manufactured BMPs

If measurements taken during annual inspections indicate an accumulation of sediment in the bottom of a manufactured BMP, the BMP should be vactored to remove the sediment.

6.2.15. Replacing filters in manufactured BMPs

Filters should be replaced at the frequency recommended in the manufacturer's specifications.

6.3. After BMP maintenance is completed, the work performed should be documented (documentation methods vary by department), including the date of maintenance, who conducted the maintenance, materials used, and any other pertinent information. The Public Works Stormwater division should be notified of any significant non-routine repairs that are completed so that a follow-up inspection may be conducted. If the repairs are found to be insufficient, the responsible department will be notified that further work is needed.

7. Documentation

7.1. The responsible department should complete a report detailing work needing to be conducted (may include photos if necessary) and detailing maintenance that has been performed. The completed report should be maintained by the responsible department for a minimum of three years. If any significant, non-routine maintenance work is performed, a copy of the report should be forwarded to the Public Works Stormwater division so that follow-up inspections may be conducted and so that the significant maintenance work can be reported to the DEQ in the MS4 Annual Report.

8. Comments

8.1. Any info pertinent to the performance of the procedure which is not addressed elsewhere will be included here.

9. References

9.1. SOP SPW-ENG 10-011-01 Inspecting City Owned BMPs

9.2. Departmental safety procedures

Standard Operating Procedure:

Inspection of Private BMPs

Created June 2012

Updated January 2019

1. Background and Purpose

1.1. BMP inspections are conducted on an annual basis in order to ensure compliance with the stormwater maintenance agreement. This ensures that the City of Suffolk complies with the General Permit which states "implement an inspection and enforcement program for stormwater management facilities not owned by the permittee (privately owned)" in accordance with Virginia Stormwater Management Act and VSMP Regulations.

2. Policies

2.1. BMP inspections will be conducted by Public Works Stormwater Division staff in accordance with Section 35-28(c) of the City of Suffolk Municipal Code.

3. Definitions

3.1. The following is a list of commonly used terms associated with stormwater facilities:

Bioretention - planting areas installed in shallow basins in which the stormwater runoff is treated by filtering through the bed components, biological and biochemical reactions within the soil matrix and around the root zones of the plants, and infiltration into the underlying soil strata. Properly constructed bioretention areas replicate the ecosystem of an upland forest floor through the use of specific shrubs, trees, ground covers, mulches and deep, rich soils.

Control Structure – A manmade device, usually concrete or steel, that regulates the flow and detention time of water in a stormwater maintenance facility.

Constructed Stormwater Wetland – manmade shallow pools that create growing conditions suitable for both emergent and aquatic vegetation.

Detention Basin – an impoundment that temporarily stores runoff for a specified period and discharges it through a hydraulic outlet structure to a downstream conveyance system. A detention basin is usually dry during non-rainfall periods.

Extended-Detention Basin – An extended-detention basin is an impoundment that temporarily stores runoff for a specified period and discharges it through a hydraulic outlet structure to a downstream conveyance system. An extended-detention basin is usually dry during non-rainfall periods. An extended-detention basin differs from the detention basin in the fact that it holds water for a longer period of time, thus achieving a higher pollutant removal rate.

Forebay – a small pool or staging area, usually designed as part of a retention basin, that helps to trap sediment in a concentrated area where it can be accessed and removed more effectively.

General Infiltration Practices – any BMP that temporarily impounds stormwater runoff and discharges it via infiltration into the surrounding soil.

Infiltration Basin – A vegetated, open impoundment where incoming stormwater runoff is stored until it gradually infiltrates into the soil strata.

Inlet – any pipe or channeling structure (i.e. flume, ditch, etc.) associated with the storm drainage system that carries runoff "into" a stormwater facility to be treated.

Manufactured BMP System - a structural measure which is specifically designed and sized by the manufacturer to intercept stormwater runoff and prevent the transfer of pollutants downstream.

Outlet - any pipe or channeling structure (i.e. dam, spillway, etc.) associated with the storm drainage system that discharges storm water "out of" a facility after it has been treated.

Outfall – area at which water is released into a receiving stream or other water body.

Principle Spillway – the primary outlet device for a stormwater impoundment, it usually consists of either a riser structure in combination with an outlet conduit, which extends through the embankment, or a weir control section cut through the embankment.

Retention Basin - a stormwater facility that includes a permanent impoundment, or pool of water, and, therefore, is normally wet, even during non-rainfall periods. A retention basin is considered one of the most reliable and versatile BMPs available.

Vegetated Emergency Spillway – A vegetated emergency spillway is an open channel, usually trapezoidal in cross-section, which is constructed beside an embankment. It consists of an inlet channel, a control section, and an exit channel, and is lined with erosion-resistant vegetation.

Weir – A damming structure used to raise or divert water or to regulate or measure the flow

4. Health and Safety

4.1. A wide variety of insects, reptiles, and rodents may inhabit BMPs and the surrounding areas. Inspection personnel should always be on the lookout for these creatures to avoid painful and dangerous bites or stings. These hazards also include snakes; field personnel should wear snake boots while conducting BMP inspections. Inspection personnel should be able to identify poison ivy so it can be avoided. Unstable ground, loose footing, and deteriorating structures should be taken into account. Some Retention ponds can also be far deeper than they look, care should be used not to fall or slip into the water. Structures should not be entered.

5. Equipment

5.1. Snake boots
5.2. Camera
5.3. Folder
5.4. Bush Axe
5.5. Elevation Rod
5.6. Pick or Hook for manhole access
5.7. Notepad or other writing material
5.8. Pen
5.9. BMP Inspection Checklist
5.10. Folder for site being inspected (containing site plans and previous inspections)

6. Procedure

6.1. New Inspections

6.1.1. Determine if site is able to be inspected (see BMP Inspection Tree flow chart).

6.1.2. Research the site: This includes obtaining a "Deed of Easement" or a "Stormwater Facilities Maintenance Agreement", Associated Deeds and/or plats, and original Engineering plans and As-builts (if available) to understand each site and determine if it is functioning as originally designed.

6.1.3. Create Folders: A digital file and a hard file (paper) should be created for each site so that it can be properly organized (see standard file structure tree for details). Hard copies should also include a GIS map for locating each facility in the field, as well as a half size copy of the applicable sheets from the engineering plan or as-built).

6.1.4. Inspect the Site: Visually observe site, taking care to note any deficiencies that require repair as outlined on the inspection form. This includes all structural components, and any elements included as part of the checklist.

6.1.5. Site should be documented and photographed, and photos saved in the appropriate location with a folder identifying the date and type of visit. All photographs should be compressed to reduce file size upon initial download onto server.

6.1.6. Create inspection report and letter in Cityworks based on the type of facility inspected (See SOP "Using Cityworks for BMP Inspections"). Check where appropriate, and note each discrepancy. Include photos and add captions as necessary to help the reader understand what maintenance work is needed. Save the inspection report, letter, and

photos on N drive in the folder created above and attach the inspection report and letter to the inspection on City Works. A hard copy of the inspection report and letter should be maintained in the folder associated with that BMP.

6.1.7. Contact Property Owner or Manager: Mail the inspection report and the appropriate letter based on what was found during the inspection and identified on the report. Follow the enforcement procedures as stated below in Section 6.3 Enforcement.

6.2. Enforcement:

6.2.1. **In Compliance**- If stormwater BMP is found to be in good order and is acceptable, a letter of compliance and inspection report will be sent to the property manager informing them that an annual inspection has taken place and no further action is required.

6.2.2. **Noncompliance with minor deficiencies**- If stormwater BMP is found to be in noncompliance, but has only minor deficiencies, a notification letter and inspection report will be sent to the property manager informing them that an annual inspection has taken place. The letter should identify items requiring repair, but will not require the property manager to submit a maintenance plan to the city. The site will be inspected again during the next annual cycle.

6.2.3. **Noncompliance with major deficiencies**- If stormwater BMP is found to be in noncompliance and has major deficiencies requiring immediate attention, a notification letter and inspection report will be sent to the property manager informing them that an annual inspection has taken place. The letter will identify deficiencies and require the property manager to contact the city and submit a maintenance plan within 30 days of receipt of the letter. The maintenance plan should describe what action will be taken to restore the stormwater facilities to proper working order as they were originally designed, and include a timeframe as to when these repairs will take place.

6.2.4. **No response in 30 days**- If the letter and report has been sent to an appropriate address, and still no contact has been made after the 30 day period, a 30 day notice letter will be sent to the property manager restating the intent that repairs be addressed. If all reasonable attempts have been made to contact the property manager, yet they still fail to respond, the site status will be deemed “non-compliant”, and the case will be turned over to upper-level management staff to determine the appropriate course of legal action to be taken.

BMP follow-up inspections: If an inspection revealed major deficiencies and required the submittal of a maintenance plan to the city, the inspector should follow up with the property manager periodically to

ensure that the plan is being carried out appropriately. After all repairs have been addressed, a final inspection of the site should be conducted to ensure that the facility is up to standard and that the repairs have been successfully carried out. Once the BMP is found to be acceptable, a letter of compliance may be issued to the property manager.

7. Documentation

7.1. A hard copy of the inspection report, letter, and photos should be kept in the folder and saved on the N drive under N:\Engineering\Environmental Programs\Stormwater\Stormwater BMP Inspections. All documents should also be attached to the inspection on Cityworks per procedures detailed in the SOP "Using Cityworks for BMP Inspections".

7.2. Any correspondence regarding maintenance required and performed should also be kept in the hardcopy BMP folder and saved in the BMP folder on the N drive.

8. Comments

8.1. Project File Structure for BMP Inspection Folders and BMP inspection sheets are found at N:\Engineering\Environmental Programs\Stormwater\Stormwater BMP Inspections\Standard Forms

9. References

9.1. Virginia Stormwater Management Handbook – Volumes I & II

9.2. Virginia Erosion and Sediment Control Handbook

9.3. City of Suffolk Municipal Code Article I – Sec. 35

9.4. Cityworks SOP "Using Cityworks for BMP Inspections"

10. Attachments

N/A

APPENDIX F

MCM 6:

Pollution Prevention/Good Housekeeping for Municipal Operations

City Of Suffolk, Virginia

Operations and Maintenance:

Pollution Prevention Guide

2019

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Introduction

Through day to day operations, City of Suffolk staff conducts a variety of operations that have the potential to pollute surface waters. The purpose of this manual is to provide guidance to those staff on Best Management Practices (BMPs) to reduce pollutant runoff during municipal operations. These procedures are required to be developed as a condition of the City's MS4 General Permit (MS4 Permit), which has the purpose of reducing pollutant runoff in stormwater to the Maximum Extent Practicable (MEP). This manual will address municipal operations conducted inside and outside of municipal facilities. The City's MS4 permit is issued through the Virginia Pollutant Discharge Elimination System (VPDES) administered by the Virginia Department of Environmental Quality (DEQ) and overseen by the United States Environmental Protection Agency (EPA).

The City's Good Housekeeping and Pollution Prevention Program is designed to address the following areas of concern:

- Illicit discharge prevention, detection, and reporting
- Proper waste disposal
- Proper Vehicle washing procedures
- BMPs for discharging water from utility construction or maintenance activities
- Proper bulk storage protocols (salt, soil, etc)
- Vehicle Fueling
- Vehicle maintenance
- Pesticide and Fertilizer application
- Staff Training

Site Specific Stormwater Pollution Prevention Plans (SWPPPs) and Nutrient Management Plans (NMPs) have been developed for high risk sites within the City's regulated MS4 area. SWPPPs and NMPs will be developed for any future facilities in the regulated MS4 area that are determined to be high risk.

An MS4 is a conveyance or system of conveyances that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
- Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).

http://water.epa.gov/polwaste/npdes/stormwater/Municipal-Separate-Storm-Sewer-System-MS4-Main-Page.cfm

Illicit Discharges

An illicit discharge is anything other than stormwater, groundwater, or other treated or clean waters that enter the stormwater system or natural streams, channels, or estuaries. Illicit discharges do not have to be intentional; they can occur due to negligence or a lack of understanding of what is and is not considered a pollutant. “When in doubt keep it out” of the stormwater system and receiving channels.

Every effort should be taken to prevent wastewater discharges from entering the MS4 or natural channels, from any activity. Wastewater discharges that cannot be prevented must have authorization under a separate VPDES permit.

Preventing Illicit Discharges

Public Works Stormwater Division staff conducts biennial trainings for operations and maintenance staff across all departments that covers illicit discharges, and is available to answer questions that may arise at any time. The main function of preventing illicit discharges is recognizing and understanding the nature of an illicit discharge. Other Sections of this document go into detail for different types of operations and tasks and describe what actions and measures can be taken to reduce the chance of pollutants entering the stormwater system and receiving channels.

Examples of Illicit Discharges:

- Petroleum products
- Automotive fluids
- Tires and automotive parts
- Cooking oil
- Untreated sewage
- Detergent or wash water
- Leaf litter or yard waste
- Industrial waste
- Shop floor drains
- Sewage straight pipes and cross connections
- Improperly applied pesticides, herbicides, and fertilizers

Reporting Illicit Discharges

For any major spill or illicit discharge that has the potential to cause injury, death, or substantial property damage, call 911 immediately. If the spill does not pose an immediate threat to life or property, take immediate action to contain and clean the spill. Consult the Safety Data Sheet (SDS) for the substance spilled for emergency procedures, protective equipment, and proper methods of containment and cleanup. If necessary, call an environmental services contractor for spill cleanup.

Spills and discharges to the stormwater system or environment should be reported to Public Works Engineering Stormwater Staff, whether caused by City staff or a third party. If an illicit discharge or evidence of an illicit discharge is noticed, contact Public Works Stormwater staff so than an investigation can be conducted.

Calls to Public Works Engineering, Stormwater Division regarding illicit discharges should be directed to:

- Environmental Specialist 514-7627
- Environmental Technicians 514-7073 or 514-7677
- Environmental Programs Manager 514-7678
- Stormwater Engineer 514-7675
- Public Works Engineering front desk at 514-7725.

Emails regarding illicit discharges can be sent to idischarge@suffolkva.us.

Proper Waste Disposal

Wastes can be in many different forms, and proper disposal varies by the type of wastes. Many wastes cannot be accepted by municipal landfills or be treated at publicly owned treatment works, and must be disposed of through a separate waste management system.

General Best Management Practices for Waste Disposal:

- Ensure that regular, non-hazardous garbage is disposed of in a trash can or dumpster both on and off jobsites and within operations yards.
- Dumpsters should be placed on a concrete pad and should always be kept covered.
- Hazardous wastes should be disposed of in accordance with the Resource Conservation and Recovery Act (RCRA) and should never be disposed of in a dumpster. The City has a contracted hazardous waste disposal company. Pesticides, herbicides, and fertilizers should be disposed of as hazardous waste.
    - Refer to 40 CFR Part 261- IDENTIFICATION AND LISTING OF HAZARDOUS WASTE
- Landscape wastes should be carried away for proper disposal. Dumping of grass clippings or other landscape wastes in storm drains is not permitted.
- AA, AAA, C, D, and 9V alkaline batteries are collected for recycling at several sites throughout the City by the Suffolk Clean Community Commission. Locations can be found at http://www.suffolkva.us/342/Recycling-Drives-Programs or by calling the Litter Control Coordinator at 514-7604.

Vehicle Washing

Whenever possible, vehicles should be washed on a designated wash rack with wash waters directed to a sanitary sewer. Wash racks directed to sanitary sewer are located at Refuse on Pine Street, Fleet Maintenance on Forest Glenn Road, Public Utilities on Benton Road, and Public Works Operations on Carolina Road. Phosphate free detergents should be used for all vehicle washing where just water proves insufficient. If a vehicle cannot be washed on a designated wash rack, it should be washed on grass or gravel so that wash water has a chance to infiltrate instead of running directly off a solid surface, and the use of soap should be avoided if feasible. Vehicles should never be washed near a storm drain. Wash racks and pads should be swept periodically to prevent sediment runoff and the

clogging of wash rack drains. Any materials and sediments left on wash racks after washing should be swept or vacuumed up.

Water Discharges from Utility Construction and Maintenance

Construction and maintenance operations on utility systems have the potential to pollute with sediments, nutrients, chemicals, or pathogens. Construction activities should follow site specific SWPPPs where applicable. Follow the Virginia Erosion and Sediment Control Manual for operations that have the potential to contribute sediments to the stormwater system or receiving channels.

General Best Management Practices

- When dewatering an open trench or hole, filter water (such as through a filter bag) to remove sediments before discharging.
- When flushing water lines, manage discharge of water in a manner to avoid an instream impact.
- Sanitary sewer overflows (SSOs) should be contained as soon as possible to avoid wastewater entering the stormwater system and contaminating surface waters. The affected area should be cleaned immediately and to the maximum extent practicable.
- Cleaning of stormwater pipes and infrastructure should be done in such a way that flushed sediments and debris are captured and not discharged to the stormwater system.

Bulk Material Storage

Materials that will be stored long term such as soil, mulch, sand, and salt that have the potential to erode from where they are stored should be contained and/or covered. Because of the large amounts of these materials that are usually stored, robust measures are required to reduce chances of materials entering the stormwater system or receiving channels.

Best Management Practices for Bulk Material Storage:

- Salt used in deicing operations should be stored in salt barns until ready for use. Salt stored outside should be kept securely covered with tarps in serviceable condition.
- Abrasive mix remaining after a storm event should be stored in the salt barn if there is room; otherwise, piles should be securely covered with a tarp in serviceable condition.
- Other erodible materials that are stored outdoors long term should be stored inside containment.
- Containment areas should be placed so that they are on a slight slope with the access opening at the uphill end.
- Containment structures should be a reasonable height so that they are not overtopped by the stored materials.
- Care should also be taken when dumping materials so they do not spill over the back or sides of containment walls. Any materials spilled outside of containment areas should immediately be cleaned up and placed inside containment.

- Materials such as gravel or stone that are not at risk of eroding do not need to be contained, but should be stored in such a way that there is no risk of blocking drainage.

Vehicle Fueling

Vehicle fueling happens at several locations in the City. Because of the large number of employees using fueling stations, it is important that the following Best Management Practices be posted to ensure safe and responsible vehicle fueling.

Best Management Practices for Vehicle Fueling:

- Conduct all vehicle fueling at designated fueling stations.
- Use only containers designed for the fuel used.
- Use care when filling vehicles or containers to avoid dripping or spilling.
- Never "top off"; that is, never fill a container past its intended capacity.
- Never leave nozzle unattended while fueling.

Best Management Practices for Fuel Spills:

- Clean affected area thoroughly and promptly.
- Divert spill away from storm drains, ditches, or receiving waters if necessary.
- Clean up all spills immediately with rags or other absorbent material and dispose of properly.
- Fueling pads should always be swept or vacuumed and never hosed down.
- Ensure spill kits are available and fully-stocked at all fueling stations, including a broom and disposal bucket for contaminated materials.

Vehicle Maintenance & Managing Leaking Vehicles

Vehicle maintenance often involves working with and handling petroleum products and other toxic materials that should not be allowed to enter the stormwater system or receiving waters.

Best Management Practices for Vehicle Maintenance:

- Leaking vehicles/equipment should be repaired immediately. Notify someone at Fleet Maintenance when a leaking vehicle is dropped off for repairs.
- If vehicle is leaking a large amount of fluid, absorbent socks or booms should be deployed to contain the spill. Every effort should be made to prevent contaminant from entering stormdrains, ditches, and waterways.
- All vehicle maintenance should be conducted indoors or under cover, with the exception of emergency repairs.
- Liquid materials should be stored away from garage bay doors.
- Leaking vehicles or equipment should be stored indoors or under cover unless drip pans or buckets are deployed to catch any leaking fluids.

- Spills both indoors and outdoors should be cleaned promptly and thoroughly.
- If oil absorbent is utilized to clean a spill, all absorbent material should be cleaned up after using so that the contaminant doesn't leak back out.
- Oil and gas filters should be punctured or crushed and allowed to drain for at least 24 hours.
- Capture all drained fluids and dispose of in the appropriate manner.
- Store vehicle batteries in secondary containment and indoors or under cover.
- Scrap metal and parts dumpsters should be placed on a concrete pad and should remain covered.

Liquid and Drum Storage

A large variety of liquids are stored in the city for a variety of reasons. Chemicals should be clearly labeled and stored in such a way that they do not pose a risk of contaminating stormwater systems or receiving waters.

Best Management Practices for Liquid and Drum Storage:

- Keep liquids in original container that is clearly labeled.
- If container is damaged, immediately move liquid to new container that is clearly marked as to its contents.
- Empty containers should be clearly marked "Empty" and promptly disposed of in the appropriate manner.
- Containers or drums with waste chemicals/liquids/materials should be clearly marked to avoid mixing of wastes.
- Drums should be stored on secondary containment and indoors or under cover.

Pesticide and Herbicide Application

Due to their high mobility, pesticide and herbicide chemicals pose a significant threat to water quality if not applied and stored in an appropriate manner. While it is best to only use chemicals after natural approaches fail, this section provides basic guidelines and practices that will reduce the risk of pesticides and herbicides being washed into the stormwater system and receiving channels.

Pesticide and Herbicide Application Best Management Practices:

- Use only application equipment that is in serviceable condition.
- Ensure all mixing, storage, and holding tanks are free of leaks.
- Follow manufacturer's recommendations for application rates.
- Assess weather conditions to ensure application is consistent with product label requirements.
- Application of pesticides and herbicides on water bodies is regulated under 9 VAC 25-800 and requires a separate VPDES permit.
- Store containers indoors or under cover and ensure containers are clearly labeled.

- When transporting pesticides and herbicides, ensure container is tightly closed and is not leaking. Do not transport containers in the cab of a vehicle and immediately remove container from the vehicle after use.

Fertilizer Application

Fertilizers, like pesticides and herbicides, are highly mobile. Nutrients, especially phosphorus and nitrogen, are pollutants of primary concern to water quality in the Chesapeake Bay and its tributaries. Due to their attributes, these chemicals should be applied with care and concern.

Fertilizer Application Best Management Practices:

- Test soil conditions before fertilizing to determine if nutrient application is necessary, or to determine the appropriate amount of nutrients to apply.
- Do not apply immediately before rain events.
- Avoid applying within 5 feet of pavement, 25 feet of storm drain inlets, and 50 feet of water bodies.
- Store containers indoors or under cover and ensure containers are clearly labeled.

Training

In accordance with the City's MS4 Program Plan, Stormwater Division staff conducts biennial training sessions for all maintenance and operations staff in Public Works, Public Utilities, and Parks and Recreation. The work these staff members perform both in and outside of maintenance yards has the potential to pollute, and the training is designed to inform staff of their role in eliminating non-stormwater discharges into the City's stormwater system and into surface and ground waters.

The training includes a brief summary of the MS4 program and an explanation of municipal separate storm sewer systems. Staff will receive training on: identifying, responding to, and reporting an illicit discharge; how to eliminate non-stormwater discharges from municipal facilities; waste disposal procedures; proper vehicle washing procedures; leak and spill response; drum storage; salt and deicer storage; and soil stockpiling procedures. In addition to focused training to operations personnel, Stormwater Division staff attends events targeted to all City employees such as the annual Health and Wellness Fair to educate employees on environmental issues and also to raise awareness of non stormwater discharge detection and reporting.

Requests for additional training or refreshers can be made to the Stormwater Division of Public Works Engineering.

High Priority City-owned Facilities

Facility	Inside MS4 area? (Y/N)	High Priority Reason	High Potential to Discharge Pollutants (Y/N)	Existing SWPPP (Y/N)	SWPPP Needed (Y/N)
Fleet Management	Y	diesel and gas fueling station, equipment/vehicle storage and maintenance, chemical storage	Y	Y	N
Public Works Refuse Facility	Y	equipment/vehicle storage, temporary salt and brine storage	Y	Y	N
Public School's Bus Parking Facility	Y	vehicle storage and maintenance, chemical storage	Y	Y	N
Public School's Maintenance Yard	Y	fueling station, equipment storage and maintenance, chemical storage	Y	N	Y
Turlington Woods School	Y	diesel fueling station	N	N	N
John F Kennedy Middle School	Y	diesel fueling station	N	N	N
John Yeates Middle School	Y	diesel fueling station	N	N	N
Kings Fork High School	Y	diesel fueling station	N	N	N
Police Precinct No. 1	Y	fueling station	N	N	N
Fire Station No. 5	Y	fueling station, vehicle storage	N	N	N

*List must be reviewed annually by June 30th

Nutrient Management Plans

City/School Facilities	Total Acreage on which nutrients are applied	Start Date of Most Recent NMP	Location of NMP
Sleepy Hole Golf Course	125.31	5/1/2014	Sleepy Hole Golf Course
Lakeland High School	8.4	7/1/2018	Lakeland High School
Nansemond River High School	32.3	7/1/2015	Nansemond River High School
Kings Fork High School	8.4	7/1/2018	Kings Fork High School
Total Acreage on which nutrients are applied	**174.41**		

City of Suffolk Pollution Prevention Training Plan

This Plan serves to describe how the City of Suffolk will comply with the training requirements set forth in its MS4 General Permit. Training focuses on pollution prevention and good housekeeping. To meet this requirement, the City gives training presentations to multiple entities of the City to help aid in the reduction of illicit discharges, reduction of pollution sources, and to educate staff on stormwater practices.

This year, Public Works Engineering Staff will be training City of Suffolk Refuse Collection staff, Public Works Operations staff, Public Utilities Operations staff, Fleet Management, Suffolk Public Schools Custodians and Grounds Maintenance, Suffolk Parks and Recreation Grounds Maintenance, and City Facility Custodians. Training will be conducted at least on a biennial bases, but the intention is to complete the training annually. Topics that will be covered in this training include:

a) An overview of our MS4 permit requirements
b) The definition of MS4
c) Illicit discharge detection and elimination
d) Construction site erosion and sediment control
e) Defining soil erosion, protecting erodible materials
f) How to protect erodible materials
g) Disposing of waste properly
h) Applying fertilizer and pesticide properly
i) Vehicle Maintenance
j) Vehicle Washing
k) Leaking Equipment
l) Drum Storage and Fuel Islands
m) Proper salt and stockpile storage

The topics covered will vary among departments, depending on their day-to-day job activity. Most departments will receive training through a presentation supplemented with videos for a visual reiteration. The City Facility custodians (and contracted custodians) will receive a handout to be distributed to all custodians. Fire fighters receive training on the handling of spill releases as part of their required emergency response training.

The intent is to conduct training between April 1 and June 30 annually, with training coinciding with annual facility inspections where appropriate and when feasible.

The following table details which training topics will be covered during each department's training.

	Public Works Refuse	Public Works Operations	Public Utilities Maintenance	Fleet Management/ School Bus Facility	Public School Custodians	Parks and Recreation Grounds Maintenance	City Facility Custodians (and contract)
Training Objectives							
MS4 Definition	X	X	X	X	X	X	X
MS4 Permit Overview	X	X	X	X	X	X	X
Illicit Discharge Detection and Elimination	X	X	X	X	X	X	X
Construction Site Erosion and Sediment Control		X	X				
Soil Erosion Defined		X	X		X	X	X
How to protect erodible materials		X	X		X	X	X
Disposing of waste properly	X	X	X	X	X	X	X
Applying fertilizer and pesticide properly		X			X	X	X
Vehicle Maintenance	X	X	X	X			
Vehicle Washing	X	X	X	X	X	X	X
Leaking Equipment	X	X	X	X	X	X	X
Drum Storage and Fuel Islands	X	X	X	X	X	X	X
Proper Salt Storage		X					
SWPPP	X			X			