



ANNUAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) STATUS REPORT

FOR THE PERIOD August 1, 2022 TO ~~JUNE 30~~, July 31, 2023

GENERAL INFORMATION					
Permittee Name:	Capital Region Water	NPDES Permit No.:	PAI133524		
Mailing Address:	3003 North Front Street	Effective Date:	8/1/2020		
City, State, Zip:	Harrisburg, PA 17110	Expiration Date:	7/31/2025		
MS4 Contact Person:	Claire Maulhardt	Renewal Due Date:	2/1/2025		
Title:	City Beautiful H2O Program Manager	Municipality:	Harrisburg		
Phone:	717-216-5269	County:	Dauphin		
Email:	claire.maulhardt@capitalregionwater.com				
Co-Permittees (if applicable):					
Appendix(ces) that permittee is subject to (select all that apply):					
<input type="checkbox"/> Appendix A <input checked="" type="checkbox"/> Appendix B <input checked="" type="checkbox"/> Appendix C <input checked="" type="checkbox"/> Appendix D <input checked="" type="checkbox"/> Appendix E <input checked="" type="checkbox"/> Appendix F					
WATER QUALITY INFORMATION					
Are there any discharges to waters within the Chesapeake Bay Watershed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Identify all surface waters that receive stormwater discharges from the permittee's MS4 and provide the requested information (see instructions).					
Receiving Water Name	Ch. 93 Class.	Impaired?	Cause(s)	TMDL?	WLA?
Susquehanna River	WWF	Yes	pH, Pathogens, Polychlorinated Biphenyls	No	No
Paxton Creek	WWF	Yes	Habitat Alterations, Flow Regime Modification, Total Suspended Solids, Biochemical Oxygen Demand, Pathogens	Yes	Yes
Spring Creek	CWF	Yes	Siltation, Flow Regime Modification, Habitat Alterations	No	No
Wildwook Lake		Yes	Nutrients, TSS	Paxton Creek	Paxton Creek
UNT to Asylum Run		No		No	No
UNT to Spring Creek	CWF	Yes	Siltation, Flow Regime Modification, Habitat	No	No

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

			Alterations		

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Yes No

2. Date of latest annual review of educational materials:

Were updates made?

Yes No

3. Do you have a municipal website? Yes No (URL:
www.capitalregionwater.com)

BMP #3: Regularly solicit public involvement and participation from the target audience groups using available distribution and outreach methods.

1. At least one public meeting or other MS4 event must be held during the 5-year permit coverage period to solicit participation and feedback from target audience groups. Was this meeting or event held during the reporting period?
 Yes No If Yes, Date of Meeting or Event:
2. Report instances of cooperation and participation in MS4 activities; presentations the permittee made to local watershed and conservation organizations; and similar instances of participation or coordination with organizations in the community.
3. Report activities in which members of the public assisted or participated in the meetings and in the implementation of the SWMP, including education activities or efforts such as cleanups, monitoring, storm drain stenciling, or others.

MCM #2 Comments:

CRW's PIPP is included in Attachment #3

MCM #3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDD&E)

BMP #1: Develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the regulated small MS4.

1. For new permittees only, was the written IDD&E program developed within one year of permit coverage?
 Yes No
2. Date of latest annual review of IDD&E program: July 2023 Were updates made? Yes No

BMP #2: Develop and maintain map(s) that show permittee and urbanized area boundaries, the location of all outfalls and, if applicable, observation points, and the locations and names of all surface waters that receive discharges from those outfalls. Outfalls and observation points shall be numbered on the map(s).

1. Have you completed a map(s) that includes all components of BMP #2? Yes No
If Yes and you are a new permittee and have not submitted the map(s) previously, attach the map(s) to this report.
If No, date by which permittee expects map(s) to be completed:
2. Date of last update or revision to map(s): September 2023
3. Total No. of Outfalls in MS4: 95 Total No. of Outfalls Mapped: 95
4. Total No. of Observation Points: Total No. of Observation Points Mapped:
5. During the reporting period, have you identified any existing outfalls that have not been previously reported to DEP in an NOI, application or annual report, or are any new MS4 outfalls proposed for the next reporting period?
 Yes No If Yes, select: Existing Outfall(s) Identified New Outfall(s) Proposed

BMP #3: In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), the permittee shall develop and maintain map(s) that show the entire storm sewer collection system within the permittee's jurisdiction that are owned or operated by the permittee (including roads, inlets, piping, swales, catch basins, channels, and any other components of the storm sewer collection system), including privately-owned components of the collection system where conveyances or BMPs on private property receive stormwater flows from upstream publicly-owned components.

1. Have you completed a map(s) that includes all components of BMP #3? Yes No

If Yes and you are a new permittee and have not submitted the map(s) previously, attach the map(s) to this report.

If No, date by which permittee expects map(s) to be completed: July 31, 2024

2. If Yes to #1, is the map(s) on the same map(s) as for outfalls and receiving waters? Yes No

3. Date of last update or revision to map(s):

BMP #4: Conduct dry weather screenings of MS4 outfalls to evaluate the presence of illicit discharges. If any illicit discharges are present, the permittee shall identify the source(s) and take appropriate actions to remove or correct any illicit discharges. The permittee shall also respond to reports received from the public or other agencies of suspected or confirmed illicit discharges associated with the storm sewer system, as well as take enforcement action as necessary. The permittee shall immediately report to DEP illicit discharges that would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property.

For new permittees, all identified outfalls (and if applicable observation points) must be screened during dry weather at least twice within the 5-year period following permit coverage. For existing permittees, all identified outfalls (and if applicable observation points) must be screen during dry weather at least once within the 5-year period following permit coverage and, for areas where past problems have been reported or known sources of dry weather flows occur on a continual basis, outfalls must be screened annually during each year of permit coverage.

1. How many unique outfalls (and if applicable observation points) were screened during the reporting period? 95

2. Indicate the percentage of all outfalls screened in the past five years. 100%

3. Indicate the percent of outfalls screened during the reporting period that revealed dry weather flows: 15%

4. Did any dry weather flows reveal color, turbidity, sheen, odor, floating or submerged solids? Yes No

5. If Yes for #4, attach all sample results to this report with a map identifying the sample location. Explain the corrective action(s) taken in the attachment.

6. Do you use the MS4 Outfall Field Screening Report form (3800-FM-BCW0521) provided in the permit?

Yes No

If No, attach a copy of your screening report form.

BMP #5: Enact a Stormwater Management Ordinance or SOP to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the regulated small MS4.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that prohibits non-stormwater discharges? Yes No

If Yes, indicate the date of the ordinance or SOP: 1/1/2023

2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) with respect to authorized non-stormwater discharges? Yes No

If Yes to #2 and the ordinance or SOP has not been submitted to DEP previously, attach the ordinance or SOP.

3. Were there any violations of the ordinance or SOP during the reporting period? Yes No

If Yes to #3, complete the table below (attach additional sheets as necessary).

Violation Date	Nature of Violation	Responsible Party	Enforcement Taken
5/19/23	Illicit discharge to inlet	Salvation Army	Notice of Violation Issued

4. Did you approve any waiver or variance during the reporting period that allowed an exception to non-stormwater discharge provisions of an ordinance or SOP? Yes No

If Yes to #4, identify the entity that received the waiver or variance and the type of non-stormwater discharge approved.

BMP #6: Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.

1. Was IDD&E-related information distributed to public employees, businesses, and the general public during the reporting period? Yes No

If Yes, what was distributed?

2. Is there a well-publicized method for employees, businesses and the public to report stormwater pollution incidents?

Yes No

3. Do you maintain documentation of all responses, action taken, and the time required to take action? Yes No

MCM #3 Comments:

CRW's IDDE program is integrated within the Operation and Maintenance Manual, Nine Minimum Controls Plan, and Cityworks. The Cityworks IDDE workflow is included in Attachment #4.

CRW has a map of the MS4 area and outfalls, which is included in Attachment #5.

CRW has incorporated an outfall inspection procedure in their Operations and Maintenance Manual (March 2021) and also developed Cityworks workflows based on the DEP inspection form. Refer to Attachment #4 for workflow documentation.

Refer to Attachment #1 for further details on FOG and IDDE educational outreach activities.

MCM #4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Are you relying on PA's statewide program for stormwater associated with construction activities to satisfy this MCM?

Yes No

(If Yes, respond to questions for BMP Nos. 1, 2 and 3 only in this section. If No, respond to questions for all BMPs in this section)

BMP #1: The permittee may not issue a building or other permit or final approval to those proposing or conducting earth disturbance activities requiring an NPDES permit unless the party proposing the earth disturbance has valid NPDES Permit coverage (i.e., not expired) under 25 Pa. Code Chapter 102.

During the reporting period, did you comply with 25 Pa. Code § 102.43 (relating to withholding building or other permits or approvals until DEP or a county conservation district (CCD) has approved NPDES permit coverage)?

Yes No Not Applicable (no building permit applications received)

BMP #2: A municipality or county which issues building or other permits shall notify DEP or the applicable CCD within 5 days of the receipt of an application for a permit involving an earth disturbance activity consisting of one acre or more, in accordance with 25 Pa. Code § 102.42.

During the reporting period, did you comply with 25 Pa. Code § 102.42 (relating to notifying DEP/CCD within 5 days of receiving an application involving an earth disturbance activity of one acre or more)?

Yes No Not Applicable (no building permit applications received)

BMP #3: Enact, implement and enforce an ordinance or SOP to require the implementation and maintenance of E&S control BMPs, including sanctions for non-compliance, as applicable.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that requires implementation and maintenance of E&S control BMPs? Yes No

If Yes, indicate the date of the ordinance or SOP: 01/01/2023

2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? Yes No

3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

BMP #4: Review Erosion and Sediment (E&S) control plans to ensure that such plans adequately consider water quality impacts and meet regulatory requirements.

Specify the number of E&S Plans you reviewed during the reporting period: N/A

BMP #5: Conduct inspections regarding installation and maintenance of E&S control measures during earth disturbance activities. Maintain records of site inspections, including dates and inspection results, in accordance with the record retention requirements in this permit.

Specify the number of E&S inspections you completed during the reporting period: N/A

BMP #6: Conduct enforcement when installation and maintenance of E&S control measures during earth disturbance activities does not comply with permit and/or regulatory requirements.

Specify the number of enforcement actions you took during the reporting period for improper E&S: N/A

BMP #7: Develop and implement requirements for construction site operators to control waste at construction sites that may cause adverse impacts to water quality. The permittee shall provide education on these requirements to construction site operators.

Specify the method(s) by which you are educating construction site operators on controlling waste at construction sites:

N/A

BMP #8: Develop and implement procedures for the receipt and consideration of public inquiries, concerns, and information submitted by the public to the permittee regarding local construction activities.

1. A tracking system has been established for receipt of public inquiries and complaints. Yes No

2. Specify the number of inquiries and complaints received during the reporting period: N/A

MCM #4 Comments:

CRW has a Memorandum of Understanding with Dauphin County Conservation District and an updated Memorandum of Understanding with Dauphin County and the City of Harrisburg is in draft form and awaiting final execution. Refer to Attachment #6.

MCM #5 – POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

BMP #1: Enact, implement and enforce an ordinance or SOP to require post-construction stormwater management from new development and redevelopment projects, including sanctions for non-compliance.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that requires implementation and maintenance of post-construction stormwater management (PCSM) BMPs? Yes No
If Yes, indicate the date of the ordinance or SOP: 01/01/2023
2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? Yes No
3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

BMP #2: Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new development and redevelopment. Measures should also be included to encourage retrofitting LID into existing development. Enact ordinances consistent with LID practices and repeal sections of ordinances that conflict with LID practices.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that encourages and expands the use of LID in new development and redevelopment? Yes No
If Yes, indicate the date of the ordinance or SOP: 01/01/2023
2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? Yes No
3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

BMP #3: Ensure adequate O&M of all post-construction stormwater management BMPs that have been installed at development or redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale.

1. Do you have an inventory of all PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003? Yes No
If Yes to #1, complete Table 1 on the next page.
2. Has proper O&M occurred during the reporting period for all PCSM BMPs? Yes No
3. If No to #2, explain what action(s) the permittee has taken or plans to take to ensure proper O&M.

If you are relying on PA's statewide program for stormwater associated with construction activities, you may skip to MCM #6, otherwise complete all questions for BMPs #4 - #6 in this section.

BMP #4: Require the implementation of a combination of structural and/or non-structural BMPs that are appropriate to the local community, that minimize water quality impacts, and that are designed to maintain pre-development runoff conditions.

1. Specify the number of PCSM Plans reviewed during the reporting period for projects disturbing greater than or equal to one acre (including projects less than one acre that are part of a larger common plan of development or sale):
2. Has a tracking system been established and maintained to record qualifying projects and their associated BMPs?
 Yes No

PCSM BMP INVENTORY

Table 1. To complete the information needed for MCM #5, BMP #3, list all existing structural BMPs that discharge stormwater to the permittee's MS4 that were installed to satisfy PCSM requirements for earth disturbance activities under Chapter 102, and provide the requested information (see instructions).

BMP No.	BMP Name	DA (ac)	Entity Responsible for O&M	Latitude	Longitude	Date Installed	O&M Requirements	NPDES Permit No.	
1				o ' "	o ' "				
2				o ' "	o ' "				
3				o ' "	o ' "				
4				o ' "	o ' "				
5	REFER TO ATTACHMENT #7								
6									
7									
8									
9									
10				o ' "	o ' "				
11				o ' "	o ' "				
12				o ' "	o ' "				
13				o ' "	o ' "				
14				o ' "	o ' "				
15				o ' "	o ' "				
16				o ' "	o ' "				

BMP #5: Ensure that controls are installed that shall prevent or minimize water quality impacts. The permittee shall inspect all qualifying development or redevelopment projects during the construction phase to ensure proper installation of the approved structural PCSM BMPs. A tracking system (e.g., database, spreadsheet, or written list) shall be implemented to track the inspections conducted and to track the results of the inspections (e.g., BMPs were, or were not, installed properly).

1. During the reporting period have you inspected all qualifying development and redevelopment projects during the construction phase to ensure proper installation of approved structural BMPs?
 Yes No Not Applicable (no qualifying projects during reporting period)
2. Has a tracking system been established and maintained to record results of inspections?
 Yes No

BMP #6: Develop a written procedure that describes how the permittee shall address all required components of this MCM.

Have you developed a written plan that addresses: 1) minimum requirements for use of structural and/or non-structural BMPs in plans for development and redevelopment; 2) criteria for selecting and standards for sizing stormwater BMPs; and 3) implementation of an inspection program to ensure that BMPs are properly installed? Yes No

MCM #5 Comments:

CRW has a Memorandum of Understanding with Dauphin County Conservation District and an updated Memorandum of Understanding with Dauphin County and the City of Harrisburg is in draft form and awaiting final execution.

CRW has a draft PCSM BMP Inventory, which is included in Attachment #7. As a new MS4 permittee, CRW is coordinating with the City of Harrisburg and DCCD to obtain historical records on additional existing PCSM BMPs prior to 2017.

The Operations and Maintenance Agreement for Stormwater Facilities and Best Management Practices is included in Attachment #9.

MCM #6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

BMP #1: Identify and document all operations that are owned or operated by the permittee and have the potential for generating pollution in stormwater runoff to the MS4. This includes activities conducted by contractors for the permittee.

1. Have you identified all facilities and activities owned and operated by the permittee that have the potential to generate stormwater runoff into the MS4? Yes No
2. When was the inventory last reviewed?
3. When was it last updated?

BMP #2: Develop, implement and maintain a written O&M program for all operations that could contribute to the discharge of pollutants from the MS4, as identified under BMP #1. This program shall address stormwater collection or conveyance systems within the regulated MS4.

1. Have you developed a written O&M program for the operations identified in BMP #1? Yes No
2. Date of last review or update to written O&M program: 3/31/2022

BMP #3: Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from operations to the regulated small MS4. All relevant employees and contractors shall receive training.

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1. Have you developed an employee training program? Yes No

2. Date of last review or update to training program: June 2023 Date of latest training: 6/30/2023

3. Training topics covered:
MS4 Minimum Control Measures and CSO Nine Minimum Controls
4. Name(s) of training presenter(s):
Claire Maulhardt and Ken Freysinger
5. Names of training attendees:
See Attachment #10 for sign-in sheets

MCM #6 Comments:

CRW's Operation and Maintenance Manual documents the procedures for inlet cleaning and street sweeping within CRW's MS4. CRW also documents SCM O&M activities in the Green Stormwater Infrastructure O&M Program Annual Report (2022).
CRW conducted a company wide MS4 and NMC training in June 2023 in addition to the annual operations crew training.

POLLUTANT CONTROL MEASURES (PCMs)

Indicate the status of implementing PCMs in Appendices A, B and/or C by completing the table below. Skip this section if PCMs are not applicable.

Task	Date Completed	Attached	Anticipated Completion Date
Storm Sewershed Map(s)	9/29/2023	<input checked="" type="checkbox"/>	
Source Inventory	7/31/2023	<input checked="" type="checkbox"/>	
Investigation of Suspected Sources		<input type="checkbox"/>	7/31/2025
Ordinance/SOP for Controlling Animal Wastes	10/01/2020	<input type="checkbox"/>	

PCM Comments:

Attachment #5 - Stormwater Outfall Map
Attachment #11 - Appendix B & C Potential Pathogen & PCB Sources

POLLUTANT REDUCTION PLANS (PRPs) AND TMDL PLANS

1. Complete this section if the development and submission of a PRP and/or TMDL Plan was required as an attachment to the latest NOI or application or was required by the permit, regardless of whether DEP has approved the plan(s).

Type of Plan	Submission Date	DEP Approval Date	Surface Waters Addressed by Plan
<input type="checkbox"/> Chesapeake Bay PRP (Appendix D)			Chesapeake Bay
<input type="checkbox"/> Impaired Waters PRP (Appendix E)			
<input type="checkbox"/> TMDL Plan (Appendix F)			
<input type="checkbox"/> Combined Chesapeake Bay / Impaired Waters PRP			Chesapeake Bay,
<input checked="" type="checkbox"/> Combined PRP / TMDL Plan	12/27/2019	07/22/2020	Chesapeake Bay, Paxton Creek, Wildwood Lake, UNT to Spring Creek

- Joint Plan (if checked, list the name of the MS4 group or names of all entities participating in the joint plan below)

Joint Plan Participants: Capital Region Water, Lower Paxton Township, Susquehanna Township

2. Identify the pollutants of concern and pollutant load reduction requirements under the permit (see instructions).

Type of Plan	TSS Load Reduction (lbs/yr)	TP Load Reduction (lbs/yr)	TN Load Reduction (lbs/yr)
<input type="checkbox"/> Chesapeake Bay PRP (Appendix D)			
<input type="checkbox"/> Impaired Waters PRP (Appendix E)			
<input type="checkbox"/> TMDL Plan (Appendix F)			
<input type="checkbox"/> Combined Chesapeake Bay / Impaired Waters PRP			
<input checked="" type="checkbox"/> Combined PRP / TMDL Plan		* See PRP/TMDL Plan Comments below.	* See PRP/TMDL Plan Comments below.

3. Date Final Report Demonstrating Achievement of Pollutant Load Reductions Due: 7/30/2025

4. Have any modifications to the plan(s) occurred since DEP approval? Yes No

If Yes to #4, was the updated plan(s) submitted to DEP? Yes No

If Yes to #4, did you comply with the public participation requirements of the applicable appendix? Yes No

If Yes to #4, describe the plan modifications.

5. Summary of progress achieved during reporting period.

CRW has implemented, and is claiming credit for, street sweeping and green stormwater infrastructure (GSI) during the reporting period. CRW has implemented other pollutant reduction measures including catch basin cleaning and a major upgrade to the Front Street Pump Station, and may claim credit for these measures during future reporting periods. These measures provide both a reduction in the land-based sediment load discharged from MS4 outfalls, CSO outfalls, and instream sediment load mobilized by erosive velocities in Paxton Creek.

Attachment #8 includes a PRP Supplement with further details.

6. Anticipated activities for next reporting period.

CRW anticipates continued implementation of street sweeping, GSI, regulator structure modifications, and pump station capacity increases during the upcoming reporting period. In addition, CRW and Joint Plan participants will continue to coordinate on implementation of streambank restoration projects.

PRP/TMDL Plan Comments:

The required annual TSS load reduction (1,694,398 lb/yr) represents the total reduction required across the Joint Planning Area. CRW is responsible for a portion of this load reduction and intends to participate with the Joint Plan Participants Lower Paxton Township and Susquehanna Township on their commitments to achieve the balance.

* The Joint PRP assumes that achieving the required sediment load reduction will also accomplish the required nutrient reductions. As described in the PRP Instructions (3800-PM-BCW0100k Rev. 3/2017), "PRPs may use a presumptive approach in which it is assumed that a 10% sediment reduction will also accomplish a 5% TP reduction."

NEW BMPs FOR PRP/TMDL PLAN IMPLEMENTATION

Table 2. List all new structural BMPs installed and ongoing non-structural BMPs implemented during the reporting period that are being used toward achieving load reductions in the permittee's PRP and/or TMDL Plan (see instructions).

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed or Implemented	Planning Area?	Ch. 102?	Annual Sediment Load Reduction (lbs/yr)
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	
REFER TO ATTACHMENT #8										<input type="checkbox"/>	
REFER TO ATTACHMENT #8										<input type="checkbox"/>	
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	

BMP INVENTORY FOR PRP/TMDL PLAN IMPLEMENTATION

Table 3. List all existing structural BMPs that have been installed in prior reporting periods and are eligible to use toward achieving load reductions in the permittee's PRP and/or TMDL Plan (see instructions).

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed	Annual Sediment Load Reduction (lbs/yr)	Date of Latest Inspection	Satisfactory?
						o ' "	o ' "				<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>
REFER TO ATTACHMENT #8											<input type="checkbox"/>
REFER TO ATTACHMENT #8											<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>

CERTIFICATION

For PAG-13 Permittees: I have read the latest PAG-13 General Permit issued by DEP and agree and certify that (1) the permittee continues to be eligible for coverage under the PAG-13 General Permit and (2) the permittee will continue to comply with the conditions of that permit, including any modifications thereto. I understand that if I do not agree to the terms and conditions of the PAG-13 General Permit, I will apply for an individual permit within 90 days of publication of the General Permit. I also acknowledge that any facility construction needed to comply with the General Permit requirements shall be designed, built, operated, and maintained in accordance with operative laws and regulations.

For All Permittees: I certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Claire Maulhardt

Name of Responsible Official

717-216-5259

Telephone No.



Signature

9/29/2023

Date

ATTACHMENT #1

MS4 Update - Year 3
Public Outreach & Education

Publication & Distribution of Stormwater Education Information:

Bill inserts & e-newsletters:

- September 2022, included information regarding the modifications to the Partial Consent Decree and progress made on projects included in the Long-term Control Plan (LTCP)
- December 8, 2023, contributed to paid advertisement, along with other Dauphin County partners, in Patriot news specific to MS4 pollution prevention and FOG.
- February 2023, included information and invitation to community feedback sessions soliciting public input on projects and communication related to Combined Sewer Overflow (CSO) activities.
- March 2023, included information reaching an agreement with DOJ, EPA & PA DEP on Modifications to the Partial Consent Decree.
- April 2023, included education on MS4, illicit discharge, and reporting via CRW website.
- May 2023, included education on combined sewer systems and outfalls, and the references the CSO signage along the River and Paxton Creek.

Social media:

- August 3, 2022, National Night Out event; education about the combined sewer system and providing public feedback.
- November 10, 2022, Information about storm season and the importance of clearing debris and leaves from storm drains.
- January 11, 2023, Important role litter clean-ups play on the city.
- March 14, 2023, Request for formal feedback on the Modifications to the Partial Consent Decree
- June 29, 2023, Reminder to only flush the 3 P's (Pee, Poo, & Paper)
- July 31, 2023, First day of CRW sponsored "Stormwater Week". Topics all about wet weather management and tips.

Earned media:

- August 25, 2022,, "[Capital Region Water board approves plan designed to slash pollutants into area waterways](#)" – Theburgnews.com
- October 25, 2022, "[DiSanto Wants Commonwealth to Pay Its Fair Share of Stormwater Fees](#)" -pasenategop.com
- November 23, 2023, "[Water officials in Harrisburg want city to be more environmentally friendly](#)" – WGAL News
- February 13, 2023, "[Harrisburg's long fight over sewage overflows into Susquehanna gets a peace pact: court approval is pending](#)" -PennLive (4 other earned media similar to this story)

Website link: <https://capitalregionwater.com/what-we-do/cbh2o/>

Outreach & Events, including Community Partnerships:

Community events:

- August 21, 2022, community litter cleanup with Midtown Action Council
- September 1, 2022 Corporate partner community litter cleanup with the Giant Company
- September 19, 2022, community litter cleanup with Midtown Action Council
- October 10, 2022, Corporate partner community litter cleanup with the Giant Company
- October 30, 2022, community litter cleanup with Historic Harrisburg Association
- January 16, 2023, community litter cleanup with Friends of Midtown
- March 18, 2023, community litter cleanup with Wildheart Ministries
- March 27, 2023, community litter cleanup with P.U.S.H.
- April 14, 2023, Corporate partner community litter cleanup with the Giant Company
- April 22, 2022, Great Harrisburg Litter Cleanup community litter cleanup with Tri-county Community Action
- May 4, 2023, community litter cleanups with HRG
- May 5, 2023, Corporate partner community litter cleanup with the Giant Company

Community meetings/partnerships:

- August 2, 2022, community National Night Out/Wet Weather Public feedback session to inform the Public Notification Plan; CSO and stormwater education.
- August 10, 2022, Wet Weather Public Feedback session to inform the Public Notification Plan; CSO and stormwater education.
- February 9, 2023, Community Feedback Session; Stormwater project overview, public notification practices, and future project goals.
- April 19, 2023 Community Ambassador meeting specific to illicit discharge and FOG education.
- May 20, 2023, CRW participated in Roots & Foods Day, a litter clean up and educational event led by Capital Area Cleanup in partnership with Young Professionals of Color,
- May 23, 2023, Choose Clean Water Conference; provided education information for all Green Stormwater Infrastructure.
- July 22-24, 2023, Participation in a three day city of Harrisburg to provide stormwater and green infrastructure education to residents and park users.
- Six (6) monthly Community Ambassador meetings where stormwater management/fees/pollution prevention were agenda topics.

ATTACHMENT #2

Public Outreach & Education Program

Annual MS4 Status Reports are due by September 30 of each year. Capital Region Water has developed and began implementing this PEOP one year following the issuance of the MS4 permit. This PEOP shall be reviewed annually and revised as necessary.

Background

City Beautiful H2O is Capital Region Water's program to restore failing infrastructure, reduce combined sewer discharges, improve the health of our local waterways, and beautify our neighborhoods through community greening. City Beautiful H2O Program Plan ("The Program Plan") is Capital Region Water's update to its Long-Term Control Plan for Combined Sewer Overflows (CSOs), stormwater management plan for its municipal separate storm sewer system (MS4), and system repair and capacity enhancement plan for its separate sanitary sewer system.

A municipal separate storm sewer system or MS4 is a stormwater collection and conveyance system that carries only stormwater runoff. The system includes the inlets, pipes, outlets, and best management practices that contribute to the collection and conveyance of stormwater. The separate storm sewer system is not combined with the sanitary sewer system. This is a critical distinction as Capital Region Water is responsible for operating and maintaining both a combined (~60 percent of the system) and separate (~40 percent of the system) stormwater system. The separate sewer system discharges directly to an Unnamed Tributary to Spring Creek, Asylum Run, Susquehanna River, Paxton Creek, and Spring Creek.

Discharges are regulated per the PADEP under a National Pollutant Discharge Elimination System (NPDES) Individual Permit. Capital Region Water has been provided NPDES Permit Number PAI133524. This permit became effective on August 1, 2020, and will expire on July 31, 2025.

Capital Region Water implements an integrated outreach and education program to ensure our customers and stakeholders recognize the importance of stormwater management and pollution prevention. These efforts are integrated under a framework that serves to ensure compliance with overlapping regulatory requirements – MS4 Minimum Control Measures (MCMs), CSO Nine Minimum Controls (NMCs), Paxton Creek Total Maximum Daily Load (TMDL) Strategy, and Chesapeake Bay Program. There is significant overlap between MS4 MCMs #1 and 2 regarding public education and involvement and NMCs #7 and 8 regarding pollution prevention programs and public notification.

Introduction

It is the goal of Capital Region Water to implement a public education program to distribute materials to the Harrisburg community and relevant stakeholders and conduct outreach activities about the impacts of stormwater to our local waterways, including steps the public can take to reduce associated stormwater pollutants.

With issuance of a final NPDES Permit for the MS4 in July 2020, Capital Region Water is ensuring regulatory compliance with all permit conditions. The Public Education and Outreach Program Plan, in cooperation with the ongoing education and outreach initiatives of the City Beautiful H2O Program, is intended to comply with MCM#1 of the Stormwater Management Program as specified in Part C of Capital Region Water's permit. MCM#1 specific to Public Education and Outreach is one of 6 Minimum Control Measures required of Capital Region Water under the MS4 program.

Under this PEOP Plan, Capital Region Water will define, implement, and track the education and outreach efforts associated with each Best Management Practice (BMP) expected under MCM #1. The Plan will be reviewed and updated annually.

BMP #1 – Develop, implement, and maintain a written Public Education and Outreach Program.

Capital Region Water is committed to implementing a public education and outreach program that ensures compliance with MCM #1 under the MS4 permit, specifically to build greater support for the City Beautiful H2O Program, increase compliance, and ultimately improve environmental awareness throughout the community. Information and outreach will be provided on a continuous basis to ensure that residents within Capital Region Water's service territory are provided various avenues to access information about stormwater pollution and their role in reducing and preventing it.

In order to achieve the goal of limiting the amount of pollution entering our waterways within Capital Region Water's service territory through the separate storm sewer system, education and outreach will be paramount.

What is stormwater?

Stormwater runoff is water from rain, snow, or ice melt that does not get absorbed into the ground. In a natural environment, most rain, snow, or ice melt falls on pervious surfaces like grass and filters into the ground, recharging groundwater and keeping water tables consistent. When stormwater lands on an impervious surface it travels until it can find a surface that will absorb it. However, in built-up environments like cities, pervious surfaces are often not plentiful enough to absorb much of the stormwater before it reaches a storm drain or collects in a depressed area. While it is traveling to the nearest storm drain or pervious surface, stormwater can pick up pollutants and even debris.

When stormwater runs off impervious surfaces it collects pollutants. This can be oil slicks from vehicles, chemicals from nearby buildings, improperly applied fertilizers and pesticides on landscaped areas, or any number of other pollutants. In a separate stormwater system, these pollutants and debris are then transferred to waterways, jeopardizing the health of water used for drinking, recreation, and habitat in

Harrisburg and downstream communities. Pollutants from runoff, including oil, pesticides, and bacteria, can contaminate drinking water, pose a danger to public health, and damage aquatic life.

In short, the following behaviors have the potential to generate stormwater pollution:

- Littering
 - Stop the drop; don't litter.
 - Pick up litter when you see it.
 - Participate in a monthly cleanup.
- Disposing of trash and recyclables
 - Make sure these materials make it to the bin.
 - Don't let materials stay behind when picked up for collection.
- Maintaining vehicles and changing fluids
 - Properly dispose of motor oil and vehicle fluids.
 - Keep your car well-maintained.
- Disposing of yard waste and grass clippings
 - Bag yard waste: residential yard waste pickup is available.
- Disposing of pet waste
 - Pick up after pets; bag the waste and dispose of it in the trash.
- Applying lawn fertilizers and chemicals
 - Use lawn or garden chemical sparingly.
 - Consider an organic option.
- Car washing
 - Wash your car over lawn or gravel; use the car wash.
- Disposing of leftover paint and other household chemicals
 - Properly dispose of leftover paint and household chemicals.
 - Do not over apply salt and ice melt.

What is Capital Region Water doing to minimize stormwater pollution?

Capital Region Water needs you! A critical piece of a comprehensive strategy is education and outreach. Behavior change through education can reduce stormwater pollution and improve our waterways.

Capital Region Water will utilize and maintain access to the following list of resources to improve the public's understanding of the sources and impacts of stormwater pollution as well as steps that can be taken toward prevention:

Dauphin County Conservation District - Stormwater Management Webpage
<http://dauphincd.org/swm/swmgmt.html>

PADEP Webpage

<https://www.dep.pa.gov/Pages/default.aspx>

PADEP – Municipal Stormwater Webpage

<https://www.dep.pa.gov/Pages/default.aspx>

USEPA - Stormwater/NPDES Program Webpage & Stormwater Phase II Final Rule Fact Sheet

<https://www.epa.gov/npdes/npdes-stormwater-program> [Stormwater Phase II Final Rule: Public Education and Outreach Minimum Control Measure \(epa.gov\)](#)

Capital Region Water will implement and document the following community outreach measures each year with content and programming to address stormwater management and related topics:

- Drafting and distribution of two monthly bill inserts and e-newsletters.
- Posting and publication of twelve social media posts per year (including but not limited to Facebook, Instagram, Twitter & Nextdoor.com).
- Participation in six community events/year (events not organized by CRW).
- Planning and execution of one litter cleanup every 1-2 months with no less than six each year.
- Planning and execution of one facility open house every other calendar year.
- Planning and execution of six facility/infrastructure tours each year.
- Meeting with each neighborhood association/community group per year.
- Hosting of ten Community Ambassador meetings per year.
- Delivery of 200 door to door hangers each year (specific to stormwater management and pollution prevention).
- Planning and execution of one stakeholder/community townhall meeting each year.

Additionally, Capital Region Water will maintain its website at capitalregionwater.com, specifically CapitalRegionWater.com/stormwater to include ongoing information about stormwater pollution, management, prevention, and regulatory compliance. Capital Region Water will also pursue both earned and paid media opportunities as available to improve media relations. This may include letters to the editor, op-eds, editorial board visits, submission of information, media events, and tours.

Capital Region Water will pursue the integration of stormwater pollution reporting. This may include a stormwater hotline or a direct form to report suspected stormwater pollution via Capital Region Water's website.

BMP #2 – Develop and maintain lists of target audience groups that are present within the areas served by Capital Region Water’s MS4.

Capital Region Water is committed to updating and maintaining a list of target audiences served by the MS4 system as well as audiences more broadly served by Capital Region Water’s stormwater system in the City of Harrisburg to ensure compliance with MCM #1, BMP #2 under the MS4 permit.

A comprehensive stakeholder list has been maintained since 2017. This list is reviewed and revised on an ongoing basis and no less than annually. Capital Region Water also attempts to track meeting dates/times as well as a record of outreach dates.

The target audiences identified within Capital Region Water’s list include:

- Customers & Residents*
- Non-bill-paying Customers such as apartment buildings and senior care facilities
- Community Groups and NGOs
 - Neighborhood Associations and Action Councils
 - Faith-based Organizations
 - Environmental NGOs
 - Community Improvement Organizations
- Volunteers (past and present)
 - Board of Directors
 - Community Ambassadors
 - Community Ambassadors are neighborhood residents and representatives that have become leading voices and advocates in their communities. Capital Region Water works with these super volunteers on an ongoing basis. We meet monthly to discuss matters and empower them with the education and knowledge to reach out to their own neighbors and communities.
 - Event Volunteers
- Local Government Partners
 - City of Harrisburg
 - Dauphin County Conservation District
 - Dauphin County
- Elected Officials
 - City of Harrisburg Mayor and Administration
 - City Council
 - County Commissioners
 - State Representative
 - State Senator
 - Members of Congress

-
- Regulatory Agencies
 - PADEP
 - USEPA
 - Other agency partners – PMAA, AWWA, SRBC

This list is maintained by and available through Capital Region Water's Community Relations Manager. Please see [N:\Working\EarlyS\2021-06-01 Community Contact Docs](#).

*Capital Region Water has also identified various customer classifications through the billing system. This includes residential, commercial, institutional/governmental, and industrial customers. A list of all restaurants/food establishments is also maintained by Capital Region Water's Environmental Compliance Inspector.

Non-English Language Audiences: According to the [2019 American Community Survey 5-Year Estimate](#), about 21 percent of Harrisburg residents speak a non-English language. Spanish is spoken by about 14 percent of the population. Capital Region Water's education materials are available in English and Spanish. The website can be translated into eight different languages.

BMP #3 – Publish and distribute stormwater education information.

Capital Region Water commits to annually publishing at least one issue of a newsletter, pamphlet, flyer, or a website that includes general stormwater educational information, a description of Capital Region Water's SWMP, and/or information about Capital Region Water's stormwater management activities to ensure compliance with MCM #1, BMP#3 under the MS4 permit.

- Capital Region Water includes an educational insert in each hard copy mailing of the monthly bill. Annually, at least two billing inserts will be dedicated to the topic of stormwater management and related pollution prevention efforts. An e-newsletter with similar content is distributed to customers electing to receive electronic monthly bills as well as interested partners and stakeholders that have signed up to receive this monthly communication.
 - A bilingual example of this publication, the October 2020 and/or August 2021 *What's on Tap* bill insert, can be provided as examples of CRW's education information.
- Capital Region Water's website (CapitalRegionWater.com and specifically [About CBH2O – Capital Region Water](#)) will be maintained and enhanced to provide educational materials, information about related projects, and regulatory and compliance documents and updates. This will include information about Capital Region Water's MS4 permit and related Minimum Control Measures and Best Management Practices. Resources from both the PADEP ([Minimum Control Measures \(pa.gov\)](#)) and USEPA ([NPDES Stormwater Program | National Pollutant Discharge Elimination System \(NPDES\) | US EPA](#)) will be integrated.

-
- Capital Region Water will launch a redesigned website prior to the submission of the first MS4 Status Report on September 30, 2021. Updates will be ongoing.
 - The entirety of Capital Region Water's website can be translated into various languages.

BMP #4 – Distribute stormwater educational materials and/or information to the target audiences.

Capital Region Water commits to distributing stormwater educational information to the target audiences by a variety of distribution means and methods to ensure compliance with MCM #1, BMP#4 under the MS4 permit.

The following distribution methods will be utilized (no less than two annually and in addition to methods described in BMP #3):

- 1) Written communications such as fact sheets, brochures, and door hangers: An inventory and gap analysis will be completed to determine what additional materials may be needed. A tri-fold brochure on the topic of "Protect our Creeks and Rivers for the Illicit Discharge Detection and Elimination Program" is currently utilized. A bilingual example can be found in Exhibit B. A fact sheet specific to MCM#1 – Public Education and Outreach on Stormwater Impacts needs to be created and/or integrated into the City Beautiful H2O Program trifold brochure. Capital Region Water will also consider updating its GIS HUB to include a map of the service territory to delineate the combined and separate stormwater systems and information relevant to the various systems.
 - a) Materials will be distributed at events, meetings, and direct delivery.
- 2) Social media: Facebook, Twitter, Instagram, and Nextdoor.com will continually be utilized to provide education, encourage public participation, send alerts, and interact with customers and stakeholders.
 - a) Digital media posts will be created and posted each month.
- 3) Events: Participation in community events provides critical opportunities to share information and provide educational resources.
 - a) Events Not Organized by Capital Region:
 - i) It is Capital Region Water's preference to participate in events organized by others as this allows CRW to reach new audiences, meet customers and stakeholders where they are, and limit the expenditure of staff resources. These outreach events connect to the community at-large and provide an opportunity to educate customers about specific programs and inform customers about ongoing projects and priorities. Events largely target residential customers and help to support community partners. Such events also provide a means to communicate with customers that do not receive a bill directly from Capital Region Water.
 - ii) Capital Region Water strives to attend a city-wide event each quarter and various, smaller events each month. Quarterly events may include National Night Out, Multicultural Festival, and Kipona

Festival with monthly events such as 3rd in the Burg, block parties, and race events interspersed. CRW is committed to six such events each year.

- b) Events Organized by Capital Region Water: Capital Region Water also plans and initiates its own events each year. Often these events highlight a particular project or program or are designed to provide a particular message or experience. Stormwater education is integrated and will continue to be prioritized. The following community events are hosted by CRW and provide an opportunity to reach out to and educate our customers and stakeholders:
- i) Monthly Litter Cleanups, 6/year (i.e., Stop the Drop Cleanups) - Monthly litter cleanups focus on a specific neighborhood within our service area and encourage residents to spend 30 minutes collecting litter that may otherwise end up in our local waterways. Prior to each event they are advertised via social media, a volunteer email, and door to door information in the local neighborhood. This pre-event outreach also allows Capital Region Water to share an anti-littering, anti-pollution, and proactive stormwater and infrastructure maintenance message. As these events are highly visible, there is an added benefit of community support. All litter is collected in blue plastic bags which is also consistent with CRW's branding.
 - ii) Great Harrisburg Litter Cleanup - Capital Region Water sponsors this annual, city-wide event which attracts hundreds of volunteers to spend a day cleaning up litter. It is the largest event of its kind in our service area. CRW purchases gloves, bags, safety vests, litter pickers, and signage to support the event. Additionally, CRW provides support by serving on the organizing committee and offering educational and messaging assistance year-round.
 - iii) Facility & Infrastructure Tours, 6/year - Facility tours provide an opportunity to educate customers through an interactive and visual experience. This includes opportunity to discuss ongoing investments into our systems and the behaviors we all need to take to protect our assets. This is an important opportunity to discuss pollution prevention and proper disposal of fats, oils, grease, and "flushable" products. Tours of stormwater management assets such as rain gardens and parks and playgrounds with GSI features also allow customers to understand the function and purpose of investments made to protect public health and the environment.
 - iv) Facility Open Houses, once every other year - Facility open houses are rotated throughout Capital Region Water's various facilities (i.e., source water facility, drinking water services center, advanced wastewater treatment facility, GSI facilities). At least one annual event is hosted to highlight a particular facility, recent projects, and/or community function/systems service provided.
- 4) Meetings (ongoing) - Meetings include both presentations and attendance at community-wide meetings, with neighborhood associations and community groups, convened meetings with Community Ambassadors, and facilitated stakeholder and town hall meetings. PowerPoint presentations, oral remarks, and educational materials are utilized during these meetings.
- 5) Adopt a Raingarden Program (ongoing) - This program will be launching in late August/early September 2021. It is designed to increase community involvement in preserving Harrisburg's infrastructure by managing stormwater through GSI projects. The program is voluntary and is designed for organizations,

businesses, and individuals. Each adopting group assumes responsibility for an assigned GSI asset and agrees to fulfill expectations such as monitoring and litter cleanup. This is an outreach method requiring active participation and commitment from various community partners. Twenty-two locations have been identified and 15 locations have been adopted (as of July 2021).

- 6) Door-to-door outreach (ongoing), 200 touches/year – Door-to-door outreach by way of personal interaction/communication and hard copy leave behinds is often employed at Capital Region Water. Each year at least 200 residential properties will be targeted for door-to-door outreach. A door hanger will be created specifically for this effort to summarize related educational information.
- 7) Passive outreach (ongoing) – Passive outreach describes the opportunity to educate customers through information displayed at Capital Region Water facilities, such as the scrolling screen or kiosks at the Customer Service Center or a message on a bill. CRW's Customer Service Center will reopen to the public in September 2021 with revised educational information. This information will be updated and maintained on an ongoing basis.
- 8) Media outreach (one media hit per year) – Capital Region Water will pursue an earned media strategy to cultivate relationships via story pitches, media requests/interviews, and editorial board visits. These opportunities tend to present themselves, but as needed CRW will commit to paid media if necessary to ensure stormwater education is included once per year via print, electronic, or TV media on PennLive, the Burg, ABC27, or CBS21.

Capital Region Water's monthly Management Report (publicly available at [Board Meetings](#)) provides recurring updates on related activities (e.g., media relations, community outreach, and public communications).

In addition to creating a materials list or library to indicated available resources (e.g., brochures, fact sheets, presentations, signage, etc.), Capital Region Water will emphasize, but is not limiting, the following topics/themes related to stormwater pollution and prevention:

- Storm drain awareness
- Infrastructure function
- Littering
- Proper disposal of waste and chemicals
- Proper application of fertilizers, pesticides, and herbicides
- Pet-waste disposal
- Yard waste/landscape maintenance
- Fats, oils and grease (FOG)
- Spill prevention/response
- Street cleaning/sweeping.

Education is power as it provides the ability to change behavior and the behavior of others. It's critical our customers and stakeholders understand their behaviors can improve our waterways here at home and downstream by reducing and preventing stormwater pollution.

ATTACHMENT #3

Public Involvement & Participation Program

Annual MS4 Status Reports are due by September 30 of each year. Capital Region Water has developed and began implementing this PIPP one year following the issuance of the MS4 permit. This PIPP shall be reviewed annually and revised as necessary.

Background

City Beautiful H2O is Capital Region Water's program to restore failing infrastructure, reduce combined sewer discharges, improve the health of our local waterways, and beautify our neighborhoods through community greening. City Beautiful H2O Program Plan ("The Program Plan") is Capital Region Water's update to its Long-Term Control Plan for Combined Sewer Overflows (CSOs), stormwater management plan for its municipal separate storm sewer system (MS4), and system repair and capacity enhancement plan for its separate sanitary sewer system.

A municipal separate storm sewer system or MS4 is a stormwater collection and conveyance system that carries only stormwater runoff. The system includes the inlets, pipes, outlets, and best management practices that contribute to the collection and conveyance of stormwater. The separate storm sewer system is not combined with the sanitary sewer system. This is a critical distinction as Capital Region Water is responsible for operating and maintaining both a combined (~60 percent of the system) and separate (~40 percent of the system) stormwater system. The separate sewer system discharges directly to an Unnamed Tributary to Spring Creek, Asylum Run, Susquehanna River, Paxton Creek, and Spring Creek.

Discharges are regulated per the PADEP under a National Pollutant Discharge Elimination System (NPDES) Individual Permit. Capital Region Water has been provided NPDES Permit Number PAI133524. This permit became effective on August 1, 2020, and will expire on July 31, 2025.

Capital Region Water implements an integrated outreach and education program to ensure our customers and stakeholders recognize the importance of stormwater management and pollution prevention. These efforts are integrated under a framework that serves to ensure compliance with overlapping regulatory requirements – MS4 Minimum Control Measures (MCMs), CSO Nine Minimum Controls (NMCs), Paxton Creek Total Maximum Daily Load (TMDL) Strategy, and Chesapeake Bay Program. There is significant overlap between MS4 MCMs #1 and 2 regarding public education and involvement and NMCs #7 and 8 regarding pollution prevention programs and public notification.

Introduction

It is the goal of Capital Region Water to implement a public involvement and participation program that describes the various types of public participation activities and methods that encourage the public's involvement and input in stormwater plans and projects.

With issuance of a final NPDES Permit for the MS4 in July 2020, Capital Region Water is ensuring regulatory compliance with all permit conditions. The Public Involvement and Participation Program Plan, in cooperation with the ongoing education and outreach initiatives of the City Beautiful H2O Program, is intended to comply with MCM#2 of the Stormwater Management Program as specified in Part C of Capital Region Water's permit. MCM#2 specific to Public Involvement and Participation is one of 6 Minimum Control Measures required of Capital Region Water under the MS4 program.

Under this PIPP Plan, Capital Region Water will comply with all application state and local public notice requirements when implementing the Best Management Practices (BMPs) expected under this program. The Plan will be reviewed and updated annually.

BMP #1 – Develop, implement, and maintain a written Public Involvement and Participation Program.

Capital Region Water is committed to implementing a public involvement and participation program that complies with MCM #2 under the MS4 permit. This written PIPP Plan will be reevaluated each year and revised as needed.

The following opportunities have been identified for the public to participate in the decision-making process associated with the programs and activities related to this permit:

- Public project meetings and (pre) construction project outreach, including written and electronic notifications
- Public notifications and announcements regarding public comment opportunities
- Town halls, monthly Board meetings, and neighborhood meetings

The following methods of routine communication to key stakeholders have been identified:

- Monthly bill inserts and e-newsletters
- Social media
- Website
- Community events
- Neighborhood/community group meetings
- Door to door outreach
- Outreach to the Harrisburg Environmental Advisory Council

Capital Region Water is also preparing to launch a redesigned website in September of 2021. The website will provide access to the MS4 permit, annual reports, and other related plans, programs, projects, maps, and reports required by this permit. Hard copies will also be made available upon request.

BMP #2 – Advertise to the public and solicit input prior to the adoption of any SOPs or Pollutant Reduction Plans (PRPs) and TMDL Plans or modifications.

Capital Region Water will ensure sufficient public notice and ample opportunity to provide public comment on the MS4 program, TMDL plans, Pollution Reduction Plans and Chesapeake Bay Pollution Reduction Plans. Public comment will be documented and evaluated. It is common practice at CRW to provide response to public comment.

Such examples include:

- Community Greening parties for Community Greening Plan – July 26, July 30, August 2, 2016
- Community greening public input events on 4/3/2017 and 4/20/2017 and 06/05/2017 and 6/8/2017
- City Beautiful H2O Program Plan events - Outreach and input of 21 community organizations, 4 stakeholder workshops for the plan, 3 public meetings on the plan - Feb. 15, 21, and Mar. 1, 2018 (also received feedback on CSO signage)
- Stormwater Fee Implementation Plan meetings – July 30, August 6, and September 12, 2019

BMP #3 – Regularly solicit public involvement and participation from the target audience groups using available distribution and outreach methods.

Capital Region Water is committed to updating and maintaining a list of target audiences served by the MS4 system as well as audiences more broadly served by Capital Region Water’s stormwater system in the City of Harrisburg.

A comprehensive stakeholder list has been maintained since 2017. This list is reviewed and revised on an ongoing basis and no less than annually. Capital Region Water also attempts to track meeting dates/times as well as a record of outreach dates.

Capital Region Water documents and will continue to document outreach with target audience groups. We are committed to:

- One public meeting must be conducted to share SWMP information and solicit input within 5 years following issuance of the MS4 permit.
- Documenting and reporting instances of cooperation and participation in MS4 activities. This may also include regular updates regarding the Adopt-A-Raingarden program and a report of any presentations or instances of coordination with community organizations.
- Documenting and reporting activities in which members of the public assisted with SWMP activities. This is likely to include CRW’s litter prevention and pickup efforts.
- Implementing a process to solicit input on suspected illicit discharges.
- Exploring the possibility of storm drain markers or stenciling.

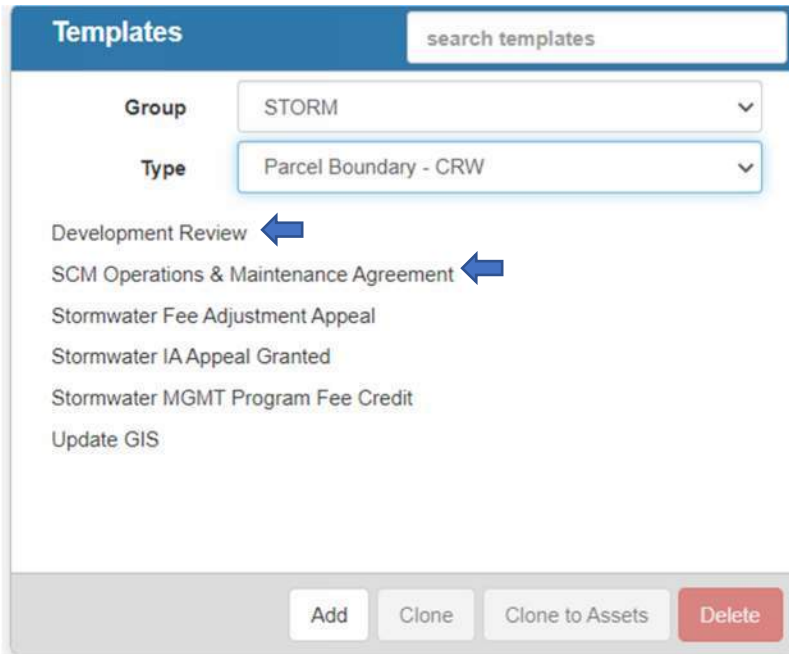
ATTACHMENT #4

Stormwater Control Measures,
Outfall Inspection, & IDDE Program
Cityworks Documentation & Workflow

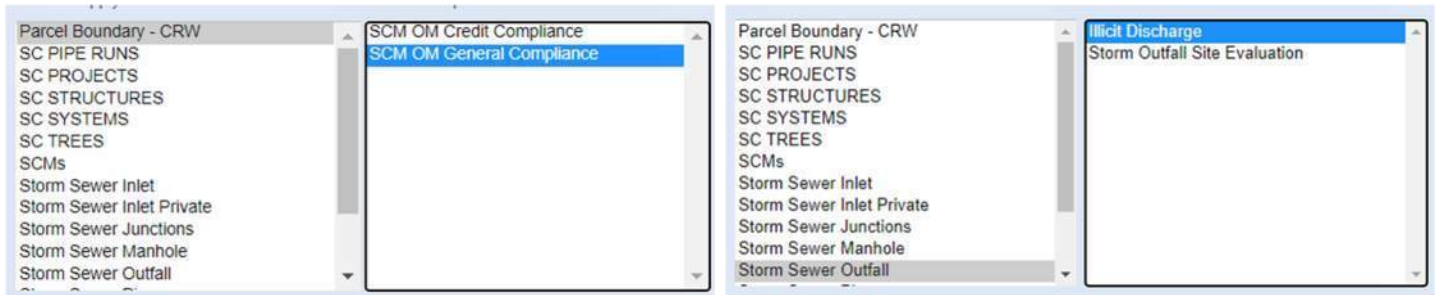
Storm Control Measure and Compliance Work Order and Inspection Templates

Template Overview:

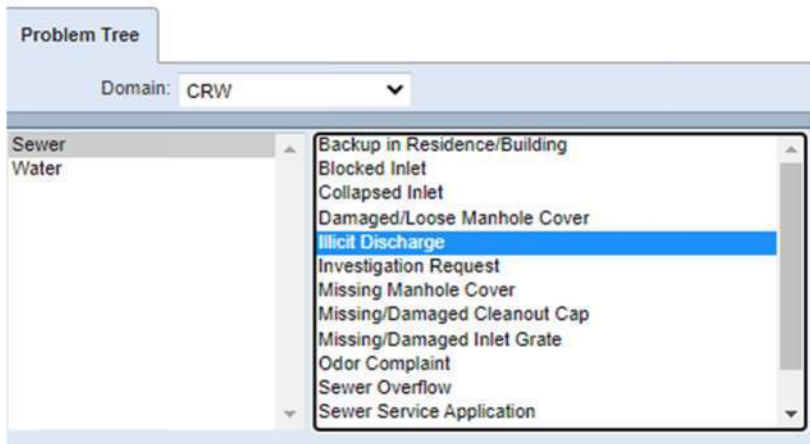
Work Orders:



Inspections:



Service Requests:



Storm Control Measure and Compliance Work Order and Inspection Templates

Work Orders:

Development Review Work Order Template

Work Order

Description: Development Review

Asset Type: PARCEL BOUNDARY - CR Change

WO#: 41956

Address:

Location Details:

X Coord: Y Coord:

Status: Open Priority: Moderate

Requested By: Supervisor: Maulhardt, Claire

Submit To: Submit To Date:

Projected Start: 09/16/2021 10:19 AM Projected Finish: 09/16/2021 10:19 AM

Actual Start: Actual Finish:

Completed By:

Comments: Sort ▲

no comments

Work Order Details

Work Order Costs

Labor Cost: \$0.00 Material Cost: \$0.00

Equipment Cost: \$0.00 Total WO Cost: \$0.00

Customer Billable:

Cancel Work Order

Work Cycle

Assets

Total Entities: 1

Asset	Asset Id	Location Details
<input type="checkbox"/> PARCEL BOUNDARY - CRW	0	

- Pink rows indicate inventory still under warranty.

📄
✎
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📄
🗑
📄
📄
📄

Update Work Order XY when adding/removing assets?

Map Layer Fields

Reset

Reservations

Equipment ID	Employee	Start Date	End Date	Comments
No records to display.				

Checked Out Equipment

Equipment ID	Employee	Check Out Date	Due Date	Comments
No records to display.				

Related Work Activities

Service Requests

Add SR #:

Inspections

Add Inspection #:

Work Orders

Link Work Order:

Remove

Create WO

Custom Fields

Category: Development Review

Lot Consolidation?	▼
Potential Appeal?	▼
Street Vacation?	▼
Stormwater - SCM?	▼
Stormwater - Potential Credit?	▼
Stormwater - New Connection	▼
Sewer - EDU?	▼
Water - New Connection?	▼
Sewer - New Connection?	▼
Total Area of Disturbance (AC)	
E&S NPDES?	▼
E&S NPDES Expiry Date	📅

Storm Control Measure and Compliance Work Order and Inspection Templates

SCM Operations & Maintenance Agreement Work Order Template:

Work Order

Description: SCM Operations & Maintenance Agreement

Asset Type: PARCEL BOUNDARY - CR

WO#: 41957

Address: _____

Location Details: _____

X Coord: _____ Y Coord: _____

Status: **Open** Priority: **Moderate**

Requested By: _____ Supervisor: **Maulhardt, Claire**

Submit To: _____ Submit To Date: _____

Projected Start: 09/16/2021 10:21 AM Projected Finish: 09/16/2021 10:21 AM

Actual Start: _____ Actual Finish: _____

Completed By: _____

Comments:
 no comments

Assets

Total Entities: 1

Asset	Asset Id	Location Data
PARCEL BOUNDARY - CRW	0	

- Pink rows indicate inventory still under warranty.

Update Work Order XY when adding/removing assets?

Work Order Details

Work Order Costs

Labor Cost: \$0.00 Material Cost: \$0.00

Equipment Cost: \$0.00 Total WO Cost: \$0.00

Customer Billable:

Map Layer Fields

Reservations

Equipment ID	Employee	Start Date	End Date	Comments
No records to display.				

Checked Out Equipment

Equipment ID	Employee	Check Out Date	Due Date	Comments
No records to display.				

Tasks

SeqID	Name	Description	Status	Proceed	Rework	Assign
1	OM10	Documents Received	CURRENT	False	False	Maulhardt, Claire
2	OM20	Signed Original O&M	PENDING	False	False	Maulhardt, Claire
3	OM30	Board Approval	PENDING	False	False	Maulhardt, Claire
4	OM40	Dauphin County Recorded	PENDING	False	False	Maulhardt, Claire

Related Work Activities

Service Requests
Add SR #: _____

Inspections
Add Inspection #: _____

Work Orders
Link Work Order: _____

Tasks:

Tasks

Work Order ID: 41957

	SeqId	Name	Description	Status	Proceed	Rework	Assigned To
<input checked="" type="checkbox"/>	1	OM10	Documents Received	CURRENT	False	False	Maulhardt, Claire
<input type="checkbox"/>	2	OM20	Signed Original O&M	PENDING	False	False	Maulhardt, Claire
<input type="checkbox"/>	3	OM30	Board Approval	PENDING	False	False	Maulhardt, Claire
<input type="checkbox"/>	4	OM40	Dauphin County Recorded	PENDING	False	False	Maulhardt, Claire

Task/Entity

Search By: _____

Keyword: _____

Asset	Asset Id	Location	Warranty
<input type="checkbox"/>	PARCEL BOUNDARY - CRW	0	

Details

Sequence: 1 Response: _____

Assigned To: Maulhardt, Claire Status: CURRENT

Shop: _____ Permit No.: _____

Comments: _____

Projected Start: _____ Projected Finish: _____

Actual Start: _____ Actual Finish: _____

Rework: N Proceed: N

Storm Control Measure and Compliance Work Order and Inspection Templates

Inspection Templates:

Stormwater Control Measure Operations & Maintenance (OM) General Compliance Inspection Template:

Inspection | Details | Related Activities

Insp. Type: SCM OM General Compliance

Insp #: 192567

Location:

Status: Open | Resolution:

Prj. Start Date: 09/28/2022 2:15 PM | Prj. Finish Date:

Insp. Date: | Inspected By:

General

Reason for Inspection

Routine Pre-storm Event During Storm Event

Post-Storm Event Customer Complaint

Weather

Answer

If for non-residential stormwater fee credit, third party inspection provided?

Yes No N/A

SCM Observations

Soil erosion? Yes No

Invasive plants? Yes No

Trash? Yes No

Dead vegetation? Yes No

Oder? Yes No

Water depth (inches)

Outfall structure condition

1 2 3

Remediation required? Yes No

Comments

Comments:

Repairs Needed:

Stormwater Control Measure OM General Compliance Inspection Condition Definitions:

Outfall structure condition

1 2 3

i System function appears to be consistent with design intent. No erosion, settling and/or areas of standing water more than 72 hours after a rainfall event (indicating possible loss of infiltration or storage volume) are observed.

Outfall structure condition

1 2 3

i System function appears to be consistent with design intent. Limited erosion (<20 sf), settling, and/or areas of standing water more than 72 hours after a rainfall event (indicating possible loss of infiltration or storage volume) are observed.

Outfall structure condition

1 2 3

i System function appears to not be consistent with design intent. Significant erosion, settling, and/or areas of standing water more than 72 hours after a rainfall event (indicating possible loss of infiltration or storage volume) are observed.

Storm Control Measure and Compliance Work Order and Inspection Templates

Stormwater Control Measure (SCM) Operations & Maintenance (OM) Credit Compliance Inspection Template

Inspection | Details | Related Activities

Insp. Type: SCM OM Credit Compliance

Insp #: 192569

Location: _____

Status: Open | Resolution: _____

Prj. Start Date: 09/28/2022 2:28 PM | Prj. Finish Date: _____

Insp. Date: _____ | Inspected By: _____

Credit Type

Structural Best Practice for Stormwater Control

BMP that controls for rate BMP that controls for volume BMP that controls for water quality

BMP with unknown function

Peak / Rate Controls

10 Year Event 25 Year Event 50 Year Event

100 Year Event

Volume Controls

Pervious pavement with infiltration bed Infiltration basin Rain Garden/Bio-retention

Subsurface infiltration bed Green Roof Run-off capture & Re-use - Cistern

Dry-well/Seepage Pit Impervious Area removal with Soil restoration and vegetation

Water Quality Controls

Constructed Wetland Constructed Filter Proprietary water quality filters & Hydrodynamic devices

Vegetated filter strip Vegetated swale

Non-Structural Controls

Downspout disconnection

Total number of downspouts connected to the roof

Answer: _____

Total number of downspouts connected to an eligible containment device

Answer: _____

NPDES Industrial Stormwater Permitted Sites

Property with an active & fully compliant NPDES Permit from PA-DEP

Education Program

Obtained Required Documentation

Checkbox (Default Unchecked)

Comments

Comments: _____

Repairs Needed: _____

Storm Control Measure and Compliance Work Order and Inspection Templates

Illicit Discharge Inspection Template:

Inspection Details Related Activities

Insp. Type: Illicit Discharge
Insp #: 162802
Location:
Status: Open Resolution:
Prj. Start Date: 08/16/2021 11:20 AM Prj. Finish Date:
Insp. Date: Inspected By:

General

Nature of Discharge
 Solid Intermittent Pulsing
 Transitory

MS4 Area?
 Yes No

Date of last precipitation

Source of discharge?

Potential receiving waters
 Susquehanna River Paxton Creek

Discharge Details

Oder?
 Yes No

Clarity?
 Clear Cloudy Opaque
 Sheen

Color?
 Yes No

Solids?
 Garbage Sewage Tissue
 Oil Sheen Suds Scum
 Iron Sheen

Compliance

Lab samples collected?
 Yes No

Report illicit discharges to DEP IMMEDIATELY after knowledge of pollution source that would endanger users downstream or otherwise would result in pollution.
 Yes No

Date DEP Notification submitted

Document submission?
 Yes No

Date documentation submitted?

Resolution

Resolution
 Investigation/Violation - No Work Required Investigation/Violation - Follow-up Needed Investigation - Non-Violation

Comments

Comments:

Repairs Needed:

Storm Control Measure and Compliance Work Order and Inspection Templates

Storm Outfall Evaluation Inspection Template:

Details	
General	Observations
Asset Configuration	Map Layers
☰ Land Uses in Outfall Drainage Area	0
☰ Land Use (Multiple)	0
☰ Outfall Type	0
☰ Closed Pipe Material	0
☰ Open Channel Material	0
☰ Other Closed Pipe Material Description	0
☰ Other Open Channel Material Description	0
☰ Closed Pipe Shape	0
☰ Open Channel Shape	0
☰ Other Open Channel Shape Description	0
☰ Other Closed Pipe Shape Description	0
☰ Outfall Pipe Height	0
☰ Outfall Pipe Width	0
☰ Outfall Submerged?	0
☰ Outfall Submerged Type	0
☰ Outfall Blocked?	0
☰ Date of most recent precipitation	0
☰ Amount of most recent precipitation (Inches)	0
☰ Dry Weather Inspection?	0
☰ Dry weather flow present at outfall during inspection?	0
☰ Description of flow rate	0
☰ Does dry weather flow contain color?	0
☰ Color description	0
☰ Does dry weather flow contain odor?	0
☰ Odor description	0
☰ Is there an observed change to receiving waters as a result of a discharge?	0
☰ Receiving water change description	0
☰ Does the dry weather flow contain any solids, scum, sheen, or other substances that result in deposits?	0
☰ Substance description	0
☰ Were sample(s) collected of the dry weather flow?	0
☰ Is there suspect of illicit discharge causing the dry weather flow?	0
☰ Stormwater sample collected?	0
☰ Notary	0

See 'Storm Outfall Evaluation Inspection Workfolw_V1.pdf for branch inspection details.

Storm Control Measure and Compliance Work Order and Inspection Templates

Example of filled out branch inspection:

Inspection | Details | Related Activities

Insp. Type: Storm Outfall Evaluation

Insp #: 192568

Location:

Status: Open | Resolution:

Prj. Start Date: 09/28/2022 2:20 PM | Prj. Finish Date:

Insp. Date: | Inspected By:

Comments

Comments:

Repairs Needed:

Observations

Question: Land Uses in Outfall Drainage Area

Answer: Industrial Commercial Open Space
 Urban Residential Suburban Residential Multiple

Next Question

Observation	Result	Description	Instruction	Explanation
-------------	--------	-------------	-------------	-------------

Inspection | Details | Related Activities

Insp. Type: Storm Outfall Evaluation

Insp #: 185774

Location:

Status: Completed | Resolution:

Prj. Start Date: 06/23/2022 9:38 AM | Prj. Finish Date:

Insp. Date: 06/22/2022 12:00 PM | Inspected By: Bernstein, Tom

Comments

Comments:

Repairs Needed:

Observations

Observation	Result	Description	Instruction	Explanation
Land Uses in Outfall Drainage Area	Multiple		If more than one land use applies select multiple	<input checked="" type="checkbox"/>
Land Use (Multiple)	Commercial, Open Space		Type all land uses that may apply: Industrial, Commercial, Open Space, Urban Residential, Suburban Residential	<input checked="" type="checkbox"/>
Outfall Type	Closed Pipe			<input checked="" type="checkbox"/>
Closed Pipe Material	Polyvinyl Chloride			<input checked="" type="checkbox"/>
Closed Pipe Shape	Circular			<input checked="" type="checkbox"/>
Outfall Pipe Height	10			<input checked="" type="checkbox"/>
Outfall Pipe Width	10			<input checked="" type="checkbox"/>
Outfall Submerged?	No			<input checked="" type="checkbox"/>
Outfall Blocked?	No			<input checked="" type="checkbox"/>
Date of most recent precipitation	6/18/2022			<input checked="" type="checkbox"/>
Amount of most recent precipitation (Inches)	.01			<input checked="" type="checkbox"/>
Dry Weather Inspection?	Yes			<input checked="" type="checkbox"/>
Dry weather flow present at outfall during inspection?	No			<input checked="" type="checkbox"/>
Notary	UNCHECK			<input checked="" type="checkbox"/>

Storm Control Measure and Compliance Work Order and Inspection Templates

Service Request Templates:

Illicit Discharge Service Request Template:

Service Request	
Description: Illicit Discharge	
Request #:	8370
Address:	
Apt #:	Zip Code:
Location Details:	
X Coord:	0.000
Y Coord:	0.000
Status:	Open
Priority:	High
Initiated By:	cvadmin, cvadmin
Date Initiated:	09/16/2021 12:09 PM
Supervisor:	
Dispatch To:	
Date Dispatched:	09/16/2021 12:10 PM
Comments: <input type="button" value="Add Comment"/> <input type="button" value="Sort"/> no comments	
Invest. Completed:	<input type="checkbox"/>
Date:	
Follow-up Call Requested:	
Resolution:	

Request Details	
Facility Id:	Level Id:
Category:	Wastewater
Labor:	0
Route:	Maint. Zone:
Shop:	WF Zone:
Closed By:	Date:

Callers		
Name	Call Time	Caller Type
<input type="checkbox"/>	UNKNOWN	9/16/2021 12:09:39 PM

Caller Name:	UNKNOWN	Cell Phone:
Home Phone:		Email:
Date Contacted:		Contacted By:

Related Work Activities	
Inspections	
Add Insp#:	
<input type="button" value="Create Insp"/>	
Work Orders	
Group assets?	
Add WO#:	
<input type="button" value="Create WO"/>	

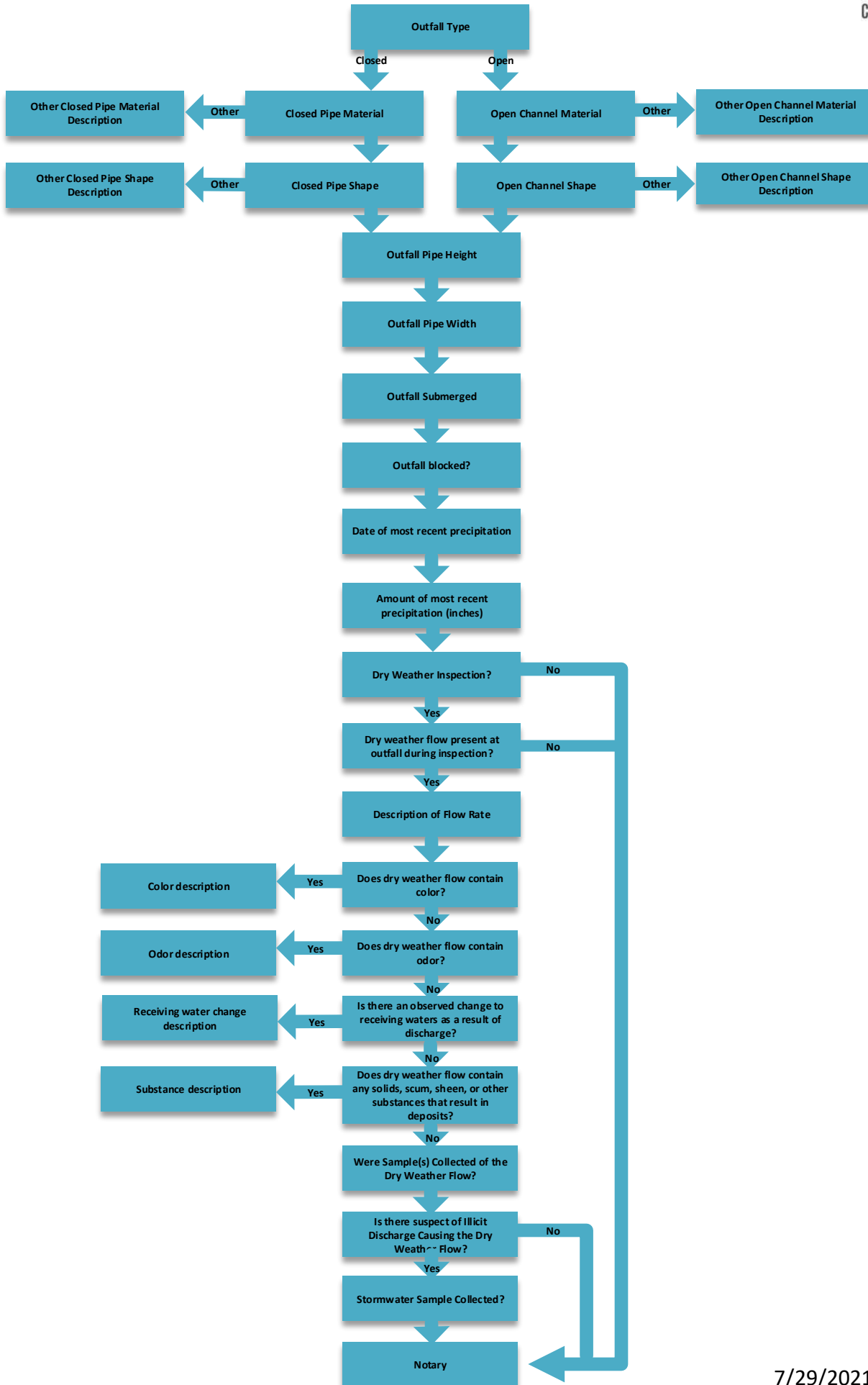
Attachments	
<input type="button" value="+ Add attachment..."/>	<input type="button" value="Remove all attachments"/>
Drag and drop files here to attach them.	

Map Layer Fields	
<input type="button" value="Reset"/>	

<input type="button" value="Cancel SR"/>
--



Storm Outfall Site Evaluation Inspection Workflow



ATTACHMENT #5

Draft MS4 System Map

ATTACHMENT #6

Existing Memorandum of Understanding with
Dauphin County Conservation District

Draft Memorandum of Understanding with DCCD
and City of Harrisburg

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE
DAUPHIN COUNTY CONSERVATION DISTRICT
AND
CITY OF HARRISBURG**

WHEREAS, the Dauphin County Conservation District, hereafter referred to as District, and the City of Harrisburg, hereafter referred to as Municipality, have common areas of responsibility in serving the citizens of Harrisburg and

WHEREAS, there are common areas of work that require communication and support of each of these parties to the other party, and

WHEREAS, the District and the Municipality desire to formalize their interactions in relation to common programs and responsibilities, and

WHEREAS, this Memorandum of Understanding will serve as a foundation for a cooperative and mutually beneficial working relationship between the District and the Municipality,

NOW THEREFORE, the parties agree to jointly enter into this Memorandum of Understanding. The Memorandum of Understanding has three component parts as listed herein:

- **Erosion and Sediment Pollution Control**
- **Municipal Separate Storm Sewer Systems**
- **General Conservation, Wise Use and Proper Management of our Natural Resources**
- **West Nile Virus Control Program**

EROSION AND SEDIMENT POLLUTION CONTROL

Purpose: Erosion and the resulting deposition of sediment in our waterways is the primary pollutant by volume of our streams. Minimizing erosion and sediment pollution of our streams requires initiatives at the state, county and local municipal levels of government. The purpose of this Memorandum of Understanding (MOU) is to serve as a joint commitment to control accelerated erosion and to prevent sediment pollution to the waters of the Commonwealth, which may result from the conduct of earth disturbance activities. This MOU also serves as a basis for stating the role of each party in appropriately updating and administering appropriate Ordinances of the municipality in relation to Erosion and Sediment Pollution Control.

District Responsibilities: In carrying out the intent of this memorandum, the Dauphin County Conservation District shall, within the limits of its capabilities:

1. RESOURCES, MATERIALS AND DOCUMENTS

- A. Provide to the Municipality a schedule of plan review fees and sufficient quantities of all necessary educational and other forms. The District will promptly notify the municipality of any change in the plan review fee schedule and provide updated forms and educational materials in a timely manner.
- B. Upon request, provide all applicants with a DEP Erosion and Sediment Pollution Control Program Manual, National Pollutant Discharge Elimination System (NPDES) permit applications, and related forms, worksheets, checklists and all other forms and documents necessary to successfully prepare an ESPC plan and/or NPDES permit application for discharge of stormwater from construction activities.
- C. Provide the municipality with a year end summary of NPDES and Erosion and Sediment Pollution Control activities within the municipality. The summary is intended to inform the municipality of District activities and document District activities for municipal MS4 permit requirements.
- D. Serve as a repository for all ESPC plans, permit applications, plan and permit reviews, complaints, inspection reports, correspondence and other materials and documents concerning the conduct of earth disturbance activities permitted under the municipal ordinance. All such information shall be contained in a dedicated filing system, which shall be available for inspection by municipal officials at any time.
- E. The District will maintain information and materials on its website related to NPDES permitting and the ESPC program. Municipalities may provide links to the District website from municipal websites. This activity provides additional outreach and satisfies relevant MS4 requirements.

2. PLAN REVIEWS AND PERMITTING

- A. Receive all applications and plans required by NPDES permitting regulations and complete administrative and technical reviews within time frames established by DEP.
- B. Receive all ESPC plan, required by municipal ordinance or submitted voluntarily, and complete reviews of the plans within time frames established by the District.

3. INSPECTIONS

- A. The District will inspect earth disturbance activities to ensure that the approval, implementation and maintenance of the ESPC plan and ESPC practices are in compliance with the NPDES program and Chapter 102 regulations.
- B. Inspections will be performed:
 1. At a minimum, in compliance with DEP inspection schedules for permitted projects
 2. At the request of the municipality

3. In response to a complaint from the municipality or the public

4. Routinely, as time may allow

4. NOTIFICATIONS

A. Within 10 calendar days of completion the District will forward to the municipality and applicant or responsible party:

1. Notice of NPDES permit decisions including permit and plan approvals and renewals, deficiency letters, denials and withdrawals.

2. Notice of ESPC plan decisions where NPDES permits are not required including approvals and deficiency letters

3. Inspection reports resulting from complaints investigations and other inspections

5. MUNICIPAL ASSISTANCE

A. The District will assist the municipality with environmental problems, permit applications and resource management issues within the scope of the District's role under the NPDES and Chapter 102 program. The District will enlist assistance from cooperating agencies where appropriate.

B. The District will provide an invitation to the municipality to all appropriate educational events.

C. At the request of the municipality, the District will review appropriate sections of municipal stormwater management and subdivision and land development ordinances and make recommendations for consistency with current Chapter 102 regulations and NPDES permit requirements.

6. MEETINGS

A. The District will invite the municipality to all scheduled pre-application meetings. Where the District is not the entity organizing the meeting, the District will recommend to the meeting organizer that the municipality be invited. Attendance and choice of representative is at the discretion of the municipality.

B. District staff, at the request of the municipality, will meet with municipal representatives to provide information or to discuss issues related to NPDES permitting and Chapter 102 regulations.

C. District staff, where appropriate, will notify the municipality of any site meetings related to inspections, violations or complaints and invite the municipality to attend these meetings.

Municipal Responsibilities: In carrying out the intent of this memorandum, the municipality shall:

1. RESOURCES AND INFORMATION

A. Inform those involved with earth disturbance activities of any municipal Erosion and Sediment Pollution Control and NPDES permitting Ordinance requirements.

B. Retain a sufficient quantity of the application form for ESPC plans and issue such information to all proposed earth disturbance projects that require review and approval in accordance with the provisions of the municipal ordinance. The municipality shall provide instructions as necessary to have the plans submitted to the Dauphin County Conservation District.

C. Distribute fact sheets and other materials provided by the District to all applicants for building permits and subdivision or land development approval.

D. Retain all correspondence from the District including copies of inspection reports, permit authorizations, denials and withdrawals, notices of violation, ESPC plan approvals and other correspondence needed by the municipality for MS4 permit documentation or other municipal purposes.

2. NOTICE AND REFERRAL TO THE DISTRICT

A. Forward all third party complaints concerning earth disturbance activities to the District.

B. Forward all questions related to the preparation of ESPC plans and NPDES permit applications to the District.

C. Notify the District of the receipt of a building permit application involving earth disturbance of one acre or more within five working days of receipt.

3. MUNICIPAL APPROVALS AND ACTIONS

A. Before issuing any permits or approvals, with the exception of local stormwater approvals, the municipality will require evidence of an issued Individual NPDES permit, authorized General NPDES permit or approved ESPC permit if required, or an approved ESPC plan where municipal regulations require an approved ESPC plan where NPDES or ESPC permits are not required.

B. Where violations of Chapter 102 or NPDES permitting regulations are discovered, the municipality will cooperate with the District to document and resolve the violations. Cooperation may entail providing access or copies of approved subdivision or land development plans, issued permits, review comments, revocation of municipal permits and other reasonable measures legally and practically available to the municipality.

C. Encourage the preservation and responsible use of all of our natural resources.

GENERAL CONSERVATION, WISE USE AND PROPER MANAGEMENT OF OUR NATURAL RESOURCES

Purpose: The working relationships between the forty municipal governments within Dauphin County and the Dauphin County Conservation District (District) are strong. Both the municipalities and the District agree that it is highly desirable to conserve, maintain, restore, use and properly manage our natural resources while being sensitive to the need for economic development, infrastructure improvement and the needs of our citizens. Identifying and better understanding the inter-relationships between natural resource issues of interest to the District and the local land use and management decisions made by the municipalities is critical. This memorandum of understanding that outlines general areas of cooperation between both parties is mutually endorsed.

District Responsibilities: In carrying out the intent of this memorandum, the Dauphin County Conservation District shall, within the limits of its capabilities:

- A. Help to keep all municipal officials informed of the relationship of land use decisions and water quality and quantity issues. The District will share with the municipalities the information collected in their stream monitoring program and offer educational materials, workshops and field trips relating to water issues
- B. Keep the municipal officials informed and involved in studies, mitigation projects and programs that the District is administering within this municipality
- C. Provide technical assistance to the municipality as ordinances relating to natural resource concerns are updated, i.e. stormwater management, riparian buffers, low impact design standards, floodplains, groundwater recharge, agricultural issues and other natural resource issues.
- D. Facilitate Pennsylvania's Act 167 Stormwater Management Act watershed stormwater management studies
- E. Invite the municipality to participate in the development of the District long range plans as they relate to the municipal issues
- F. Assist the municipality with environmental issues and permit applications that fall within the District's area of expertise. The District will enlist the services of cooperating agencies when necessary
- G. Provide the municipality with administrative and technical training opportunities and points of contact for District programs.

Municipal Responsibilities: In carrying out the intent of this memorandum, the municipality shall, within the limits of its capabilities:

- A. Provide the District with current point of contact within the municipality for environmental issues. Provide updates as needed
- B. Inform the District of natural resource issues especially those that are water related and concerns except individual stormwater problems
- C. Implement and administer appropriate stormwater management ordinances base on approved watershed stormwater plans developed in accordance with Act 167 Stormwater Management Act guidelines. (Note: The District does not have the authority to adopt or enforce stormwater management ordinances; this is a local government function.)
- D. Afford the District the opportunity to review and comment on ordinances or proposed ordinance updates that impact on our natural resources

- E. Meet with the District to review environmental impacts of planned municipal activities as they relate to District programs.
- F. Cooperate with the District on studies, pilot projects or surveys related to natural resources conservation within the municipality.
- G. Provide the District with the date of regularly scheduled municipal meetings and invite the District to participate as appropriate.

It is mutually agreed within the limits of abilities and resources:

- A. Both parties will provide for the mutual sharing of information
- B. Both parties will supply each other with available maps, geographic information system and computer aided drafting files, printed material, photos/slides, video and displays pertaining to pertinent programs
- C. Both parties will work on projects mutually benefiting the District and the municipality.

WEST NILE VIRUS CONTROL PROGRAM

Purpose: The Dauphin County Conservation District's West Nile Virus Control Program is an integrated mosquito management (IMM) program focused on reducing mosquito populations within Dauphin County. The program utilizes education, mosquito surveillance, mosquito breeding habitat elimination and mosquito control to decrease numbers of mosquitoes within Dauphin County to reduce the risk of human acquisition of West Nile Virus. The Dauphin County IMM Program is based on sound entomological data collection to provide temporal and biological data. This data enables us to implement a mosquito abatement program relying upon habitat elimination and larval mosquito control as a foundation for the reduction of WNV levels within the county.

District Responsibilities: In carrying out the intent of this memorandum, the Dauphin County Conservation District shall, within the limits of its capabilities:

- A. Provide educational outreach that will be focused at urban and agricultural communities to facilitate the elimination of mosquito breeding habitat in these areas. These programs will use both literature pertaining to WNV and basic mosquito biology, and there will be informational presentations aimed at these same geographical areas conveying information pertaining to Mosquito biology/behavior and WNV epidemiology.
- B. Aggressively execute larval mosquito control using a variety of control products. The product to be used will be site and mosquito species specific, and is dependent upon the specific habitat type and the entomological data for the site. There will be a continuous larviciding program aimed at any mosquito breeding habitats including catch basins in the urban areas of Dauphin County. Primarily, the biological larvicides *Bacillus thuringiensis* var. *israelensis* and *Bacillus sphaericus* will be used to reduce mosquito population levels. We will also utilize additional products such as Methoprene and Monomolecular Films when habitat type or biological data indicate that these products would be more efficacious.
- C. Conduct adult and larval mosquito surveillance at various locations in the county based on previous seasons' data and the elucidation of new mosquito breeding locations and citizen complaint calls. We will rely upon both carbon dioxide baited traps as well as gravid traps to monitor local adult mosquito populations. The type of trap used will be dictated by habitat type and historical and contemporary larval taxonomic data. These traps will be placed at known mosquito breeding locations as well as in areas of high population densities. We will increase our number of traps in some areas as epidemiological data confirms WNV activity in particular areas.
- D. Perform adult mosquito control when epidemiological and entomological data show that adult mosquito and virus levels are high enough to put the local human population at significant risk of WNV infection.
- E. Support enforcement of municipal codes addressing mosquito breeding habitats.

Municipal Responsibilities: In carrying out the intent of this memorandum, the municipality shall, within the limits of its capabilities:

- A. Adopt and enforce municipal ordinances which address vector/mosquito breeding habitats.
- B. Provide assistance for the notification of the public of spray events scheduled in the municipality.
- C. Provide for the publication of WNV/mosquito news and educational articles in municipal publications.
- D. Provide for the assistance of the local municipal police for any adult mosquito control events.

NPDES MUNICIPAL SEPARATE STORM SEWER SYSTEMS

Purpose Many municipalities in Dauphin County and the County itself are subject to NPDES permit requirements for Municipal Separate Storm Sewer Systems (MS4). The purpose of this agreement is to coordinate, where possible and desirable, the activities of the municipalities and the county associated with MS4 permit requirements. While not all requirements lend themselves to coordination, several of the requirements are such that coordination will result in decreased compliance cost and greater efficiency for both the municipality and county. The following details the municipal and District responsibilities by Minimum Control Measure (MCM)

MCM 1 – PUBLIC EDUCATION AND OUTREACH

District Responsibilities In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Develop and Coordinate with all regulated municipalities the placement of an educational newspaper advertisement once per permit year.
- B. Distribute educational posters to all schools within the regulated municipalities once per permit year.
- C. Make educational posters available, at cost, to regulated municipalities for distribution to target audiences other than schools.
- D. Distribute an educational publication to developers in Dauphin County once per permit year.
- E. Maintain on the District website, information related to stormwater regulations, educational materials and resources. It is recommended that Municipalities provide a link from the municipal website, if available, to the District website.
- F. Annually, no later than 30 days after the end of the permit year, provide a summary to each regulated municipality of the above activities and any other educational activities conducted by the District that would be applicable for MS4 permit compliance. Where possible, copies of the educational materials, the dates distributed and a summary or list of those the material was distributed to will be included in the summary.

Municipal Responsibilities In carrying out the intent of this memorandum, the municipality shall, within the limits of its capabilities:

- A. Annually, no later than 30 days prior to the end of the permit year, provide a summary to the District of the use and or distribution of educational posters.
- B. Where practical and applicable, notify the District at least 15 calendar days in advance of municipal public outreach events where the District could play a role in providing public outreach.

MCM 2 – PUBLIC PARTICIPATION

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Notify regulated municipalities of public participation events, as appropriate 30 days prior to the event.

Municipal Responsibilities: In carrying out the intent of this memorandum, the municipality shall, within the limits of its capabilities:

- A. Notify the District of public participation events, as appropriate, at least 30 days prior to the event.

MCM 4 – CONSTRUCTION SITE STORMWATER MANAGEMENT

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Meet all of its responsibilities listed in the ESPC section of this MOU.
- B. Annually, no later than 30 days after the end of the permit year, provide a summary to each regulated municipality of District activities conducted in the municipality. The summary will include:
 - 1. The number of sites inspected and the number of inspections conducted
 - 2. The number of complaints received and the number of inspections conducted in response to complaints
 - 3. The number of sites referred to DEP for enforcement
 - 4. The number of permits issued

Municipal Responsibilities: In carrying out the intent of this memorandum, the municipality shall, within the limits of its capabilities:

- A. The municipality will meet all of its responsibilities listed in the ESPC section of this MOU.
- B. Retain all correspondence from the District including copies of inspection reports, permit authorizations, notices of violation, ESPC plan approvals and other correspondence needed by the municipality for MS4 documentation purposes.

GENERAL MS4

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Serve as a resource to regulated municipalities for general MS4 program information
- B. Provide copies of resource, regulatory, and educational materials. Limited amounts of such copies will be provided at no charge. For larger quantities, the District will provide copies in a format, where practical, suitable for producing copies or at cost.

Municipal Responsibilities: In carrying out the intent of this memorandum, the municipality shall, within the limits of its capabilities:

- A. Provide copies of ordinances related to stormwater management, erosion and sediment control and illicit discharges. The municipality will provide the district with copies of any revised ordinances within 30 days of adoption.

EXECUTION

This Memorandum of Understanding shall become effective only after it has been adopted by vote of the governing bodies of both parties. Signatures must be those of a member of the governing body authorized to sign for the governing body.

This Memorandum of Understanding may be terminated by either party for any reason. Termination of this Memorandum of Understanding must be by certified mail. Termination shall become effective 30 days after receipt of the notice of termination.

This Memorandum of Understanding shall be reviewed periodically by either or both parties and may be amended by mutual consent of both parties.

With the execution of this Memorandum of Understanding any previous Memorandum of Understandings between the Municipality and the District shall be invalid.

DAUPHIN COUNTY CONSERVATION DISTRICT

By: Ronald E Kopp
Title: Chairman, DCCD Board of Directors
Date: October 1, 2015

CITY OF HARRISBURG

By: [Signature]
Title: Mayor
Date: 5/15/11

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE
DAUPHIN COUNTY CONSERVATION DISTRICT
AND
CITY OF HARRISBURG**

**APPROVED AS TO FORM
AND LEGALITY:**

By: 

Douglas Walmer, Esq.
Deputy Solicitor

CITY OF HARRISBURG*

By: 

Charlie DeBrunner
City Controller

*The City of Harrisburg is governed under Pennsylvania's Optional Third Class City Law Charter, 53 P.S. § 41101, et seq. Section 53 P.S. § 41413(c) of the law requires that "all bonds, notes, contracts and written obligations of the city shall be executed on its behalf by the mayor and the controller."

**MEMORANDUM OF UNDERSTANDING
BETWEEN CAPITAL REGION WATER,
THE DAUPHIN COUNTY CONSERVATION DISTRICT,
AND
THE CITY OF HARRISBURG**

WHEREAS, Capital Region Water, hereafter referred to as the Authority, the Dauphin County Conservation District, hereafter referred to as District, and the City of Harrisburg, hereafter referred to as the City, have common areas of responsibility in serving the citizens of the City of Harrisburg and

WHEREAS, there are common areas of work that require communication and support of each of these parties to the other party, and

WHEREAS, the Authority, the District, and the City desire to formalize their interactions in relation to common programs and responsibilities, and

WHEREAS, this Memorandum of Understanding will serve as a foundation for a cooperative and mutually beneficial working relationship between the District, the Authority, and the City,

NOW THEREFORE, the parties agree to jointly enter into this Memorandum of Understanding. The Memorandum of Understanding includes the following:

- **Erosion and Sediment Pollution Control (ESPC)**
- **Municipal Separate Storm Sewer Systems (MS4)**

EROSION AND SEDIMENT POLLUTION CONTROL

Purpose: Erosion and the resulting deposition of sediment in our waterways is the primary pollutant by volume of our streams. Minimizing erosion and sediment pollution of our streams requires initiatives at the state, county and local municipal levels of government. The purpose of this Memorandum of Understanding (MOU) is to serve as a joint commitment to control accelerated erosion and to prevent sediment pollution to the waters of the Commonwealth, which may result from the conduct of earth disturbance activities.

District Responsibilities: In carrying out the intent of this memorandum, the Dauphin County Conservation District shall, within the limits of its capabilities:

1. RESOURCES, MATERIALS AND DOCUMENTS

- A. Provide to the Authority and City a schedule of plan review fees and sufficient quantities of all necessary educational and other forms. The District will promptly notify the Authority and City of any change in the plan review fee schedule and provide updated forms and educational materials in a timely manner.
- B. Upon request, provide all applicants with a DEP Erosion and Sediment Pollution Control Program Manual, National Pollutant Discharge Elimination System (NPDES) permit applications, and related forms, worksheets, checklists and all other forms and documents necessary to successfully prepare an ESPC plan and/or NPDES permit application for discharge of stormwater from construction activities.
- C. Provide the Authority and City with a year-end summary of NPDES and Erosion and Sediment Pollution Control activities within the defined service area of the authority. The summary is intended to inform the Authority and City of District activities and document District activities for MS4 permit requirements.
- D. Serve as a repository for all ESPC plans, permit applications, plan and permit reviews, complaints, inspection reports, correspondence and other materials and documents concerning the conduct of earth disturbance activities. All such information shall be contained in a dedicated filing system, which shall be available for inspection by the Authority officials at any time.
- E. The District will maintain information and materials on its website related to NPDES permitting and the ESPC program. The Authority and City may provide links to the District website from the Authority and City websites. This activity provides additional outreach and satisfies relevant MS4 requirements.

2. PLAN REVIEWS AND PERMITTING

- A. Receive all applications and plans required by NPDES permitting regulations and complete administrative and technical reviews within time frames established by DEP.
- B. Receive all ESPC plans, required by municipal ordinance or submitted voluntarily, and complete reviews of the plans within time frames established by the District.

3. INSPECTIONS

- A. The District will inspect earth disturbance activities to ensure that the approval, implementation and maintenance of the ESPC plan and ESPC practices are in compliance with the NPDES program and Chapter 102 regulations.
- B. Inspections will be performed:

1. At a minimum, in compliance with DEP inspection schedules for permitted projects
2. At the request of the Authority or City
3. In response to a complaint from the Authority or the public
4. Routinely, as time may allow

4. NOTIFICATIONS

- A. Within 10 calendar days of completion the District will forward to the Authority and applicant or responsible party:
 1. Notice of NPDES permit decisions including permit and plan approvals and renewals, deficiency letters, denials and withdrawals.
 2. Notice of ESPC plan decisions where NPDES permits are not required including approvals and deficiency letters
 3. Inspection reports resulting from complaints investigations and other inspections

5. MUNICIPAL ASSISTANCE

- A. The District will assist the Authority and City with environmental problems, permit applications and resource management issues within the scope of the District's role under the NPDES and Chapter 102 program. The District will enlist assistance from cooperating agencies where appropriate.
- B. The District will provide an invitation to the Authority and City to all appropriate educational events.

6. MEETINGS

- A. The District will invite the Authority and City to all scheduled pre-application meetings. Where the District is not the entity organizing the meeting, the District will recommend to the meeting organizer that the Authority and City be invited. Attendance and choice of representative is at the discretion of the Authority or City.
- B. District staff, at the request of the Authority or City, will meet with the Authority or City representatives to provide information or to discuss issues related to NPDES permitting and Chapter 102 regulations.
- C. District staff, where appropriate, will notify the Authority and City of any site meetings related to inspections, violations or complaints and invite the Authority and City to attend these meetings.

Authority Responsibilities: In carrying out the intent of this memorandum, the Authority shall:

1. RESOURCES AND INFORMATION

- A. Inform those involved with earth disturbance activities of any municipal Erosion and Sediment Pollution Control and NPDES permitting or Ordinance requirements , where appropriate.
- B. Distribute fact sheets and other materials provided by the District where applicable.

C. Retain all correspondence from the District including copies of inspection reports, permit authorizations, denials and withdrawals, notices of violation, ESPC plan approvals and other correspondence needed by the Authority for MS4 permit documentation or other municipal purposes.

2. NOTICE AND REFERRAL TO THE DISTRICT

A. Forward all third party complaints concerning earth disturbance activities to the District.

B. Forward all questions related to the preparation of ESPC plans and NPDES permit applications to the District

City Responsibilities: In carrying out the intent of this memorandum, the City shall:

1. RESOURCES AND INFORMATION

A. Inform those involved with earth disturbance activities of any municipal Erosion and Sediment Pollution Control and NPDES permitting or Ordinance requirements , where appropriate.

B. Distribute fact sheets and other materials provided by the District where applicable.

2. NOTICE AND REFERRAL TO THE DISTRICT AND AUTHORITY

A. Forward all third party complaints concerning earth disturbance activities to the District.

B. Forward all questions related to the preparation of ESPC plans and NPDES permit applications to the District.

C. Notify the Authority of all potential projects regardless of size, type of development/construction, etc.

D. Include the Authority in all pre-application meeting and building permit inquiry correspondence.

3. PLAN REVIEWS AND PERMITTING

A. Building permits or other permits/final approvals shall not be issued until the subject project has valid NPDES permit coverage.

B. Earth disturbance or development activities shall not be allowed to commence until the Authority has issued an Earth Disturbance Permit.

C. Final plan approval and/or building/occupancy permits shall not be issued and the commencement of development activities or earth disturbance shall not be allowed until the Authority has approved a Stormwater Management Site Plan and Report and an Operation and Maintenance Agreement.

NPDES MUNICIPAL SEPARATE STORM SEWER SYSTEMS

Purpose: Many entities in Dauphin County and the County itself are subject to NPDES permit requirements for Municipal Separate Storm Sewer Systems (MS4). The purpose of this agreement is to coordinate, where possible and desirable, the activities of the Authority and the District associated with MS4 permit requirements. While not all requirements lend themselves to coordination, several of the requirements are such that coordination will result in decreased compliance cost and greater efficiency for both the Authority and county. The following details the Authority and District responsibilities by Minimum Control Measure (MCM)

MCM 1 – PUBLIC EDUCATION AND OUTREACH

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Develop and Coordinate with the Authority the placement of an educational newspaper advertisement once per permit year.
- B. Distribute educational posters to all schools within the regulated urbanized area once per permit year.
- C. Make educational posters available, at cost, to the Authority for distribution to target audiences other than schools.
- D. Distribute an educational publication to developers in Dauphin County once per permit year.
- E. Maintain on the District website, information related to stormwater regulations, educational materials and resources. It is recommended that the Authority provide a link from the municipal website, if available, to the District website.
- F. Annually, no later than 30 days after the end of the permit year, provide a summary to the Authority of the above activities and any other educational activities conducted by the District that would be applicable for MS4 permit compliance. Where possible, copies of the educational materials, the dates distributed and a summary or list of those the material was distributed to will be included in the summary.

Authority Responsibilities In carrying out the intent of this memorandum, the Authority shall, within the limits of its capabilities:

- A. Annually, no later than 30 days prior to the end of the permit year, provide a summary to the District of the use and or distribution of educational posters.
- B. Where practical and applicable, notify the District at least 15 calendar days in advance of Authority public outreach events where the District could play a role in providing public outreach.

MCM 2 – PUBLIC PARTICIPATION

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Notify the Authority of public participation events, as appropriate 30 days prior to the event.

Authority Responsibilities: In carrying out the intent of this memorandum, Authority shall, within the limits of its capabilities:

- A. Notify the District of public participation events, as appropriate, at least 30 days prior to the event.

MCM 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION

City Responsibilities: In carrying out the intent of this memorandum, the City shall, within the limits of its capabilities:

- A. Facilitate access to private property to inspect outfalls or investigate illicit connections and discharges, as required.
- B. Ensure the stormwater management ordinance (or other applicable elements of code) meets the DEP model ordinance and refers to the CRW Stormwater Rules and Regulations

MCM 4 – CONSTRUCTION SITE STORMWATER MANAGEMENT

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Meet all of its responsibilities listed in the ESPC section of this MOU.
- B. Annually, no later than 30 days after the end of the permit year, provide a summary to the Authority of District activities conducted in the defined service area of the authority. The summary will include:
 - 1. The number of sites inspected and the number of inspections conducted
 - 2. The number of complaints received and the number of inspections conducted in response to complaints
 - 3. The number of sites referred to DEP for enforcement
 - 4. The number of permits issued

Authority Responsibilities: In carrying out the intent of this memorandum, the Authority shall, within the limits of its capabilities:

- A. Meet all of its responsibilities listed in the ESPC section of this MOU.
- B. Retain all correspondence from the District including copies of inspection reports, permit authorizations, notices of violation, ESPC plan approvals and other correspondence needed by the Authority for MS4 documentation purposes.

City Responsibilities: In carrying out the intent of this memorandum, the City shall, within the limits of its capabilities:

- A. Meet all of its responsibilities listed in the ESPC section of this MOU.

MCM 6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

Authority Responsibilities: In carrying out the intent of this memorandum, the Authority shall, within the limits of its capabilities:

- A. The Authority shall perform inlet cleaning and street sweeping in a manner to prevent and reduce stormwater pollution.

City Responsibilities: In carrying out the intent of this memorandum, the City shall, within the limits of its capabilities:

- A. Conduct snow removal and deicing operations, including storage, in a manner to prevent and reduce stormwater pollution.
- B. Maintain City facilities in a manner to prevent and reduce stormwater pollution.
- C. Coordinate directly with DEP regarding enforcement actions from DEP; the Authority shall not regulate City owned facilities.
- D. In emergency situations the City shall assist the Authority with inlet cleaning.

GENERAL MS4

District Responsibilities: In carrying out the intent of this memorandum, the District shall, within the limits of its capabilities:

- A. Serve as a resource to the Authority for general MS4 program information
- B. Provide copies of resource, regulatory, and educational materials. Limited amounts of such copies will be provided at no charge. For larger quantities, the District will provide copies in a format, where practical, suitable for producing copies or at cost.

Authority Responsibilities: In carrying out the intent of this memorandum, the Authority shall, within the limits of its capabilities:

- A. Provide copies of rules and regulations related to stormwater management, erosion and sediment control and illicit discharges. The Authority will provide the District and City with copies of any revised rules and regulations within 30 days of adoption.

City Responsibilities: In carrying out the intent of this memorandum, the City shall, within the limits of its capabilities:

- A. Provide copies of ordinances related to stormwater management, erosion and sediment control and illicit discharges. The City will provide the District and Authority with copies of any revised ordinances within 30 days of adoption.

EXECUTION

This Memorandum of Understanding shall become effective only after it has been adopted by vote of the governing bodies of all parties. Signatures must be those of a member of the governing body authorized to sign for the governing body.

This Memorandum of Understanding may be terminated by either party for any reason. Termination of this Memorandum of Understanding must be by certified mail. Termination shall become effective 30 days after receipt of the notice of termination.

This Memorandum of Understanding shall be reviewed periodically by all parties and may be amended by mutual consent of all parties.

With the execution of this Memorandum of Understanding any previous Memorandum of Understandings between the Authority/City and the District shall be invalid.

CAPITAL REGION WATER

By: _____

Title: _____

Date: _____

DAUPHIN COUNTY CONSERVATION DISTRICT

By: _____

Title: _____

Date: _____

CITY OF HARRISBURG

By: _____

Title: _____

Date: _____

ATTACHMENT #7

Draft PCSM BMP Inventory

Land Development BMP Inventory													
Date Installed	Development	Act 167 Watershed	Latitude ¹	Longitude ¹	BMP	Disturbed Area (Ac)	Rate Control	Volume Control	Infiltration	MS4	O&M Requirements ²	Entity Responsible for O&M	NPDES
2018	Hacc	Paxton Creek	40°17'47.9"N	76°53'18.8"W	Rain Gardens, berms, basins	16.5	X	X	X	MS4	CRW O&M	HACC Facilities Department 717-780-1126	n/a
2018	Paxton Place	Spring Creek West	40°15'15.1"N	76°51'09.0"W	Rain Garden, Bioretention basins	1.61	X	X	X	Combine	HBG O&M	Paxton Ministries 717-236-5508	n/a
2018	Hamilton Health Center	Paxton Creek	40°15'52.0"N	76°51'55.5"W	Rain Garden, subsurface basin	3.35	X		X	Combine	HBG O&M	Terese M. Delaplaine, J.D. CEO 717-230-3910	n/a
2018	ABC27	Susquehanna River	40°17'57.0"N	76°53'41.0"W	Rain garden	1.65	X	X	X	Combine	HBG O&M	WHTM - Keith Blaidell 717-236-2727	n/a
2019	PA Counselling Services Inc. (548 S.17th Street)	Paxton Creek	40°15'30.5"N	76°51'42.2"W	Subsurface Detention basin	0.99	X			Combine	HBG O&M	PA Counseling Services Inc. (717) 695-7919	n/a
2019	The Salvation Army Harrisburg	Spring Creek West	40°16'01.8"N	76°50'29.9"W	Rain Gardens	6.83		X	X	MS4	CRW O&M	Major John Griner 717-233-6755	n/a
2020	Autozone	Paxton Creek	40°16'50.5"N	76°53'18.3"W	Infiltration Basin	0.73	X	X	X	Combine	CRW O&M	The Buonarroti Truts 3605 Vartan Way, Suite 301 Harrisburg, PA 17110 717-657-0110 ext.244	n/a
2020	Farm Show Complex	Paxton Creek	40°16'58.8"N	76°52'58.2"W	Swale	12.52	X		X	Combine	HBG O&M	(717) 787-5373	n/a
2020	137 South 17th Street	Paxton Creek	40°15'53.6"N	76°51'48.5"W	Detention Basin	0.85	X			Combine	HBG O&M	White Haven Capital LLC 2675 Baltyburion Road Center Valley, PA 19034 917-535-3534	n/a
2021	William Howard Day Homes	Paxton Creek	40°16'32.8"N	76°52'34.6"W	Infiltration beds	1.65	X	X	X	Combine	HBG O&M	426 S. 3rd Street Suite 101 lemoyn, PA 17043	n/a
2022	Bethesda Women's Center (20th & Forster)	Paxton Creek	40°16'31.9"N	76°51'45.4"W	Rain Garden, Permeable Pavement	0.43			X	Combine	CRW O&M	Cindy Mallow Director of Development 717-257-4442 x233 or cmallow@bethesdamission.org	n/a
2021	2525 7th Street	Paxton Creek	40°17'16.2"N	76°53'22.5"W	SWM Facility	11.35	X	X	X	Combine	CRW O&M	Jonathan Hudson The Hudson Companies 2450 Shenango Valley Freeway Hermitage, PA 16148 724-981-1204	n/a
2021	Harrisburg Military Post	Paxton Creek	40°16'43.2"N	76°52'23.8"W	SWM Facility	5.95	X	X	X	MS4	CRW O&M	Commonwealth of PA Department of General Services 717-787-3893	n/a
2022	Transcorp Enterprise	Paxton Creek	40°18'04.5"N	76°53'23.2"W	Basin	7.7	X	X	X	Combine	CRW O&M	Randy Mower Director of Operations 717-231-4040 x305	n/a
2022	Riverfront Office Lot	Susquehanna River	40°14'52.1"N	76°52'03.1"W	Infiltration Bed	2.57	X	X		Combine	CRW O&M	Breanna McCoy PMI Division Manager, Commercial 717-635-2427	n/a
2022	PHEAA	Paxton Creek	40°16'15.8"N	76°53'00.1"W	Permeable Pavement	0.382		X	X	MS4	CRW O&M	Deacon Tom Hewitt DirectorFacilities Phone: 717-720-2342	n/a
2022	UNFI	Paxton Creek	40°18'34.3"N	76°53'19.9"W	Infiltration Bed	28.48	X	X	X	MS4	CRW O&M	Beth Freymiller Environmental Manager 11840 Valley View Rd Eden Prairie, MN 55344 952-914-5229	n/a
2023	638-644 Woodbine Street	Paxton Creek	40°16'57.3"N	76°53'23.4"W	Control Structure with Weir	0.24	X	X		Combine	CRW O&M	Camp Curtain YMCA Jamien Harvey 2135 N. 6th Street 717-238-9622	n/a
2023	Camp Curtain	Susquehanna River	40°16'55.6"N	76°53'23.9"W	Green wall, infiltration basin, bumpouts	0.8	X	X	X	Combine	CRW O&M	Camp Curtain YMCA Jamien Harvey 2135 N. 6th Street 717-238-9622	n/a
2023	PHMC Archives Building	Paxton Creek	40°16'32.9"N	76°53'11.1"W	Infiltration Basin	1.51	X	X	X	Combine	HBG O&M	(717) 783-3281	n/a

Land Development BMP Inventory													
Date Installed	Development	Act 167 Watershed	Latitude ¹	Longitude ¹	BMP	Disturbed Area (Ac)	Rate Control	Volume Control	Infiltration	MS4	O&M Requirements ²	Entity Responsible for O&M	NPDES
2023	Harrisburg Federal Courthouse	Paxton Creek	40°16'29.0"N	76°53'09.0"W	Rain Gardens, Infiltration Bed, green roof, water reuse	3.61	X	X	X	Combine	HBG O&M	Division Supervisor Shawna Cihak 717-221-3959 (f) Harrisburg Systems Manager Jeff Groff 717-221-3933	n/a
2023	2101 North 6th Street	Paxton Creek	40°16'51.3"N	76°53'23.4"W	SW Conveyance	0.71	X			Combine	CRW O&M	Mighty Group Holdings, LLC Adam Maust 1591 Stoney Mountain Way Dauphin, PA 17018 717-307-5501	n/a
In-construction	6th & Herr St (Bethel Village)	Susquehanna River	40°16'07.2"N	76°53'08.5"W	Underground Infiltration Facility	0.49	X	X	X	Combine	CRW O&M	Ava Goldman Bethel Village Associates 856-296-0670 avagoldman28@gmail.com	n/a
In-construction	Veterans Tiny Homes (1103 S. Front Street)	Susquehanna River	40°14'37.4"N	76°51'50.4"W	Rain Garden, Infiltration Trench, Infiltration Basin	5	X	X	X	MS4	CRW O&M	Thomas Zimmerman Veterans Outreach of Pennsylvania 717-215-0305 tom.zimmerman@ebg-us.com	PAC220319
In-construction	1400 Sycamore Street	Paxton Creek	40°15'07.4"N	76°51'43.3"W	Underground Storage	0.29	X	X	X	Combine	CRW O&M	George Fernandez 717-963-7218 GFernandez@LatinoConnection.org	n/a
In-construction	Catherine Hershey School (6th-7th Street & Muench)	Susquehanna River	40°16'45.6"N	76°53'17.1"W	Underground Storage	5	X	X	X	Combine	CRW O&M	William Wos P.O. Box 830, Hershey, PA 17033 717-520-3413 WosW@mhs-pa.org	PAC220328

¹ CRW can provide GIS information for all private BMP upon request

² City of Harrisburg O&M agreement executed before CRW O&M agreement implemented in 2020

ATTACHMENT #8

Joint PRP Supplement

Joint PRP Supplement

Baseline Sediment Loads

Baseline pollutant loads for the Joint Planning Area are summarized in **Table 1** (Table 7 of the 2019 Joint Pollutant Reduction Plan¹).

Table 1. Municipal Baseline Pollutant Loading for the Joint Planning Area.

MS4 Permittee	Percentage of Watershed	Baseline Sediment Load (lb/yr)
CRW (City of Harrisburg)	16%	3,667,006
Township of Lower Paxton	57%	9,324,542
Township of Susquehanna	27%	4,141,959
Joint Planning Area Total:	100%	17,507,254*

*Total Baseline Sediment Load based on MMW results for the entire watershed, not the sum of the individual municipalities. Refer to Appendix D of this report for modeling outputs.

The baseline sediment load for the CRW combined sewer system service area is summarized in **Table 2** (Table 10 of the 2019 Joint Pollutant Reduction Plan). This load reduction is comprised of a land-based sediment load (load in CSO discharge from outfalls to receiving waters) and a streambank erosion sediment load (sediment mobilized and transported downstream due to erosive wet weather velocities).

Table 2. Summary of CRW/City of Harrisburg Paxton Creek Corrected Sediment Loads from the Combined Sewer System.

Scenario	Land-Based Sediment Load (ton/yr)	Streambank Erosion Sediment Load (ton/yr)	Total CSS Sediment Load (ton/yr)	Total CSS Sediment Load (lb/yr)	Reduction from Existing
Sediment Load Reported in 2008 TMDL	18	364	382	764,000	---
Corrected Sediment Load from Existing Combined Sewer System	16	332	348	696,000	5%

¹ Joint Pollutant Reduction Plan: Paxton Creek Watershed TMDL, Chesapeake Bay PRP, Wildwood Lake PRP, and UNT Spring Creek PRP, Revised December 27, 2019

“Existing” Loads and Load Reduction Requirements

As documented in the Joint Plan, the “Baseline” load is adjusted to account for projects completed prior to completion of the Joint Plan. The resulting load is the “Existing” load, and the Municipal Entities understand the “Existing” load to be the starting point for load reductions required under the five-year MS4 permit term beginning on August 1, 2020.

Load reduction requirements are summarized in **Table 3** (Table A of the Joint Pollutant Reduction Plan).

Table 3. Short-Term (5-yr) Pollutant Load Reduction Requirements by PRP Planning Area.

Planning Area	Impairment	Existing Sediment Load (lb/yr)	Required Sediment Load Reduction	Sediment Reduction Required (lb/yr)
Paxton Creek TMDL	Sediment / Siltation	3,630,159	10%	363,016
Joint Planning Area	Sediment / Nutrients	16,943,984	10%	1,694,398
Wildwood Lake	Sediment / Siltation	2,825,290	10%	282,529
UNT to Spring Creek	Sediment / Siltation	45,137	10%	4,514

“Existing” Projects Used to Adjust Baseline Sediment Loads

As shown in **Table 4**, seven (7) existing stormwater quality projects (EX-01 through EX-07) were completed in the Paxton Creek Watershed prior to the completion of the Joint Plan and are being utilized as credit to reduce the baseline sediment loading estimates for the watershed. Pollutant load reductions associated with CRW’s CSS have also been included in the existing load calculations (Joint Pollutant Reduction Plan, p. 24).

Table 4. Installed BMPs.

Map Reference	BMP Name	Planning Area Credit	Sediment Load Reduction (lbs/yr)*
EX-01	Paxton Church / Reichert Rd. Rain Garden and Stream Restoration (240 ft.)	Joint Planning Area / Paxton Creek TMDL	40,012
EX-02	Fox Hunt Rd. Stream Restoration (375 ft.)	Joint Planning Area / Paxton Creek TMDL	43,125
EX-03	UNT to Asylum Run Retention Basin and Stream Restoration (350 ft.)	Joint Planning Area / Paxton Creek TMDL	72,025
EX-04	Elmerton Ave. Bio-retention Basin	Joint Planning Area / Paxton Creek TMDL	17,191
EX-05	Black Run Stream Restoration (800 ft.)	Joint Planning Area / Paxton Creek TMDL	92,000
EX-06	Asylum Run Bio-retention and Stream Restoration (400 ft.)	Joint Planning Area / Paxton Creek TMDL	73,617
EX-07	Dowhower Rd Buffer and Stream Restoration (1,220 ft.)	Joint Planning Area	140,300
CSS-01	CRW Combined Sewer System Sediment Capture Performance to Paxton Creek Watershed Allowance	Joint Planning Area / Paxton Creek TMDL	68,000
CSS-02	CRW Combined Sewer System Sediment Capture Performance to Susquehanna River Allowance	Joint Planning Area	17,000
Total Existing BMP Sediment Load Reduction:			563,270
*BMP reduction values derived using Joint Planning Area Model My Watershed parameters			

Sediment Load Reduction Status as of August 1, 2023: Additional Background and Calculations

For the current reporting period ending on August 1, 2023, the Municipal Entities are taking credit for projects in the operation phase. Table 8 in the Conclusion section summarizes the status of all projects in the design, construction, and operation phases. When completed and in operation, these projects are projected to achieve approximately 103% of the load reduction required by the end of the current permit term. The remainder of this section provides background information on projects that are completed and in operation.

BMP15: Street Sweeping

CRW is performing street sweeping a minimum of 25 times per year as required by PADEP guidelines. As described in the Joint Pollutant Reduction Plan (**Table 5**), the annual sediment load reduction credit applied is 29,864 lb/yr.

Table 5. Proposed Street Sweeping Reduction Credit.

BMP #	Early Action Project	BMP Name	Managed Area (Acre)	Reduction (lbs)
BMP-15	EAP-9	CRW Street Sweeping (25 times per year)	166.0	29,864
Totals:				29,864

BMP16: Combined Sewer System Rehabilitation and Optimization

Sediment removed by the CRW combined sewer system (CSS) is the sum of three components.

- First, sediment is removed by processes within green stormwater infrastructure such as settling and filtration. Stormwater released from green stormwater infrastructure is expected to have a lower sediment concentration than untreated stormwater prior to entering the combined sewer system.
- Second, sediment is captured by the combined sewer system and conveyed to CRW’s Advanced Wastewater Treatment Facility. Reduction in the volume of combined sewer overflow is expected to proportionally reduce “land based” sediment load reaching the receiving water.
- Third, instream sediment mobilization in Paxton Creek is reduced as CSO flows and velocities reduce erosive forces on the stream channel.

Summary of CSS Improvements and CSO Control Benefits

CSS improvements implemented and operating as of August 1, 2023 consist primarily of early action GSI projects. Other improvements include the Front Street Pump Station upgrade, however sediment reductions (via increased capture) from this project will not be fully realized until CSO regulator modifications are complete (which cannot be fully completed until the interceptors are rehabilitated). Some regulator modifications have been completed (Hemlock Street Interceptor CSO regulators; and some Paxton Creek CSO regulator weirs have been raised to prevent creek intrusion), which has resulted in CSS improvements.

Table 6 is a summary of completed GSI projects within CRW’s service area. These projects are located in the CSS service area with the exception of the Cloverly Heights project, which is located in the MS4 service area.

Table 6. Summary of Completed CRW GSI Projects.

Project Name	Impervious Drainage Area [ac]	Total Storage Volume [cf]
Penn and Sayford	0.34	581
Royal Terrace Playground	0.79	3,190
Summit Terrace	2.64	14,600
3rd & Emerald	0.29	1,150
3rd & Woodbine	0.09	435
3rd & Maclay	0.22	1,150
3rd and Muench	0.42	1,080
3rd and Kelker	0.12	966
3rd and Hamilton	0.06	372
3rd and Harris	0.11	430
3rd and Basin	0.04	25
3rd and Calder	0.18	1,160
3rd and Sayford	0.03	99

Table 6. Summary of Completed CRW GSI Projects.

Project Name	Impervious Drainage Area [ac]	Total Storage Volume [cf]
3rd and Verbeke	0.10	727
3rd and Boas	0.11	487
3rd and Union	0.13	86
3rd and Blackberry	0.12	55
Allison Hill	1.0	5,230
4th and Dauphin	0.75	5,130
Camp Curtin Big Green Block	2.78	14,421
Bellevue Park Pond	16.6	33,772
CSS SUBTOTAL	27.0	85,200
Cloverly Heights	2.6	15,400
TOTAL	29.6	100,600

With the above CSS improvements, the systemwide Typical Year CSO volume is reduced by approximately 42.2 MG per year. The Typical Year represents average annual hydrologic conditions as defined in the Partial Consent Decree between CRW, PADEP, and the USEPA.

Reduction in Sediment Concentration in Green Stormwater Infrastructure Effluent

CRW has updated its calibrated SWMM5 model of the combined sewer service area to represent green stormwater infrastructure facilities operating within CRW’s combined sewer service area as of August 1, 2023. Green stormwater infrastructure removes runoff volume and pollutant loads through processes including infiltration to native soil, evaporation, filtration through planting media, and sorption of pollutants to soil particles. Hydraulic controls limiting the rate of effluent flow also reduce combined sewer overflows and streambank erosion occurring downstream.

For modeling purposes, green infrastructure facilities are categorized as one of three broad types – infiltration only, slow release only, and infiltration/slow release. For each facility type and within each model subshed, the SWMM5 model represents the storage volume, infiltration footprint, and any slow-release hydraulic controls implemented. Model settings are described in more detail below.

- Storage volume and infiltration footprint were based on engineering design information available in CRW’s GIS.
- If pre-construction or post-construction infiltration rate data were available, soil hydraulic conductivity assumptions were derived from this data. If no data were available, hydraulic conductivity values from CRW’s calibrated SWMM5 rainfall-runoff response model were incorporated in GSI elements on a sewershed basis.
- For sites indicated in CRW’s GIS as having slow-release hydraulic controls, design data on orifice size and elevation were incorporated in the model if available. If design data were not available, a 0.5-inch diameter orifice was assumed.

For the Typical Year SWMM5 continuous simulation, during each CSO event, slow-release flows from GSI entering the combined sewer system were determined. The portion of total flow made up of slow release was determined, and slow release from GSI was assumed to represent the same fraction of CSO as it does of total flow. (Example: If slow release from GSI makes up 1% of the flow entering the combined sewer system for a particular event, then slow release from GSI also makes up 1% of CSO volume for that event.) The CSO volumes attributed to GSI slow release for each overflow event are summed to determine the total CSO volume attributed to GSI slow release during the Typical Year. Sediment removal percentages are applied to concentrations in slow-release volumes from GSI facilities based on PADEP’s recommended values (**Table 7**).²

Table 7. BMP Effectiveness Values.

BMP Name	BMP Effectiveness Values			BMP Description
	TN	TP	Sediment	
Infiltration Practices w/ Sand, Veg.	85%	85%	95%	An depression to form an infiltration basin where sediment is trapped and water infiltrates the soil. No underdrains are associated with infiltration basins and trenches, because by definition these systems provide complete infiltration. Design specifications require infiltration basins and trenches to be built in good soil, they are not constructed on poor soils, such as C and D soil types. Engineers are required to test the soil before approval to build is issued. To receive credit over the longer term, jurisdictions must conduct yearly inspections to determine if the basin or trench is still infiltrating runoff.
Bioretention – Raingarden (C/D soils w/ underdrain)	25%	45%	55%	An excavated pit backfilled with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants. This BMP has an underdrain and is in C or D soil.
Bioretention / Raingarden (A/B soils w/ underdrain)	70%	75%	80%	An excavated pit backfilled with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants. This BMP has an underdrain and is in A or B soil.
Bioretention / Raingarden (A/B soils w/o underdrain)	80%	85%	90%	An excavated pit backfilled with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants. This BMP has no underdrain and is in A or B soil.

As of August 1, 2023, the estimated sediment load removed due to decreased concentration from GSI slow release in CRW’s combined sewer areas is 9 lb/yr. Note that this value represents only the portion of load reduction from CSO outfalls due to decrease in sediment *concentration* in the CSO. The load reduction due to reducing the CSO *volume* is described in the following section.

Land-Based Sediment Load Reductions Due to Combined Sewer Overflow Reduction

This credit represents the sediment load that is captured and conveyed to the AWTF under current (August 1, 2023) conditions compared to the Existing Condition. This reduction is added to the sediment load removed from surface runoff by GSI slow release before the runoff enters the combined sewer system.

As described in the Joint Pollutant Reduction Plan, this load is assumed to be directly proportional to the reduction in CSO volume discharged to the receiving waters in the current (August 1, 2023) conditions compared to the Existing Condition. The calculation employed in production of the Joint Pollutant Reduction Plan has been applied in exactly the same way to calculate the reduction during

² PADEP. BMP Effectiveness Values. 3800-PM-BCW0100m Rev. 6/2018.
<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=3686>. Accessed 9/2/21.

the reporting period. However, the equation presented in the Joint Pollutant Reduction Plan has been corrected to produce the correct units and numerical results.

2017 PRP Land-Based Runoff Sediment Load from CSS changes calculation method	
LBS_{CAP}	$= LBS_{CRW-TOT} * A_{CSS} / A_{CRW-TOT} - \frac{LBS_{CRW-TOT}}{CSS_{VOL}} * CSO_{VOL}$
where:	
LBS_{CAP}	= Reductions in Land-Based Sediment Load from existing CSS operations (lb)
$LBS_{CRW-TOT}$	= Total Land-Based Sediment Load from CRW/Harrisburg (lb)
A_{CSS}	= Area draining to the CRW CSS (acres)
$A_{CRW-TOT}$	= Total Area in CRW/Harrisburg (acres)
$LBS_{CRW-TOT}$	= Total Land-Based Sediment Load from CRW/Harrisburg (lbs)
CSS_{VOL}	= Runoff volume from CSS area (gal)
CSO_{VOL}	= CSO volume from existing CSS operation (gal)

Joint Pollutant Reduction Plan: Paxton Creek Watershed TMDL, Chesapeake Bay PRP, Wildwood Lake PRP, and UNT Spring Creek PRP, Revised December 27, 2019; Exhibit 3, Corrected as Noted in Red

Runoff and CSO volumes were calculated based on a typical year simulation of CRW’s calibrated SWMM5 model of the combined sewer collection and treatment system. As of August 1, 2023, the estimated land-based sediment load removed by CRW’s combined sewer system in the Joint Planning Area is 4,546 lb/yr.

Instream Sediment Load Reductions Due to CSS Operations

This credit represents the reduction in sediment mobilization due to streambank erosion. As described in the approved Joint Pollutant Reduction Plan, the reduction in streambank erosion load is assumed to be directly proportional to the reduction in CSO volume discharged to the receiving water in the current (August 1, 2023) conditions compared to the Existing Condition. The equation described in the Joint Pollutant Reduction Plan has been corrected to produce the correct units and numerical results.

Joint PRP In-Stream Sediment Load Attributed to CRW CSS	
	$SBS_{CSS} = SBS_{CRW-TOT} - CSS_{VOL} * SBS_{Rate}$
where:	
SBS_{CSS}	= Reduction In-Stream Sediment Load from CSS operation (lb)
$SBS_{CRW-TOT}$	= Total In-Stream Sediment Load attributed to CRW/Harrisburg (lb)
CSS_{VOL}	= Estimated Volume Captured by Existing CRW CSS Operation (gal)
SBS_{Rate}	= In-stream erosion rate (lb / gal), from 2015 Paxton Creek TMDL Strategy

Joint Pollutant Reduction Plan: Paxton Creek Watershed TMDL, Chesapeake Bay PRP, Wildwood Lake PRP, and UNT Spring Creek PRP, Revised December 27, 2019; Exhibit 2

As of August 1, 2023, the estimated instream sediment load removed by CRW’s combined sewer system in the Joint Planning Area is 40,086 lb/yr.

GSI Projects Outside the Combined Sewer Service Area

Currently, one GSI project (Cloverly Heights) is located within CRW’s MS4 area. Calculation of the sediment load in runoff entering this facility is closely based on the methodology originally implemented in Mapsheds and described in the Joint Pollutant Reduction Plan. The sediment load reduction achieved in the facility is calculated using PADEP’s recommended sediment removal

percentage (55% removal for bioretention with C/D soils). During the Typical Year, approximately 2.85 million gallons of runoff is captured and managed by the Cloverly Heights project, yielding a 91 lb/yr reduction at the MS4 outfall.

Ongoing/Upcoming JPRP Projects

The Paxton Creek Cooperative (PCC) has completed four projects and is in progress with the fifth project within the current permit term reaching towards the group's collective pounds of sediment removal. These projects were previously highlighted in the 2021-2022 Annual Status Report. The fifth project, bid and awarded in June 2022, is now outlined in more detail below.

To briefly recap on the previous projects completed over the past year where RES proposed to use a combination of stream restoration and floodplain restoration to meet sediment removal quantities. The selected locations had unstable and incised channels due to stormwater impacts and historic land uses. The proposed floodplain restorations were designed to be self-sustaining, highly functioning, floodplain systems that will reduce pollutant loadings by stabilizing eroded streambanks, reconnecting of channel restoration, floodplain grading, subsurface grade control structures, and habitat structural improvements to restore channel pattern and the floodplain. Overall, the stream complex is designed to have low bank heights and low-very low streambank erosion rates. Of the three projects completed by RES, Veterans Park – North & South received roughly 2,477 LF, Shutt Mill Park received approximately 913 LF, and Pine Apartments Complex received roughly 1,459 LF of restorations. Currently, these projects are being monitored, by RES, for additional pounds of sediment removed which will be confirmed to the PCC after one year of monitoring.

Stonebridge Apartments was also completed within the current permit term, which restored 1800 feet of Asylum Run. This stretch was previously identified as a top 5 contributor of pollutants to Paxton Creek. The project resolved the excessive erosion occurring by reconstructing the streambed and restoring the surrounding floodplain area.

PCC and PennDOT bid, with Swatara Township, on another round of projects. The second contract was awarded to RES. The Swatara Township project is not included towards the PCC's sediment removal amount. RES has submitted the Conceptual PRP for approval outlining the PPC project, the McIntosh BMP on Paxton Creek. The BMP is located within the Wildwood Lake sub-watershed of the Paxton Creek Watershed. Land cover within the proposed BMP limits includes lawn, degraded wetland, and shrubland. The public parcel was donated to the Township and a portion is being used as a public park. The watercourses proposed for restoration as part of this BMP include Paxton Creek and one (1) UNT to Paxton Creek. The 2,310 LF of channels within the BMP originate from underneath bridges along McIntosh Road outside of the BMP limits. The channels being proposed for restoration have high vertical banks up to 5 feet, limited bank protection, and they exhibit high levels of degradation due to stormwater runoff from the substantial urbanized drainage area. The side tributary draining from outside of the BMP limits also exhibits impairment and contributes sediment to the watershed. RES proposes to utilize floodplain restoration for the majority of the reaches to maximize sediment reduction potential. Table 8 below provides the estimated total sediment reduction.

Conclusion

For the current reporting period ending on August 1, 2023, the Municipal Entities are taking credit for projects currently in the operation phase. Table 8 summarizes the status of all projects in the design, construction, and operation phases. When completed and in operation, these projects are projected to achieve load reduction goals prior to the end of the current permit term.

Table 8. Completed and In Progress JPRP Projects

Joint Planning Area Projects	JPRP BMP Name	JPRP Projection [lb/yr]	Updated Projection (Work in Progress) [lb/yr]	Percent of Overall Reduction [% of Goal]
Veterans Park - North & South ⁽²⁾	BMP-04 and -05	247,250	544,003	32%
Pine Apartment Complex ⁽²⁾	BMP-11	166,750	138,345	8%
Shutt Mill Rd/Walker Mill Rd ⁽²⁾	BMP-06	501,171	130,437	7%
Stonebridge Apartment ⁽²⁾	BMP-02	166,750	166,750	10%
CRW Street Sweeping ⁽²⁾	BMP-15	29,864	29,864	2%
Cloverly Heights GSI ⁽²⁾	N/A	N/A	91	0.01%
2022 PennDOT Contract (RES) ⁽¹⁾	N/A	N/A	692,677	41%
CRW CSS Rehab & Optimization ⁽²⁾	BMP-16	355,000	44,641	2.6%
Total Reduction			1,746,808	103%
Planning Area Goal (JPRP, Section F)			1,694,398	-
Remaining Reduction			(52,410)	0%

(1) Design or construction in progress (subject to PADEP approval)

(2) Complete and in operation

ATTACHMENT #9
SWM O&M Agreement

Tax Parcel I.D. No. XX-XX-XXX
[insert Tax Parcel I.D. No.]
Tax Parcel I.D. No. XX-XX-XXX
Tax Parcel I.D. No. XX-XX-XXX
Tax Parcel I.D. No. XX-XX-XXX
Tax Parcel I.D. No XX-XX-XXX
Tax Parcel I.D. No XX-XX-XXX
CITY OF HARRISBURG

**OPERATIONS AND MAINTENANCE AGREEMENT
FOR
STORMWATER FACILITIES AND BEST MANAGEMENT PRACTICES
BETWEEN**

[INSERT LANDOWNER NAME IN CAPS] AND CAPITAL REGION WATER

This **OPERATIONS AND MAINTENANCE AGREEMENT FOR STORMWATER FACILITIES AND BEST MANAGEMENT PRACTICES** ("Agreement") is made and entered into this [] day of [], 2021, by and between [insert name of Landowner] (hereinafter the "Landowner"), and Capital Region Water, Dauphin County, Pennsylvania.

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property located in Harrisburg, Dauphin County, Pennsylvania (hereinafter "Property"), identified as Tax Parcel No(s). XX-XX-XXX, [insert all applicable Tax Parcel No(s). XX-XX-XXX]; and

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the Stormwater Management Site Plan (hereinafter "Plan") for the property identified herein, prepared by [insert name of Landowner] and dated [insert date of Plan], 202X which is incorporated herein as Exhibit "A", as approved by Capital Region Water, provides for management of stormwater within the confines of the Property through the use of Best Management Practices (BMP's); and

WHEREAS, Capital Region Water, the Landowner, their successors and assigns, agree that the health, safety and welfare of the residents of Capital Region Water and the protection and maintenance of water quality require that on-site stormwater Best Management Practices be constructed and maintained on the Property; and

WHEREAS, Capital Region Water requires, through the implementation of the Plan, that stormwater management BMPs, as required by said Plan, and the City of Harrisburg Stormwater Management Ordinance, be constructed and adequately maintained by the Landowner, their successors and assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The foregoing recitals of this Agreement are incorporated into the body of this Agreement as if set forth at length herein.
2. The onsite BMP facilities shall be constructed by the Landowner in accordance with the plans and specifications identified in the Plan.
3. The Landowner shall operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to Capital Region Water and in accordance with the specific maintenance requirements noted on the Plan.
4. The Landowner hereby grants permission to Capital Region Water, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper identification, to inspect the BMP(s) whenever it deems necessary; provided, however, that unless there is reasonable cause to believe that the stormwater management facilities are not operating properly, such inspections shall not occur more frequently than annually. Whenever possible, Capital Region Water shall notify the Landowner prior to entering the Property. When inspections are conducted, Capital Region Water shall give the Landowner, or their respective successors and assigns, copies of the inspection report with findings and evaluations, if such a report is prepared.
5. In the event the Landowner fails to operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to Capital Region Water, Capital Region Water shall give written notice to the Landowner setting forth the specifics of such failure to operate or maintain, the remediation required, and a reasonable deadline to complete such action. After failure of the Landowner to remedy within the specified time limit, Capital Region Water or its representatives may, upon presentation of proper identification, enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). This provision shall not be construed to allow Capital Region Water to erect any permanent structure on the land of the Landowner. It is expressly understood and agreed that Capital Region Water is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on Capital Region Water.

6. In the event Capital Region Water, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work or labor, use of equipment, supplies, materials and the like, the Landowner shall reimburse Capital Region Water, within forty-five (45) days of receipt of an invoice thereof, for all reasonable costs incurred by Capital Region Water hereunder.
7. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMP(s) by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
8. Capital Region Water may inspect the BMP(s) at a minimum of once every year to ensure their continued functioning.
9. This Agreement, when executed, approved and delivered, shall constitute the entire agreement between the parties, and there are no other representations or agreements, oral or written, except as expressly set forth in this Agreement. This Agreement may be amended or modified only by an instrument in writing executed by the parties.
10. This Agreement shall be recorded at the Office of Recorder of Deeds, Dauphin County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

IN WITNESS WHEREOF, the parties hereto, each intending to be legally bound, have caused this Agreement to be executed as of the date first above written.

ATTEST:

CAPITAL REGION WATER

Secretary

By: _____
Chairperson

[INSERT LANDOWNER NAME IN CAPS]

By: _____
(Name)

COMMONWEALTH OF PENNSYLVANIA :
: SS
COUNTY OF DAUPHIN :

On this ____ day of _____, 20__, before me, a Notary Public, the undersigned officer personally appeared, _____, known to me (or satisfactorily proven) to be the Chairperson of Capital Region Water, described in the foregoing Operations and Maintenance Agreement for Stormwater Facilities and Best Management Practices, who acknowledged that he/she executed the same in the capacity therein stated, and for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public

COMMONWEALTH OF PENNSYLVANIA :
: SS
COUNTY OF DAUPHIN :

On this ____ day of _____, 20__, before me, a Notary Public, the undersigned officer personally appeared, _____, known to me (or satisfactorily proven) to be the _____ of _____, described in the foregoing Operations and Maintenance Agreement for Stormwater Facilities and Best Management Practices, who acknowledged that he/she executed the same in the capacity therein stated, and for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public

ATTACHMENT #10

Training Attendance Sheets

NMC 9MSU Training

Sign In

6-30-2023

Mike Gonzalez

Mister Pitts

Kevin Martin

Michael W Fox

Ken Freyburger

Scott Rotolo

Mike Paul

Eugenio Kelly

Michael P. Smith



All-Employee Meeting Sign-In Sheet

Date: June 28, 2023

#	First Name	Last Name	Signature
1	Terri	Ambush	<i>Terri Ambush</i>
2	Sirena	Anderson	<i>Sirena Anderson</i>
3	Brandon	Anderson	
4	Joseph	Baker	<i>Joseph Baker</i>
5	Maurice	Baskins	<i>Maurice Baskins</i>
6	Rodney	Bebenek	<i>Rodney Bebenek</i>
7	Sheri	Berilla	<i>Sheri Berilla</i>
8	Damian	Bernstein	<i>Damian Bernstein</i>
9	David	Beshara	
10	Michelle	Bethel-Miller	<i>Michelle Bethel-Miller</i>
11	Chad	Bingaman	<i>Chad Bingaman</i>
12	Gina	Bond	
13	Robin	Boone	<i>Robin Boone</i>
14	Amy	Borden	<i>In Attendance Virtually</i>
15	Jack	Borden	
16	Jeffrey	Bowra	<i>Did Not Attend - PTO</i>
17	Darla	Boyer	<i>Darla Boyer</i>
18	Jarrett	Brown	
19	Jarvis	Brown	
20	Eugene	Brown	<i>Eugene Brown</i>
21	Nanette	Burnett	<i>Nanette Burnett</i>
22	Oran	Burns	
23	Benjamin	Burns	
24	Jasper	Campana	<i>Jasper Campana</i>
25	Jeffrey	Cesar	
26	Aviane	Chase	
27	John	Cheeseboro	
28	Matthew	Chisnell	
29	Damon	Clowe	<i>Damon Clowe</i>
30	Richard	Crosson	
31	Tom	Czyzykowski	<i>Tom Czyzykowski</i>
32	Kelli	Dabler	
33	Barry	Daniels	<i>Barry Daniels</i>
34	Warren	Detres-Toro	<i>Warren Detres-Toro</i>
35	Tanya	Dierolf	<i>Tanya Dierolf</i>

LAST NAME

A - K



All-Employee Meeting Sign-In Sheet

Date: June 28, 2023

#	First Name	Last Name	Signature
36	Lillian	Dolan	
37	Paul	Eads	PAUL EADS
38	Neil	Ebert	Neil Ebert
39	Michael	Elicker	Michael Elicker
40	Keith	Ferguson	
41	Michael	Fox	Michael Fox
42	Jodi	Freeburn	Jodi Freeburn
43	Kenneth	Freysinger	Kenneth Freysinger
44	Jorge	Garcia-Navarro	Jorge Garcia-Navarro
45	Maynard	Gardner	Maynard Gardner
46	Na'Reece	Glenn	
47	Nelson	Gomez	Nelson Gomez
48	Michael	Gonzalez	Michael Gonzalez
49	Miriam	Gonzalez-Siegel	Miriam Gonzalez-Siegel
50	JoAnn	Gray	JoAnn Gray
51	Ronald	Grove	Ronald Grove
52	Alejandro	Grullon Figuereo	Alejandro Grullon Figuereo
53	Mark	Haar	Mark Haar
54	Brandon	Harris	Brandon Harris
55	Tiffany	Harris	Tiffany Harris
56	Brian	Hart	Brian Hart
57	Robert	Heineman	Robert Heineman
58	Victor	Hess	Victor Hess
59	Jordan	Hileman	Jordan Hileman
60	Raymond	Hoke	Raymond Hoke
61	Cody	Howe	Cody Howe
62	Nacole	Johnson	Nacole Johnson
63	Michael	Joseph	Michael Joseph
64	Charlotte	Katzenmoyer	Charlotte Katzenmoyer
65	Douglas	Keith	Douglas Keith
66	Buck	Kelley	Buck Kelley
67	Douglass	Kelly	Participated Virtually
68	James	Klahr	James Klahr
69	Lee	Kneasel	Lee Kneasel
70	Nancy	Kuhn	

LAST NAME

A - K



All-Employee Meeting Sign-In Sheet

Date: June 28, 2023

#	First Name	Last Name	Signature
71	Rebecca	Laufer	<i>Rebecca Laufer</i>
72	Michael	Leeper	
73	Daniel	Lehman	Unable to attend (per Chins Welsh)
74	Angela	Leyva	<i>Angela Leyva</i>
75	Robert	Lipscomb	<i>Robert Lipscomb</i>
76	Kendrick	Maholtz	<i>Kendrick Maholtz</i>
77	Maribet	Maldonado	<i>Maribet Maldonado</i>
78	Regina Gail	Malloy	<i>Regina Gail Malloy</i>
79	Kevin	Martin	<i>Kevin Martin</i>
80	Claire	Maulhardt	<i>Claire Maulhardt</i>
81	Karen	McKillip	<i>Karen McKillip</i>
82	Alan	McPherson	<i>Alan McPherson</i>
83	Jamie	Meily	<i>Jamie Meily</i>
84	Jason	Miller	<i>Jason Miller</i>
85	Janice	Miller-Zerbe	<i>Janice Miller-Zerbe</i>
86	Salvatore	Montalto	<i>Salvatore Montalto</i>
87	Joseph	Moore	<i>Joseph Moore</i>
88	Douglas	Morrison	Participated Virtually
89	Ronald	Morrow	
90	Jennifer	O'Neill	<i>Jennifer O'Neill</i>
91	Matthew	Orndorf	<i>Matthew C. Orndorf</i>
92	Kenneth	Ortiz	
93	Julie	Peters	<i>Julie Peters</i>
94	Mister	Pitts	<i>Mister Pitts</i>
95	Tom	Polly	
96	Randy	Ritter	<i>Randy Ritter</i>
97	Dustin	Rogers	<i>Dustin Rogers</i>
98	Brenda	Rohrer	<i>Brenda Rohrer</i>
99	CJ	Rosa	<i>CJ Rosa</i>
100	Jess	Rosentel	<i>Jess Rosentel</i>
101	Scott	Rotolo	<i>Scott Rotolo</i>
102	Brian	Russell	unable to attend (per Chris Welsh)
103	Shane	Russell ✓	In attendance virtually
104	Randolph	Saunders	<i>Randolph Saunders</i>
105	Riccardo	Saunders	<i>Riccardo Saunders</i>

LAST NAME

L - Z



All-Employee Meeting Sign-In Sheet

Date: June 28, 2023

#	First Name	Last Name	Signature
106	Sean	Sauro	<i>Sean Sauro</i>
107	Scott	Schaeffer	<i>Scott Schaeffer</i>
108	Tammie	Sheaffer	<i>Tammie Sheaffer</i>
109	Charles	Shireman	<i>Charles Shireman</i>
110	Jared	Shireman	<i>Jared Shireman</i>
111	Wendy	Shollenberger	<i>Wendy Shollenberger</i>
112	Deborah	Sibbering	<i>Deborah Sibbering</i>
113	Charles	Snyder	<i>Charles Snyder</i>
114	David	Stewart	<i>David Stewart</i>
115	Micaela	Swart	<i>Micaela Swart</i>
116	Donald	Sweger	<i>Donald Sweger</i>
117	Joshua	Sweger	<i>Joshua Sweger</i>
118	Jermaine	Taylor	<i>Jermaine Taylor</i>
119	Cathie	Thomas	<i>Cathie Thomas</i>
120	Melvin	Thompson	<i>Melvin Thompson</i>
121	Trevor	Thompson	<i>In Attendance Virtually</i>
122	David	Toth	<i>David Toth</i>
123	Cody	Trostle-Weber	<i>Cody Trostle-Weber</i>
124	Edward	Tull	<i>Edward Tull</i>
125	Hipolito	Vega	<i>Hipolito Vega</i>
126	Eugenio	Velez-Rojas	<i>Eugenio Velez-Rojas</i>
127	Alesha	Vonada	<i>Alesha Vonada</i>
128	Kristina	Wagner	<i>Kristina Wagner</i>
129	Jeffery	Wahosky	<i>Jeffery Wahosky</i>
130	Lewis	Weaver	<i>Lewis Weaver</i>
131	Christopher	Welsh	<i>Christopher Welsh</i>
132	Mark	Wilfong	<i>Mark Wilfong</i>
133	Densin	Wilson	<i>Participated Virtually</i>
134	Reese	Witmer	<i>Reese Witmer</i>
135	Eugene	Wrightstone	<i>Eugene Wrightstone</i>
136	Thomas	York	<i>Thomas York</i>
137	Keith	Zimmerman	<i>Keith Zimmerman</i>

LAST NAME

L - Z

ATTACHMENT #11

Appendix B & C - Pathogen & PBC Sources

Capital Region Water

MS4 Permit Appendix B and C – Pathogen & PCB Source Investigation

1.1 Regulatory Context

Capital Region Water (CRW) is under regulation for all discharges to any waterway per the PADEP under a National Pollutant Discharge Elimination System (NPDES) Individual Permit. Capital Region Water has been provided NPDES Permit PAI133524 and the permit became effective on August 1, 2020, and will expire on July 31, 2025. The details of Appendix B and C are outlined below.

Appendix B – Pollutant control measures must be implemented upon permit coverage to control pathogens in stormwater discharges to impaired waters (with or without a TMDL).

A. Map and Inventory.

1. The permittee shall develop map(s) of the storm sewershed(s) associated with all outfalls that discharge to surface waters subject to Appendix B. The purpose is to identify the area the permittee is responsible for within its legal boundaries in developing a source inventory. The map(s) shall be submitted to DEP with an Annual MS4 Status Report that is due no later than September 30, 2022.

2. The permittee shall develop an inventory of all suspected and known sources of bacteria in stormwater within the storm sewershed, at a minimum, that discharge to impaired waters. The inventory must identify whether the source is suspected or known, the basis for this determination, the responsible party (if known), and any corrective action the permittee has taken or plans to take for any of these sources. The inventory shall be submitted to DEP with an Annual MS4 Status Report is due no later than September 30, 2023.

B. The permittee shall complete an investigation of each suspected source. This investigation must include stormwater sampling if the investigation is required as part of implementing the IDD&E program under MCM #3 of the permit, and otherwise is voluntary. The results of the investigation shall be submitted to DEP with an Annual MS4 Status Report that is due no later than September 30, 2025.

C. The permittee shall enforce ordinances that prohibit illicit and illegal connections and discharges of sewage to the MS4. Anytime an illicit and illegal connection or discharge of sewage into the MS4 is discovered by the permittee, the permittee shall report the finding in the subsequent Annual MS4 Status Report along with a description of corrective action by the permittee.

D. If not already established in its Stormwater Management Ordinance (municipal permittees) or SOP (non-municipal permittees), the permittee shall enact an ordinance or develop and adopt an SOP that requires proper management of animal wastes on property owned by the permittee. If an ordinance or SOP already exists that controls animal wastes, it must be attached to the first Annual MS4 Status Report due no later than September 30, 2021. If a new ordinance or SOP is enacted or adopted, the new ordinance or SOP must be attached to the first Annual MS4 Status Report due no later than September 30, 2024.

E. The permittee shall document the progress of its investigations, source control efforts and BMPs to control sources of pathogens in its Annual MS4 Status Reports.

Appendix C – Pollutant control measures must be implemented upon permit coverage to control priority organic compounds (e.g., PCBs, Chlordane, etc.) in stormwater discharges to impaired waters (with or without a TMDL).

A. Map and Inventory.

1. The permittee shall develop map(s) of the storm sewershed(s) associated with all outfalls that discharge to surface waters subject to Appendix C. The purpose is to identify the area the permittee is responsible for within its legal boundaries in developing a source inventory. The map(s) shall be submitted to DEP with an Annual MS4 Status Report that is due no later than September 30, 2022.

2. The permittee shall develop an inventory of all suspected and known anthropogenic (caused or produced by humans) sources of Priority Organic Compounds in stormwater within the drainage area of outfalls discharging to impaired waters. The inventory must identify whether the source is suspected or known, the basis for this determination, the responsible party (if known), and any corrective action the permittee has taken or plans to take for any of these sources. The inventory shall be submitted to DEP with an Annual MS4 Status Report that is due no later than September 30, 2023.

B. The permittee shall complete an investigation of each suspected source. This investigation must include stormwater sampling if the investigation is required as part of implementing the IDD&E program under MCM #3 of the Permit, and otherwise is voluntary. The results of the investigation shall be submitted to DEP with an Annual MS4 Status Report that is due no later than September 30, 2025.

C. Where it is determined that sources of Priority Organic Compounds are being discharged in stormwater from industrial sites into the permittee's MS4, the permittee shall notify DEP in writing within 90 days of the permittee's findings. DEP may require the owner or operator of the industrial site to submit an application for NPDES permit coverage and/or implement BMPs to reduce pollutant loadings. This written notification is required only once per industrial site.

D. The permittee shall document the progress of its investigations, source control efforts and BMPs to control sources of Priority Organic Compounds in its Annual MS4 Status Reports.

PCBs are the priority organic compound that is an impairment for the Susquehanna River, which is a receiving water for CRW's MS4 outfalls. To fulfill the Appendix B and C requirements, CRW developed an inventory of suspected sources of pathogens and PCBs.

1.2 Inventory and Approach

CRW completed an assessment of the risk of pollutant discharges associated with a range of activities of concern under CRW's Nine Minimum Control (NMC) plan, specifically for NMC No. 3. The purpose of this risk assessment is to establish priorities for its pollution prevention programs, including those targeted at non-domestic dischargers. The NMC Plan assesses stormwater pollution risk in both CRW's MS4 system and combined sewer system. CRW takes an active approach in both systems to prevent and investigate pollution and illicit discharges, and the same approach in the NMC Plan is used to identify potential pathogens and PCB sources.

As described in the NMC Plan, CRW evaluated land use and activity types for a variety of constituents of concern. By assessing the likelihood (in Table 1.1) and consequence (in Table 1.2) of these properties/activities releasing constituents of concern, CRW developed risk scores, as shown in Figure 1-1 and the Stormwater Pollution Risk Map (Figure 3-3 from NMC Plan).

Table 1-1 Likelihood of Occurrence Rating

Land Use / Activity Type	Type of Discharge	Total Private Property Area Where Activity Occurs (ac)	Likelihood Criteria				Likelihood Rating (Weighting x Score)	Normalized Likelihood Rating (Scale of 0 to 5)
			% of Total Parcel Area (3,912.67 ac)	Outdoor Material Handling or Exposure ¹	Activity Frequency ²	Discharge Frequency Without Treatment / Control ³		
CRITERIA WEIGHTING			2	3	1	3		
Yard / Landscape Management	Runoff, spill	2,307	59%	3	3	3	22.2	4.8
Building Maintenance / Renovation	Illicit discharge, spill	1,903	49%	2	2	1	12.0	2.6
Lateral Maintenance / Repair	Illicit discharge	1,834	47%	3	1	1	13.9	3.0
Street / Pavement Management	Runoff	1,064	27%	3	2	3	20.5	4.5
Development / Construction	Runoff, spill	383	10%	3	3	2	18.2	4.0
Solid Waste Handling / Storage	Illicit discharge, spill	832	21%	2	3	1	12.4	2.7
Material Handling / Storage	Illicit discharge, spill	902	23%	2	3	1	12.5	2.7
Hazardous Material Handling / Storage	Spill	928	24%	2	3	1	12.5	2.7
Spill Prevention / Response / Cleanup	Spill	902	23%	3	1	1	13.5	2.9
Liquid Waste Handling / Storage	Illicit discharge, spill	508	13%	1	3	1	9.3	2.0
Food Service	Illicit discharge, spill	113	3%	1	3	1	9.1	2.0
Vehicle / Equipment Service	Illicit discharge, spill	54	1%	1	3	1	9.0	2.0

¹ Usually = 3, Sometimes = 2, Rarely = 1

² Continuous over at least 6 months = 3, Periodic or at least once /month = 2, Random / Occasional = 1

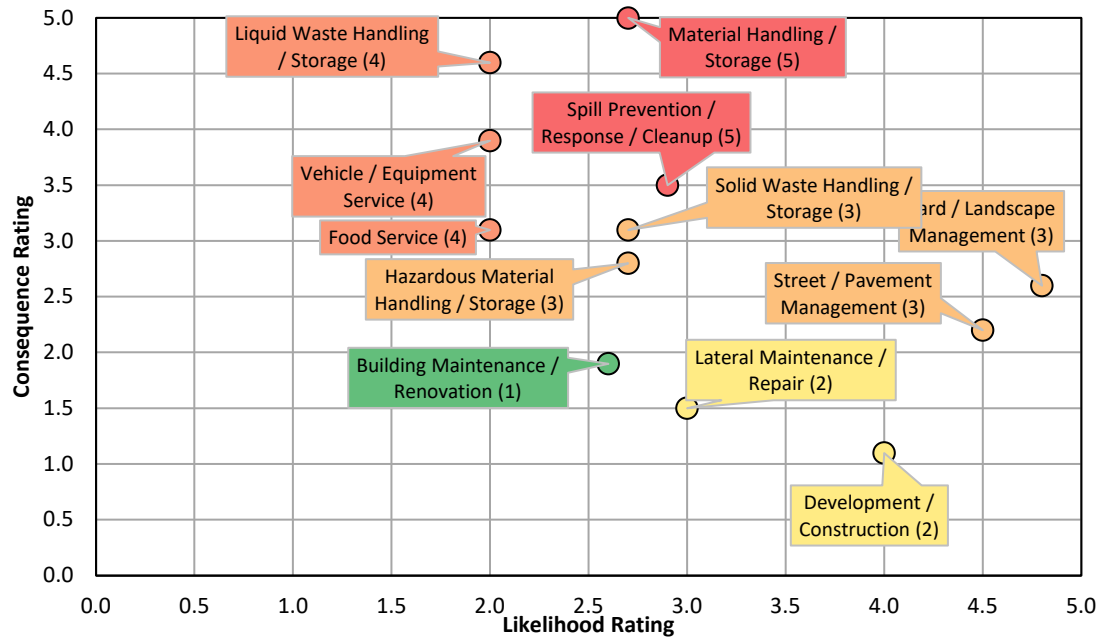
³ Continuous or during most precipitation events = 3, Periodic or at least once/month = 2, Random / Occasional = 1

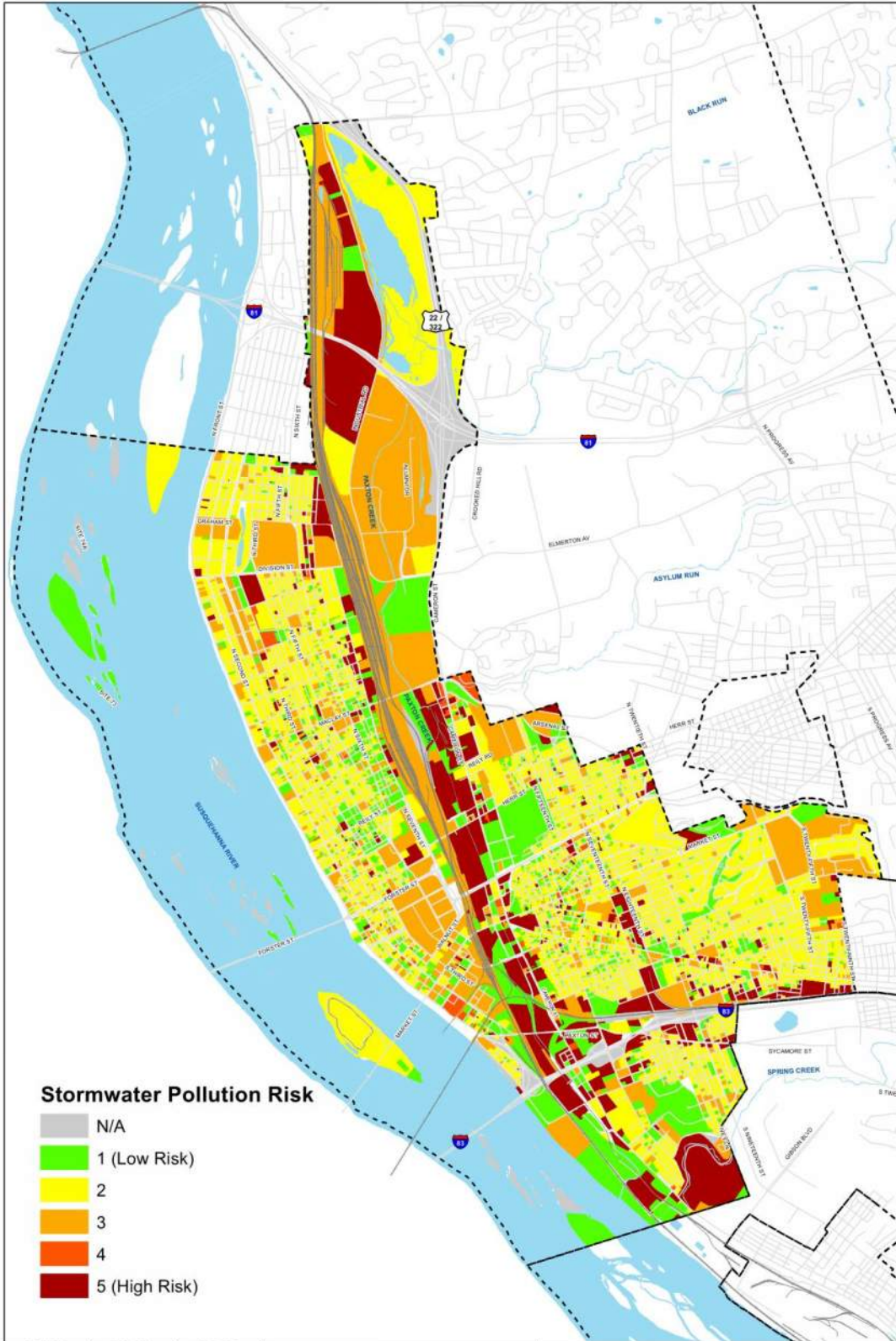
Table 1-2 Consequence Rating

Land Use / Activity Type	Constituents of Concern: Relative Quantity Handled or Discharged ¹												Consequence Rating (Weighting x Score)	Normalized Consequence Rating (Scale of 0 to 5)
	Sediment	Deicers	Solid Waste	Leachate	Food Waste	Oil & Grease	Vegetation Waste	Fertilizer	Herbicide/Pesticide	Process Waste	Sewage	Hazardous Materials		
CRITERIA WEIGHTING	1	1	1	2	1	2	1	1	2	3	3	5		
Yard / Landscape Management	M	M	I	N	N	I	H	H	M	N	N	N	14.0	2.6
Building Maintenance / Renovation	M	N	M	I	N	I	N	N	N	N	M	I	10.0	1.9
Lateral Maintenance / Repair	I	N	N	N	N	L	N	N	N	N	M	N	8.0	1.5
Street / Pavement Management	M	H	M	I	N	M	L	N	N	N	N	N	12.0	2.2
Development / Construction	H	N	L	I	N	I	M	N	N	N	N	N	6.0	1.1
Solid Waste Handling / Storage	I	N	H	M	L	L	M	N	N	N	N	L	17.0	3.1
Material Handling / Storage	M	M	M	M	N	M	N	L	L	N	N	M	27.0	5.0
Hazardous Material Handling / Storage	I	N	I	I	N	I	N	N	I	N	N	H	15.0	2.8
Spill Prevention / Response / Cleanup	N	N	N	N	N	N	N	N	N	L	M	M	19.0	3.5
Liquid Waste Handling / Storage	I	N	N	N	N	I	N	N	N	M	H	M	25.0	4.6
Food Service	N	N	M	N	H	H	N	N	N	N	M	N	17.0	3.1
Vehicle / Equipment Service	M	N	I	N	N	H	N	N	N	L	N	M	21.0	3.9

¹ Definitions and Scores: High (3) = H, Medium (2) = M, Low (1) = L, Insignificant (0) = I, Not Applicable (0) = N

Figure 1-1 Risk Score Results





8/7/2015 PM: JAA GIS: JWE

CAPITAL REGION WATER

0 1,250 2,500 5,000 Feet

Mapping derived from data provided by Dauphin County, Capital Region Water, and the City of Harrisburg.

Figure 3-3 Stormwater Pollution Risk
Capital Region Water
Harrisburg, Pennsylvania

The Stormwater Pollution Risk Map shows that many of the highest risk land uses are clustered along Paxton Creek and the railroad corridors and include gas stations, garages, car dealers, truck terminals, warehouses, and industries. These high priority areas and land uses pose a potentially significant risk to both CSO discharges and Municipal Separate Storm Sewer System (MS4) discharges and are candidates for inclusion in CRW pollution prevention activities.

CRW developed a FOG Program Implementation Plan for a three-year phased approach. Key documents were developed to support the program including a FOG Best Management Practices Manual, a FOG Discharge Permit, a FOG Discharge Permit Application, and a Cleaning Log Sheet. A registry was created to identify all potential FOG dischargers within the City. This registry is part of CRW's GIS and asset management software and is used to track inspections of grease control equipment. Over 200 FOG contributors including, but not limited to, restaurants, car washes, automotive businesses, and schools have been identified and logged in the system. Update of this registry takes place weekly as more contributors are identified. Letters were issued to all identified potential FOG discharges to inform them of the new regulations, FOG Program, and permit requirements.

In addition to evaluating the stormwater pollution potential based on land uses and activities, CRW also evaluated the MS4 service area for the following potential pathogen sources:

- Urban Wildlife
- Domestic Pets, Dog Parks
- Trash, Dumping
- Non-Plant Organic Waste
- Homeless Encampments
- Leaking/Failed Septic Systems
- Sanitary Sewer Overflows
- Illicit Discharges

CRW compiled data from the last three years on sanitary sewer overflows, illicit discharges, and investigations within the MS4 area, as presented in the following Table 1-3. These potential pathogen sources were mapped on the MS4 Pathogen Source Investigation figure in Attachment #1 with the stormwater pollution risk rankings.

Table 1-3 Potential Pathogen Source Inventory

Description	Date	Address	Comments
Investigation Request	9/29/2020	I-81 N, Harrisburg, Pennsylvania, 17112	Biosolids spill from dump truck
Backup in Residence/Building	10/1/2020	1001 S 17th St, Harrisburg, Pennsylvania, 17104	SSO
Backup in Residence/Building	12/3/2020	1519 S 12th St, Harrisburg, Pennsylvania, 17104	SSO, tree roots in main
Illicit Discharge	3/31/2021	1660 S Cameron St, Harrisburg, Pennsylvania, 17104	Sewage running to storm inlet
Backup in Residence/Building	4/6/2021	1147 Rolleston St, Harrisburg, Pennsylvania, 17104	SSO, surcharged manholes
Investigation Request	6/21/2021	4000 Industrial Rd, Harrisburg, Pennsylvania, 17110	SSO
Backup in Residence/Building	11/1/2021	2490 Rudy Rd, Harrisburg, Pennsylvania, 17104	SSO, surcharged manholes, grease/rag blockage, line heavily cleaned
Illicit Discharge	11/18/2021	N 3rd St & Radnor St, Harrisburg, Pennsylvania, 17110	Illicit discharge
Backup in Residence/Building	1/25/2022	385 Rumson Dr, Harrisburg, Pennsylvania, 17104	SSO, surcharged MH, cleaned lines
Investigation Request	3/4/2022	1541 S 13th St, Harrisburg, Pennsylvania, 17104	SSO, lateral blockage, excavated and repaired
Illicit Discharge	5/19/2023	506 S 29th St, Harrisburg, Pennsylvania, 17104	Illicit discharge into inlet

In addition to evaluating the stormwater pollution potential based on land uses and activities, CRW also evaluated the MS4 service area for potential PCB sources, as outlined in the USEPA PCB TMDL Handbook, including:

- Transformers
- Industrial facilities
- Incinerators
- Storage and disposal facilities
- Environmental sinks, National Priority List
- Toxic Release Inventory

One potential PCB source is the LCSWMA Susquehanna Resource Management Complex, which located within the CRW service area, but the facility has an NPDES permit for stormwater discharges(s); the facility is excluded from the CRW MS4 area.

1.3 Evaluation

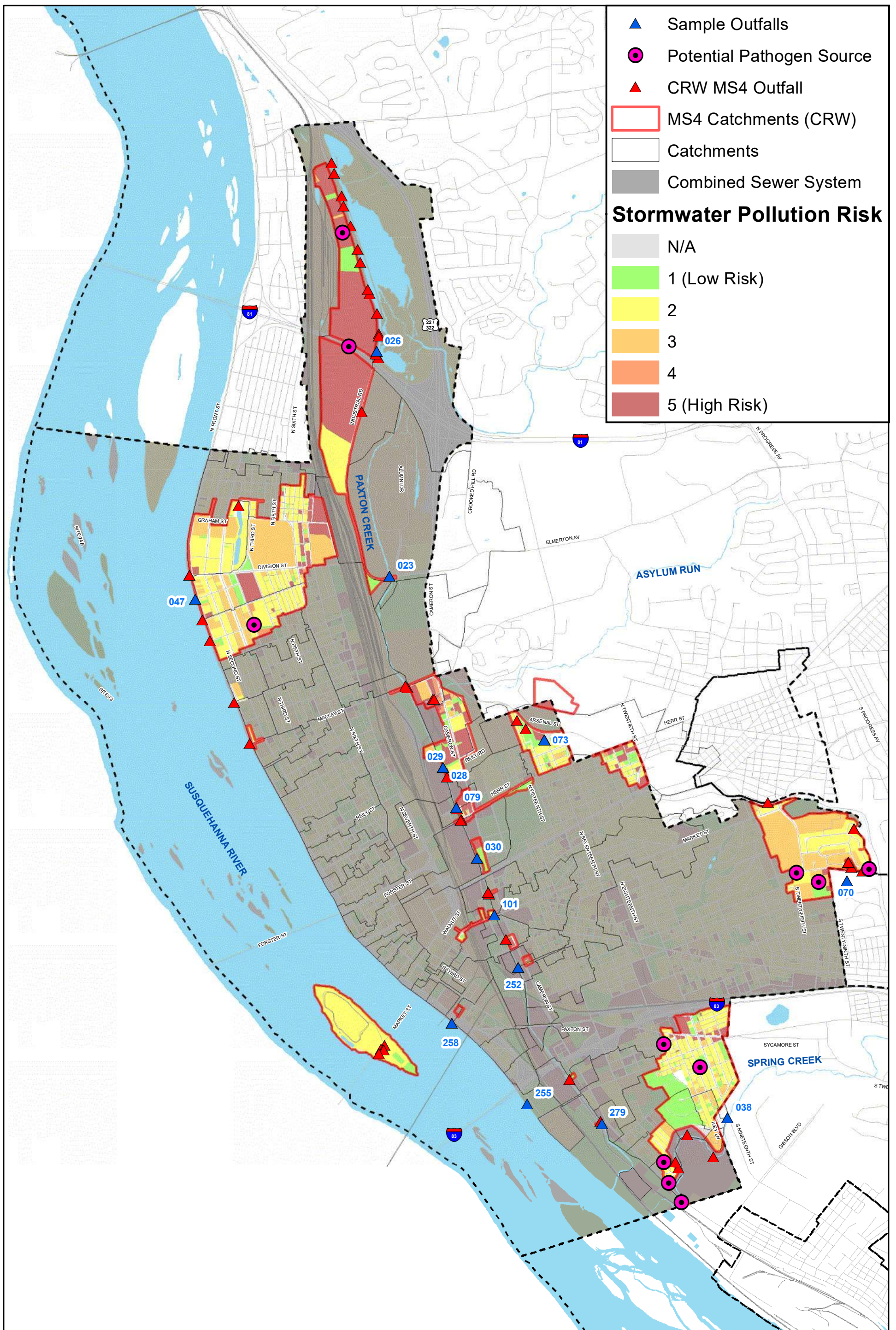
To investigate the potential pathogens and PCBs in CRW's MS4 area samples will be collected at selected outfalls CRW has identified outfalls to sample during outfall inspections to investigate further for potential pathogens or PCBs. The outfalls were selected due to their proximity to high-risk stormwater pollution areas and/or potential pathogen/PCB sources, the results of stormwater outfall inspections, or other details as summarized in Table 1-4 below.

Table 1-4 MS4 Outfalls to Sample

Outfall ID	Reason for Sampling	Outfall Submerged?	Observation Point	Dry weather flow present?	Description of Flow Rate
SWOUT-000023	Industrial area, dry weather flow	No		Yes	Moderate flow
SWOUT-000026	Industrial area, proximity to Wildwood Lake - waterfowl	Yes	SWINLT-003540	No	
SWOUT-000028	Proximity to Consolidated Scrap Resources	Yes	SWINLT-001835	No	
SWOUT-000029	Proximity to Consolidated Scrap Resources	Yes	SWMH-000315	No	
SWOUT-000030	Industrial area	No		No	
SWOUT-000038	Multiple potential pathogen sources, proximity to incinerator	No		No	
SWOUT-000047	High risk area, proximity to Italian lake	No	SWMH-006106	No	
SWOUT-000070	Multiple potential pathogen sources, including illicit discharge	Yes	SWMH-000415	No	
SWOUT-000073	Drainage from public housing, high pollution risk area, dry weather flow	No		Yes	Significant flow
SWOUT-000079	Near Harrisburg Dairies, illicit discharge	No		No	
SWOUT-000101	Near bus station and train overpass, dry weather fowl	No		Yes	Moderate flow
SWOUT-000252	Drainage from Hershey Creamery	Yes	SWMH-000662	No	
SWOUT-000255	Near homeless encampment	No	SWMH-006026	No	
SWOUT-000258	Proximity to Harrisburg Hospital, previously believed to be CSO outfall	Yes		No	
SWOUT-000279	Near homeless encampment	No		No	

CRW performs annual outfall inspections to meet requirements. During dry weather outfall inspections if active outfalls are found, water samples will be collected along with site investigation for illicit discharges. Water samples will be submitted for laboratory analysis to determine the pollutants of concerns. If pollutants of concern are found a formal investigation into illicit discharge will be conducted with the appropriate measures to resolve the problem.

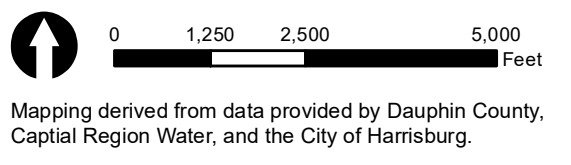
Based on the findings in the initial investigation CRW will continue to monitor outfalls based on land cover and potential sources of pollutants. If pathogens and PCBs are found CRW will further its investigation to find the source and eliminate them. CRW takes illicit discharges extremely seriously and investigates until the source is resolved while making sure documentation is in order and the proper agencies are notified.



- ▲ Sample Outfalls
- Potential Pathogen Source
- ▲ CRW MS4 Outfall
- MS4 Catchments (CRW)
- Catchments
- Combined Sewer System

Stormwater Pollution Risk

- N/A
- 1 (Low Risk)
- 2
- 3
- 4
- 5 (High Risk)



MS4 Pathogen Source Investigation
Capital Region Water
Harrisburg, Pennsylvania