

**MUNICIPAL SEPARATE
STORM SEWER SYSTEM (MS4)
ANNUAL STATUS REPORT**



TOWNSHIP OF LOWER SWATARA

SEPTEMBER 29, 2023

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INTRODUCTION

Lower Swatara Township is a small MS4 community that is currently in its second permit term. The term, initially planned to end in March 2023, has now been extended by DEP until March of 2025. In partnership with its engineer, Herbert, Rowland & Grubic, Inc. (HRG), the Township has developed a comprehensive Stormwater Management Plan to stay compliant with all requirements laid out within the Department of Environmental Protection's (DEP) PAG-13 General Permit. A summary of the steps taken by the municipality during the past year are listed below for review in its Annual MS4 Status Report. For a copy of DEP's Annual MS4 Status Report Form (3800-FM-BCW0491), please refer to Appendix A.

PUBLIC EDUCATION AND OUTREACH PROGRAM (MCM #1)

It is the duty of the Township to educate the public on stormwater management. It is important to understand how rainwater runoff can cause pollution as well as hinder the stormwater management efforts of municipalities and private entities. Understanding this can help to motivate citizens to take steps to protect and reduce their runoff. To accomplish this, the Township has developed a Public Education and Outreach Program (PEOP). There are three main goals within this program:

1. Maintain a list of target audience groups who live and/or operate within the community.
2. Publish and distribute educational materials to those audience groups, and the public at large, using a variety of mediums including display boards, presentations, newspaper advertisements, or flyers posted at key locations within the community.
3. Maintain an informational website which provides general stormwater information, community notices, and planned events within the Township.

While it is important to educate all members of the community, maintaining a list of target audience groups can be of great assistance in guaranteeing a large portion of the public has an opportunity to learn more about stormwater management. The list of audience groups is updated on an annual basis. The following entities are included:

1. Homeowners and residents
2. Municipal staff
3. Public and private schools
4. Churches
5. Local businesses
6. Contractors/Developers who commonly operate within the Township

The Dauphin County Conservation District runs a newspaper advertisement each year concerning stormwater management. The Township has agreed to participate in the development and posting of this advertisement under their Memorandum of Understanding with the Conservation District. Additionally, two bulletin boards within the Township Municipal Building are updated seasonally with information geared towards current or upcoming residential activities where stormwater may be impacted, i.e. emptying your pool during fall or spring months. Samples of the informational material posted on the boards can be found in Appendix B.

The Township's stormwater website also serves as a vital resource for members of the public who wish to learn more about the MS4 program, as well as stormwater management. Key upcoming events and

information are posted regularly. To remain in compliance with the Township's NPDES permit, links to DEP's and EPA's stormwater websites are also included.

In June, the Township provided a stormwater management webinar for the public. At the meeting, the public was given a brief overview of the MS4 Program and the steps the municipality has taken over the past few years to manage its storm sewer system. An opportunity was also provided to the public to discuss ongoing drainage and flooding concerns.

The Township has also, in the past, worked with officials from Penn State's Harrisburg campus to brainstorm possible community outreach programs for future use including:

- Stormwater BMP showcases on campus for student and public education
- Volunteer opportunities such as tree plantings or park cleanup
- Development of educational materials to be distributed to the public

PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM (MCM #2)

The Township has implemented a Stormwater Management Fee to maintain its stormwater infrastructure and fund its pollution reduction projects. As part of the Board of Commissioner's decision to implement this process, a Credit Policy was developed to provide local businesses with a method of reducing their monthly fee. Credits can be awarded for maintaining existing stormwater facilities, owning a low impact parcel, or for educating the public about the importance of stormwater management. Additionally, agricultural properties that are focused on environmental safety are also eligible for credits. This credit policy has been instrumental in the maintenance for existing BMPs that were constructed prior to the Township's MS4 Program. As property owners apply for BMP maintenance credits, they have been required to sign an O&M agreement with the Township. A copy of the credit policy can be found in Appendix C.

Lower Swatara also encourages involvement from the public by providing opportunities to participate in program development and implementation by enabling residents to:

1. Coordinate with the Township Commissioner serving as the liaison to Water Quality/MS4;
2. Participate in Riparian Buffer Plantings;
3. Participate in Rain Barrel Workshops;
4. Attend Public Meetings;
5. Work as citizen volunteers to educate other individuals about the program;
6. Assist in coordination with other pre-existing programs, and;
7. Participate in volunteer monitoring efforts where those opportunities exist. Existing watershed groups are also utilized wherever feasible to meet the Township's goals and obligations;
8. Coordinate projects with local clubs as identified in Target Audience Groups;
9. Coordinate with Middletown Area School District to initiate and maintain an after school environmental/stormwater program with the science classes;
10. Coordinate with Penn State Harrisburg's environmental curriculum courses to provide volunteer opportunities.

The Township also maintains a tree planting initiative called the Community Roots Program. Members of the public and staff can target areas within the community that would benefit from additional

vegetation/trees for aesthetic or environmental purposes, such as riparian buffers. These areas are then presented to the Board of Commissioners for approval and mapped for later plantings. Over the past few years, volunteers from the Penn State Extension have planted dozens of trees at one of these areas, a boat launch park.

In addition to volunteer opportunities, the Township has implemented a system for residents to report pollution in stormwater runoff, Township ordinance violations, or voice other stormwater concerns. Residents may enter complaints in person, contact the municipal building by phone, or submit an online Complaint Form on the Township's website. A member of the Township staff then conducts a site visit and completes an inspection report of the violation or issue. If requested, the staff member will also follow up directly with the complainant to update them on the status of their complaint.

Finally, the Township also provides a leaf collection service during the fall. Residents can pile their leaves at the edge of curb, and members of the Public Works staff will collect them for composting at a local landscaping business. This helps to prevent leaves from being raked into gutters and storm sewers. Last year, the Township collected over 150 tons of leaves.

Lower Swatara maintains a comprehensive Code of Ordinances for the Township. These were updated to last year to conform with DEP's 2022 Stormwater Model Ordinance. Additional updates are also planned soon to encourage residents to utilize pervious pavement/pavers for small projects. Prior to the adoption of any ordinance changes, adequate public notice is given to the public to allow for review and input. Agendas and minutes for all public meetings are posted directly to the Township's website along with a copy of the existing Pollution Reduction Plan and Annual MS4 Status Report.

ILLICIT DISCHARGE INSPECTIONS (MCM #3)

In the prior permit cycle, outfalls within the Township were grouped into four priority areas and were screened at least twice during the years 2013 - 2017. The groupings have been revised during this permit cycle to help ensure efficiency of screenings and cleaning/maintenance of the outfalls. Planned outfall screenings and cleaning/maintenance will occur during the first four years of the permit cycle with the final year to be used primarily for tertiary screenings if and when necessary. Any new outfalls constructed during the permit cycle will be inspected during the 5th year and be placed into the appropriate grouping based on its location during the following permit cycle. If any illicit discharges are encountered, the outfall is screened annually during the permit term until illicit discharge has ceased.

Outfall inspections are screened at least 72 hours after the most recent measurable rain event to observe dry weather conditions. During the screening, a technician photographed the outfall and completed the Outfall Reconnaissance Inventory/Sample Collection Field Sheet that was provided with the authorized NPDES MS4 Permit package. At this point, all outfalls within the Township have been screened at least twice within the current cycle. However, the outfalls are still monitored by municipal staff on a routine basis. All inspection reports are kept on file at the municipal building and can be made available upon request. A sample inspection report from the most recent round of outfall inspections can be found in Appendix D.

If flow was observed during the inspection, efforts were undertaken to trace it up through the system to its origin. Field observation is used in conjunction with the storm sewer system map to identify the flow

origin. If the origin point cannot be identified, field staff will interview neighboring residents, perform dye testing, video inspection of the storm sewer system, or similar techniques to determine the source.

If the source of flow is determined to be an authorized discharge, such as non-contaminated groundwater, then no additional investigation will be undertaken. However, if observation of the flow reveals any turbidity, floating or submerged solids, odor, or adverse effects to plant or animal life in proximity to the outfall, samples of the discharge will be collected for field and/or lab testing. Field testing parameters will include: dissolved oxygen, pH, conductivity, chlorine, coliform bacteria, ammonia-nitrogen, nitrate/nitrite, copper, iron and lead. Should the testing reveal contaminants, the flow will be considered as an illicit discharge and steps will be taken to eliminate the discharge, as well as, to identify the source location.

The first step in eliminating illicit discharges is to focus on public education, which is primarily covered in MCM #1. Through these efforts, it is intended that fewer residents and business owners within the Township create or continue to produce illicit discharges. Through the Township's Public Involvement and Participation Program, a tracking system is to encourage the public to report any actions or evidence which would indicate the presence of an illicit discharge. When any such discharges are reported, the Township investigates the report, determines whether or not an illicit discharge is present, and then takes actions to eliminate it.

If, during outfall inspections or inlet/outfall cleaning or repair, the technician discovers evidence of illicit discharges, efforts will be taken to determine the point of origin, as described in the preceding section. Township staff will then contact the owner of the property or the person responsible for the discharge to educate them on the issue and provide the opportunity to voluntarily correct the problem. If the problem is not immediately corrected or correctable, the responsible party will be sent a letter on official Township letterhead which state the nature of the discharge, the actions required to eliminate the discharge, the deadline to meet compliance will also be identified, and the penalties for non-compliance. If no response or confirmation is received, a follow up letter on official Township letterhead will be sent until contact has been made and the illicit discharge eliminated.

If an illicit discharge appears to be greater than 50 gallons, is otherwise uncontrollable, or possess the potential to endanger human health and safety, emergency responders will be notified immediately via the 911 system.

In the event of a motor vehicle accident or other event that has the potential to cause the spill of hazardous materials, emergency responders will be notified immediately via the 911 system. The event will be documented on the Township Police Department's Call Summary Report and kept on file.

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL (MCM #4)

In partnership with the Dauphin County Conservation District, Lower Swatara Township reviews and inspects all ongoing construction projects which contribute to stormwater runoff. The Conservation District provides a list of inspected and reviewed site plans and site visits conducted during the year of each permit term. Lower Swatara also relies on their engineer, HRG, to provide onsite inspections.

The Dauphin County Conservation District contacts and provides all known contractors, developers, and construction companies with Construction Site Stormwater Runoff pamphlets and articles to inform them

of their actions and their potential contribution of pollution to the Waters of the Commonwealth. From these companies, a list is created and included in the Township's MCM #1 Target Audience List.

As noted in MCM #2, an online and in-person complaint form is made available to all residents. If members of the public note issues with pollution of stormwater runoff from construction sites, they are encouraged to submit a complaint for review from the Township.

POST-CONSTRUCTION STORMWATER MANAGEMENT (MCM #5)

Lower Swatara Township understands that a detailed stormwater ordinance provides the backing necessary to ensure that post construction stormwater management facilities are being constructed, inspected, maintained, and operated to their fullest potential. This ordinance was created in partnership with the HRG and a digital copy is made available on for all residents and business owners to view online at <https://www.ecode360.com/LO3632>.

In order to ensure that all post-construction stormwater management facilities are properly maintained within the Township, all applicants for stormwater permits are required to sign an Operations and Maintenance (O&M) Agreement. This agreement is then recorded at Dauphin County, Recorder of Deeds. This agreement states the facility owner is in charge of completing all necessary maintenance of the facility, and that the Township has the ability to step in and complete the maintenance on their behalf if deemed necessary. A blank copy of this agreement is included in Appendix E.

In order to monitor the stormwater facilities, the Township has created a Post Construction Stormwater Database detailing relevant information about the facility including type, location, property ownership, and O&M Agreement status. The locations of these facilities has also been mapped using ArcGIS Online. The stormwater mapping and inventory database can be found in Appendix F. Several BMP Inspections were performed during the past year. A sample copy of the inspection is provided in Appendix G.

Lower Swatara understands that there are privately-owned stormwater facilities within the Township that were constructed prior to the current permit cycle and, thus, do not have an O&M Agreement. In order to add these facilities to existing database, as well as to ensure their proper maintenance, the Township has created a structural BMP credit for non-residential properties. Applicants have the ability to reduce their monthly Stormwater Fee by signing an O&M Agreement with the Township.

EMPLOYEE TRAINING (MCM #6)

The Township has developed and implemented a Pollution Prevention and Good Housekeeping Program that complies with the requirements within the General Permit. All the Township's facilities and activities that have the potential for generating stormwater runoff were identified and documented in a maintenance inventory that is kept on site. This list is reviewed annually and updated as needed. The proper care and maintenance for these facilities is detailed in the Lower Swatara Township Pollution Prevention and Good Housekeeping for Municipal Operations Plan (O&M Manual). A copy of this plan is was submitted during the previous permit cycle.

Lower Swatara Township's Operations and Maintenance Manual includes provisions for record keeping and maintenance procedures for new construction and land disturbances, fleet and building maintenance, storage areas, structural stormwater controls, control of soils and contaminants, IDD&E program, management of vegetative properties and storm sewer system construction, inspection, and maintenance

of the infrastructure. The O&M Manual is kept on file in the Public Works Department office and is always available for reference. Lower Swatara Township believes it is imperative for the O&M Manual to be frequently reviewed, and it updates this manual every few years, with the last update occurring in 2021.

To address various stormwater and illicit discharge topics, the Township has implemented a training program for municipal employees. Annual trainings are provided to all Public Works employees. The most recent training for staff focused on changes to the Township's stormwater mapping system. These updates allow staff to digitally view and inspect the system in the field using ArcGIS. A representative for the MS4/Stormwater Department also attends MS4 and stormwater-related classes as they become available. The representative also maintains several certifications relevant to their position. Documentation is included in Appendix H.

POLLUTION REDUCTION PLAN

As part of the requirements for its current permit cycle, the Township has developed a Chesapeake Bay Pollution Reduction Plan. This plan was submitted to DEP for review in July of 2017 and revised based on comments in May of 2018. Recently, an amendment to this plan was submitted and approved in February of this year. The amendment revised the list of proposed projects to include additional project opportunities that have become available. Refer to Appendix I for a copy of this approved amendment. Electronic versions of the Pollution Reduction Plan, and its amendment, are also posted on the Township's website for review by the public. The plan determined that the Township would be required to reduce its load by 240,209 lbs/yr. The following projects have been proposed to meet this requirement:

Site	BMP ID	BMP Type	Planning Area	Drainage Area (acres)	Length (ft)	Load Reduction TSS (lbs/yr)
Old Reliance Park	BMP-1	Bioretention	CBPRP	1.11	N/A	621
Shope Gardens Park	BMP-2	Bioretention	CBPRP	1.33	N/A	1,458
Greenfield Park	BMP-3	Basin Retrofit	CBPRP	8.65	N/A	4,452
*WREP Program (Londonderry Township)	BMP-4	Conewago Creek Stream Restoration (Including Brills Run)	CBPRP	N/A	6,382	234,163
Richardson Road Stream Restoration	BMP-5	Stream Restoration	Laurel Run PRP	N/A	830	37,250
PennDOT Rosedale Project	BMP-6	Stream Restoration/ Floodplain Reconnection	CBPRP	N/A	2,315	120,000
Total						397,944

At this time, BMPs 1-4 have all been completed. The total sediment load reduction from these projects is 240,694 lbs/yr. Thus, the Township has met its load reduction requirements set forth by DEP for the current permit cycle. Refer to Appendix J for the Township's final report summarizing these projects.

APPENDIX A

ANNUAL MS4 STATUS REPORT

(3800-FM-BCW0491)

ANNUAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) STATUS REPORT

FOR THE PERIOD July 1, 2022 TO JUNE 30, 2023

GENERAL INFORMATION					
Permittee Name:	Lower Swatara Township	NPDES Permit No.:	PAG133543		
Mailing Address:	1499 Spring Garden Drive	Effective Date:	July 1, 2018		
City, State, Zip:	Middletown, PA 17057	Expiration Date:	March 15, 2025		
MS4 Contact Person:	Brian Davis	Renewal Due Date:	TBD (Pending new requirements from DEP)		
Title:	MS4 Coordinator	Municipality:	Lower Swatara Township		
Phone:	717-939-9377 x3041	County:	Dauphin		
Email:	bdavis@lowerswatara.org				
Co-Permittees (if applicable): n/a					
Appendix(ces) that permittee is subject to (select all that apply): <input type="checkbox"/> Appendix A <input type="checkbox"/> Appendix B <input type="checkbox"/> Appendix C <input type="checkbox"/> Appendix D <input type="checkbox"/> Appendix E <input 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?
See attached sheet at end					

GENERAL MINIMUM CONTROL MEASURE (MCM) INFORMATION

Have you completed all MCM activities required by the permit for this reporting period? ☒ Yes ☐ No

List the current entity responsible for implementing each MCM of your SWMP, along with contact name and phone number.

MCM	Entity Responsible	Contact Name	Phone
#1 Public Education and Outreach on Storm Water Impacts	Lower Swatara Twp	Brian Davis	717999377
#2 Public Involvement/Participation	Lower Swatara Twp	Brian Davis	717999377
#3 Illicit Discharge Detection and Elimination (IDD&E)	Lower Swatara Twp	Brian Davis	717999377
#4 Construction Site Storm Water Runoff Control	Lower Swatara Twp	Brian Davis	717999377
#5 Post-Construction Storm Water Management in New Development and Redevelopment	Lower Swatara Twp	Brian Davis	717999377
#6 Pollution Prevention / Good Housekeeping	Lower Swatara Twp	Brian Davis	717999377

MCM #1 – PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

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

- For new permittees only, has the written PEOP been developed and implemented within the first year of permit coverage?
☐ Yes ☐ No
- Date of latest annual review of PEOP: 9/17/2021 Were updates made? ☒ Yes ☐ No
- What were the plans and goals for public education and outreach for the reporting period?
See Page 1 of Status Report Narrative
- Did the MS4 achieve its goal(s) for the PEOP during the reporting period? ☒ Yes ☐ No
- Identify specific plans and goals for public education and outreach for the upcoming year:
See Page 1 of Status Report Narrative

BMP #2: Develop and maintain lists of target audience groups present within the areas served by your MS4.

- For new permittees only, have the target audience lists been developed and implemented within the first year of permit coverage?
☐ Yes ☐ No
- Date of latest annual review of target audience lists: 09/04/2023 Were updates made? ☒ Yes ☐ No

BMP #3: Annually publish at least one educational item on your Stormwater Management Program.

- For new permittees only, were stormwater educational and informational items produced and published in print and/or on the Internet within the first year of permit coverage?
☐ Yes ☐ No
- Date of latest annual review of educational materials: 09/04/2023 Were updates made? ☒ Yes ☐ No
- Do you have a municipal website? ☒ Yes ☐ No (URL:)

If Yes, what MS4-related material does it contain?

See Page 1 of Status Report Narrative

4. Describe any other method(s) used during the reporting period to provide information on stormwater to the public:

See Page 1 of Status Report Narrative

5. Identify specific plans for the publication of stormwater materials for the upcoming year:

See Page 1 of Status Report Narrative

BMP #4: Distribute stormwater educational materials to the target audiences.

Identify the two additional methods of distributing stormwater educational materials during the previous reporting period (e.g., displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements, bill stuffers, posters, presentations, conferences, meetings, fact sheets, giveaways, or storm drain stenciling).

See Page 1 of Status Report Narrative

MCM #1 Comments:

All items completed under MCM#1 are detailed within the Status Report Narrative on Pages 1-2. Documentation of public notices and educational material can be found in Appendix B.

MCM #2 – PUBLIC INVOLVEMENT/PARTICIPATION

BMP #1: Develop, implement and maintain a written Public Involvement and Participation Program (PIPP)

1. For new permittees only, was the PIPP developed and implemented within one year of permit coverage?

☐ Yes ☐ No

2. Date of latest annual review of PIPP: 09/04/2023

Were updates made? ☒ Yes ☐ No

BMP #2: Advertise to the public and solicit public input on ordinances, SOPs, Pollutant Reduction Plans (PRPs) (if applicable) and TMDL Plans (if applicable), including modifications thereto, prior to adoption or submission to DEP:

1. Was an MS4-related ordinance, SOP, PRP or TMDL Plan developed during the reporting period? ☒ Yes ☐ No

2. If Yes, describe how you advertised the draft document(s) and how you provided opportunities for public review, input and feedback:

The Township's stormwater ordinance is consistent with DEP guidelines, including the revisions from DEP's 2022 Model Stormwater Ordinance. Refer to the Status Report Narrative on Page 3 for more details.

3. If an ordinance, SOP or plan was developed or amended during the reporting period, provide the following information:

Ordinance / SOP / Plan Name	Date of Public Notice	Date of Public Hearing	Date Enacted or Submitted to DEP

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.

See Pages 2 & 3 of Status Report Narrative

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.

See Pages 2 & 3 of Status Report Narrative

MCM #2 Comments:

All items completed under MCM#2 are detailed within the Status Report Narrative on Pages 2 & 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: 09/04/2023 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): 09/04/2023

3. Total No. of Outfalls in MS4: 69 Total No. of Outfalls Mapped: 69

4. Total No. of Observation Points: 0 Total No. of Observation Points Mapped: 0

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:

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): 9/24/2020

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? 32
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: 0%
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: 12/15/2010 Revised 07/20/2022

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

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? IDD&E-related information was distributed through the channels identified in MCM #1 (municipal website, informational posters/pamphlets at the municipal building, in-person discussions from Codes Enforcement officer & MS4 Coordinator when responding to citizen complaints/concerns).

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:

All items completed under MCM#3 are detailed within the Status Report Narrative on Page 3 & 4. An example of the outfall inspections can be found in Appendix D and mapping of stormwater outfalls is located in Appendix E.

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: 12/15/2010, Reviewed/Revised 07/20/2022

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: Refer to DCCD

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: Refer to DCCD

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: Refer to DCCD

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:

The Township is relying on a PA Statewide Program for BMPs 4-8 of this section. The Township has a Memorandum of Understanding (MOU) with the Dauphin County Conservation District (DCCD) for the implementation of BMPs 4-8 requirements.

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: 12/15/2010, Reviewed/Revised 07/20/2022

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: 12/15/2010, Revised 07/20/2022

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.

An inventory of all PCSM BMPs was developed during the previous permit term. Updates to the mapping are currently being made with new structures and has yet to be finalized. A copy of the current inventory can be found in Appendix E. Inspections are now being performed, targeting those which are known to have drainage issues.

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): 7

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	See Appendix E			o 3 "	o 3 "			
2				o 3 "	o 3 "			
3				o 3 "	o 3 "			
4				o 3 "	o 3 "			
5				o 3 "	o 3 "			
6				o 3 "	o 3 "			
7				o 3 "	o 3 "			
8				o 3 "	o 3 "			
9				o 3 "	o 3 "			
10				o 3 "	o 3 "			
11				o 3 "	o 3 "			
12				o 3 "	o 3 "			
13				o 3 "	o 3 "			
14				o 3 "	o 3 "			
15				o 3 "	o 3 "			
16				o 3 "	o 3 "			

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:

All items completed under MCM#5 are detailed within the Status Report Narrative on Page 5.

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? 10/1/2021
3. When was it last updated? March 2016

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: 10/1/2021

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.

1. Have you developed an employee training program? ☒ Yes ☐ No
2. Date of last review or update to training program: 10/1/2021 Date of latest training: 8/19/2022

3. Training topics covered:

MS4 Program Overview and updates

4. Name(s) of training presenter(s):

Brian Davis - MS4 Coordinator

5. Names of training attendees:

Andrew Menear, Brian Davis, Ed Finsterbush, Jeff Fultz, John Lewis, Louis Yeich, Mike Hays, Scott Carlson, and Scott Washinger

MCM #6 Comments:

All items completed under MCM#6 are detailed within the Status Report Narrative on Page 5. Employee trainings initially scheduled for the current permit year were postponed due to complications with COVID-19. Trainings will resume when available.

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)	9/24/2020	<input checked="" type="checkbox"/>	
Source Inventory		<input type="checkbox"/>	12/31/2020
Investigation of Suspected Sources		<input type="checkbox"/>	12/31/2022
Ordinance/SOP for Controlling Animal Wastes	N/A	<input type="checkbox"/>	

PCM Comments:

Stormwater mapping has been included in Appendix E. Lower Swatara Township and HRG are currently in the review process of a Pollutant Control Plan for Pollutant Control Measures with the anticipation of completion for 2020.

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 checked="" type="checkbox"/> Combined Chesapeake Bay / Impaired Waters PRP	9/15/2017	6/7/2018	Chesapeake Bay, Laurel Run
<input type="checkbox"/> Combined PRP / TMDL Plan			

☐ 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:

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 checked="" type="checkbox"/> Combined Chesapeake Bay / Impaired Waters PRP	240,209	N/A	N/A
<input type="checkbox"/> Combined PRP / TMDL Plan			

3. Date Final Report Demonstrating Achievement of Pollutant Load Reductions Due: Included with Annual Report

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.

See Page 6 of Status Report Narrative

5. Summary of progress achieved during reporting period.

See Page 6 of Status Report Narrative

6. Anticipated activities for next reporting period.

No further activity required

PRP/TMDL Plan Comments:

During the CBPRP preparation, a presumptive approach was taken in which it was assumed that once the 10% sediment load reduction was achieved, the corresponding required nutrient load reductions would be achieved. Therefore, the pollutant load reductions for TP and TN were not calculated.

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)
4	Conewago Creek	N/A	NA	N/A	N/A	40°10'08"	76°38'12"	2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	234,163
						° ' "	° ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						° ' "	° ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						° ' "	° ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						° ' "	° ' "		<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?
1	Old Reliance Park	1.11	19	N/A	N/A	40°14'14"	76°45'39"	2019	622	9/5/22	<input checked="" type="checkbox"/>
2	Shope Gardens Park	1.33	54	N/A	N/A	40°12'51"	76°46'20"	2019	1,458	9/5/22	<input checked="" type="checkbox"/>
3	Greenfield Park	8.65	20	N/A	N/A	40°12'48"	76°45'03"	2020	4,452	9/5/22	<input checked="" type="checkbox"/>
						° ' "	° ' "				<input type="checkbox"/>
						° ' "	° ' "				<input type="checkbox"/>
						° ' "	° ' "				<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).

Brian Davis

Name of Responsible Official

717-939-9377

Telephone No.

Brian D Davis

Signature

09/28/2023

Date

ADDENDUM TO WATER QUALITY INFORMATION

Receiving Water Name	Ch. 93 Class.	Impaired?	Cause(s)	TMDL?	WLA?
UNT 09388 to Swatara Creek	WWF, MF	No	N/A	No	No
UNT 64679 to Laurel Run	WWF, MF	No	N/A	No	No
UNT 10102 to Laurel Run	WWF, MF	No	N/A	No	No
UNT 10107 to Laurel Run	WWF, MF	No	N/A	No	No
UNT 64678 to Laurel Run	WWF, MF	No	N/A	No	No
Laurel (Buser) Run	WWF, MF	No	N/A	No	No
UNT 10092 to Susquehanna River	WWF, MF	No	N/A	No	No
UNT 10089 to Susquehanna River	WWF, MF	Yes	Other Habitat Alterations, Siltation	No	No
UNT 10088 to Susquehanna River	WWF, MF	Yes	Other Habitat Alterations, Siltation	No	No
UNT 10095 to Susquehanna River	WWF, MF	No	N/A	No	No
UNT 10091 to Susquehanna River	WWF, MF	No	N/A	No	No
UNT 10094 to Susquehanna River	WWF, MF	Yes	Unknown	No	No
UNT 10096 to Susquehanna River	WWF, MF	Yes	Unknown	No	No
UNT 10106 to Laurel Run	WWF, MF	No	N/A	No	No



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

INVOICE

Annual Fees for NPDES Permits

Facilities covered by certain NPDES permits must, as a condition of the permit, pay an annual fee as authorized by 25 Pa. Code § 92a.26, and 25 Pa. Code § 92a.62 for general and individual NPDES permits, respectively.

NPDES Permit Number: PAG133543
Fee Category: **PAG-13 MS4 General Permit**
Account Number: 484998
Invoice Number: 1312611
Amount Due: \$ 500.00
Due Date: 9/30/2023

23
9185

LOWER SWATARA TOWNSHIP MUNICIPAL AUTHORITY		
BUDGET NO.	AMOUNT	INT.
446.450	500.00	BGD

Permittee Mailing Address:

Name: LOWER SWATARA TWP DAUPHIN CNTY
Contact: BRIAN DAVIS
Address: 1499 SPRING GARDEN DR
City, State, Zip: MIDDLETOWN PA 17057-3271

Facility Physical Address:

Name: MS4 LOWER SWATARA TWP
Contact: BRIAN DAVIS
Address: 1499 SPRING GARDEN DR
City, State, Zip: MIDDLETOWN PA 17057-3271

Please pay the Amount Due in full by the date listed on this invoice. Failure to pay the Annual Fee in full by the due date is a violation of 25 Pa. Code § 92a and may subject the permittee to enforcement action and penalties. For corrections, please contact DEP at ra-annualfee@state.pa.us.

To seek exemption as a financially distressed municipality under Act 47 of 1987, please submit documentation of determination from the Pennsylvania Department of Community and Economic Development (DCED) with a copy of this invoice.

Note: Please submit one full payment per invoice. We are unable to accept partial payments or combined payments for multiple DEP invoices with one check.

Online payments are preferred and can be made via credit card at:

www.depgreenport.state.pa.us/NPDESpay

LOWER SWATARA TOWNSHIP

AUTHORITY STORM WATER

0272

Vendor ID	Vendor Name/Address	Check Date	Check Number	Check Amt
485	COMMONWEALTH OF PENNSYLVANIA	09/25/2023	272	500.00
INVOICE NO	INVOICE DESCRIPTION	INV DATE	AMOUNT	
1312611	PAG133543	09/25/2023	500.00	
TOTAL AMOUNT:			500.00	

APPENDIX B

PUBLIC NOTES AND
EDUCATIONAL MATERIAL



MUNICIPAL AUTHORITY OF LOWER SWATARA TOWNSHIP

1499 SPRING GARDEN DRIVE, MIDDLETOWN, PENNSYLVANIA 17057

PHONE 717/939-7633 • FAX 717/939-5682

September 2020

Dear Lower Swatara Resident / Property Owner:

During an advertised meeting on April 9, 2020, the Lower Swatara Township Municipal Authority (LSTMA) approved Resolution 2020-R-2 to adopt a Stormwater Management Fee (SMF). This fee has been adopted in accordance with the requirements of the Pennsylvania Department of Environmental Protection (PA DEP) and the U.S. Environmental Protection Agency (US EPA) to develop an MS4 program.

MS4 is a shortened form for Municipal Separate Storm Sewer Systems. MS4s are conveyances or systems of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that are owned or operated by a public entity such as Lower Swatara Township or Lower Swatara Township Municipal Authority. MS4s are designed or used for collecting or conveying stormwater, and are not a combined sewer or part of a publicly-owned treatment works. More detailed information can be found on the PA DEP website, in the "Quick Resource Guide to the MS4 Program". South-central Pennsylvania has been tasked by the PA DEP and the US EPA to reduce the negative impacts of stormwater runoff in order to protect the Chesapeake Bay.

The SMF for residential properties as approved in Resolution 2020-R-2 is \$7 per month. The SMF for non-residential properties is based upon the number of square feet of impervious surface. ***The non-residential properties will be charged \$7 per ERU.*** The measure of an ERU, Equivalent Residential Unit, is 3,750 square feet which for Lower Swatara MS4 properties is set at \$7 per month, per ERU.

This charge will be added to the monthly sewer bill. The September sewer bills, which will be mailed in early October, will include this MS4 fee.

At the outset, credits are available for commercial properties only. The Lower Swatara MS4 Credit Policy can be found on the Lower Swatara Township website, LowerSwatara.org

In July, Lower Swatara Township hired Brian Davis as the MS4 Coordinator. Questions can be directed to Brian. His email address is BDavis@LowerSwatara.org. I anticipate many calls and emails, I ask for your patience, we are committed to returning calls, emails, etc.

I am a resident of Lower Swatara Township. Some time ago, I signed up for a deduction each month from my checking account, initiated by the Lower Swatara sewer billing department, to pay my monthly sewer bill and soon my monthly combination bill of sewer and MS4 fee. There are many other residents of the township who also participate in this. Please note the deductions from your checking account in October and future months will now reflect this increased amount. If you are interested in this automatic method of payment, please contact Tracey Bechtel who works in the sewer billing department, TBechtel@LowerSwatara.org. Since partial payments will be applied to the MS4 fee first and the balance will be applied to the sewer portion of the bills, those residents who do not participate in this automatic deduction form of payment, but who pay electronically, must take the steps necessary to pay this new monthly amount on your sewer bills.

Thank you for taking the time to read this. There is much information on this mandate that I am not able to cover with this letter. If you are interested in learning more, the PA DEP website has a great amount of information on the MS4 program.

Sincerely,

A handwritten signature in cursive script that reads "M. Elizabeth McBride".

M, Elizabeth McBride
Lower Swatara Township Manager

Do your part to Prevent Stormwater Pollution!

- 1 Pick up after your dog
- 2 Use fertilizer sparingly
- 3 Wash your car on the lawn or at a car wash that recycles water
- 4 Never dump anything down a storm drain!
- 5 Consider installing a rain barrel or rain garden



When it rains, water runs along the ground, picking up pollutants as it flows to local waterways. This polluted runoff, known as stormwater, affects the health and recreational value of our waterways. Do your part to keep our waterways healthy and clean.

If you have any questions, please call the Dauphin County Conservation District at 717-921-8100, your local municipality, or the PA Department of Environmental Protection.

What goes on the street...



...ends up in the creek

When it rains, pollutants that accumulate on the surface of the land are washed into storm sewer systems that dump into our streams and lakes. Pollutants can include oil, gasoline, coolant, sediment, phosphates, nitrates, chemicals, bacteria, pesticides, metals, and trash. This polluted runoff, known as stormwater, affects the health and recreational value of our waterways.

What You Can Do

- ⇒ Pick up after your dog
- ⇒ Use fertilizer sparingly
- ⇒ Wash your car on the lawn or at a car wash
- ⇒ Repair oil leaks as soon as possible
- ⇒ Keep yard waste out of the storm sewers
- ⇒ NEVER DUMP ANYTHING DOWN A STORM DRAIN

SPONSORED BY: Dauphin County Conservation District and **Commissioners Mike Pries, Chad Saylor & George P. Hartwick, III, AND**

Derry, East Hanover, Londonderry, Lower Paxton, Lower Swatara, South Hanover, Susquehanna, Swatara and West Hanover Townships

Highspire, Hummelstown, Middletown, Paxtang, Penbrook and Steelton Boroughs

Riparian Buffers

Turn this....



A heavily eroded stream channel



....Into this!!



A mature forest adjacent to a stabilized stream channel

What is a Riparian Buffer?

Riparian Buffers are vegetated areas adjacent to waterways (e.g. streams, rivers, wetlands) that provide protection from pollution generated from human land use. They assist in keeping the waterway clean by filtering out sediments and nutrients, particularly nitrogen. Riparian Buffers also deter streambank erosion and provide areas for aquatic and wildlife habitat.



Newly planted riparian buffer with protective tree tubes

Benefits of Buffers

- Trap, filter and slow runoff
- Stabilize streambanks
- Increase aesthetic value
- Reduce impacts from flooding
- Provide shade for temperature control
- Absorb and store excess nutrients
- Provide food, cover and habitat for wildlife

Buffers are especially beneficial on agricultural land because they help trap manure and chemical fertilizers before they can discharge to the stream. Additionally, agricultural buffers have the potential to be profitable as various income-producing plants such as fruit trees and berry bushes are appropriate for use as riparian buffer plantings.

Buffer Maintenance

The planting area should be mowed at least twice annually, taking care to not harm the trees, for the first five years, then mow as needed. A 1 to 3 foot ring of herbicide should be applied around the trees/tubes, taking care to not apply directly to the tree and avoid overspray near water.

Trash/debris should be removed from the area annually.

New Website Launched To Celebrate The 50th Anniversary Of Earth Day In Pennsylvania

Posted: 21 Jan 2020 07:32 AM PST



A new website has been launched to celebrate the 50th Anniversary of Earth Day in Pennsylvania-- [Earth Day 50 PA](#).

The first Earth Day in 1970 enlisted 20 million Americans and is credited with launching the modern environmental movement. It is now recognized as the planet's largest civic event.

Earth Day led to the passage of landmark environmental laws in the United States, including the Clean Air, Clear Water, and Endangered Species acts. Many countries soon adopted similar laws, and the United Nations chose Earth Day 2016 to sign the Paris climate agreement.

In Pennsylvania, citizens voted to amend the Environmental Rights Amendment to the state's constitution to say, "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people."

The amendment put protecting environmental rights on the same level as the freedom of speech and religion.

Yet despite the numerous successes surrounding Earth Day, we still face many conservation challenges at home, in our nation, and globally.

Celebrations

[Earth Day 50 offers suggestions](#) on ways to mark the occasion (and make a difference) and Pennsylvania's celebration partners have a few ideas of their own.

The first is to host 50 service projects across the state during the month of April.

Keep an eye on the calendar for opportunities to come out and be a steward of your state parks and forests.

Work for a company and want to have a volunteer day? Contact us! Have a youth group you want to engage?

[Use the sign-up page.](#)

Year Of The Trees

As a special initiative, Earth Day 50 In PA has [designated 2020 The Year of the Trees](#) and is encouraging Pennsylvanians to get involved in tree planting initiatives throughout the state.

Don't know how, visit the [Year of the Trees](#) webpage and sign up to learn more!

Conservation Heritage

Other ideas as we start our planning: viewings of documentaries produced in conjunction with the [Pennsylvania Conservation Heritage Project](#) at locations around Pennsylvania.

Want to show one of the documentaries? Send an email to Jenna at: jbehlinger@paparksandforests.org and she will make it happen for you.

Pair the documentary with a panel or discussion and use the lessons of the past to inform the future.

Education

The organizers of the website would like to work with libraries to feature conservation themed books and speakers during April. Work or volunteer at a library?

Please reach out to see how we might work together. Have a favorite book? Let us know that as we [build a reading list](#) for book clubs and individuals. Send an email to: pmetzger@paparksandforests.org.

Curriculum and other materials will be added to the website soon by the Department of Education.

Any way that you can think of to be involved or promote Earth Day in April (and actually all year) is welcome.

[Sign up and be a part of the celebration.](#)

The sponsors of the website include [PA Parks & Forests Foundation](#), [REI Coop](#), [PA Forestry Association](#), [PA Conservation Heritage Project](#), [Get Outdoors PA](#), [PA Recreation and Parks Society](#), [Keep PA Beautiful](#), [1% For The Planet](#), DEP, DCNR and the departments of Health and Education.

Visit the [Earth Day 50 PA](#) website for more information.

APPENDIX C

STORMWATER CREDIT POLICY

LSTMA

**Lower Swatara Township Municipal Authority
Dauphin County, Pennsylvania**

Stormwater Management Program

Credit Policy Manual

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September 2020

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Introduction

This Manual provides Lower Swatara Township Municipal Authority (LSTMA) Stormwater Management Program customers with details on the Credits available to reduce their monthly Stormwater Program Fee. Stormwater Credits are provided as a means for Non-Residential customers to reduce the amount of their monthly fee by implementing a creditable Best Management Practice (BMP) to reduce the contribution of stormwater and pollutants to LSTMA's stormwater management system.

Stormwater management is important to our community. It is necessary to manage pollutant-laden runoff generated by impervious surfaces because it is harmful to our streams and reduces the potential for flooding and associated property damage. LSTMA is in the process of developing and implementing a comprehensive, Township-wide Stormwater Management Program to provide enhanced stormwater management to property owners in the community.

The foundation of an effective Stormwater Management Program is the development of a fair and equitable Fee to provide for a dedicated and reliable revenue stream which addresses long-term stormwater needs, while complying with the state and federal permit requirements of the Municipal Separate Storm Sewer System (MS4) permit. Revenues generated by the Fees will support the Program and its goals to: improve water quality, maintain and improve the developed MS4 program's compliance with the MS4 Permit requirements, fund projects identified in the Chesapeake Bay Pollutant Reduction Plan, provide effective infrastructure operation and maintenance, support strategic planning for capital improvements, and assist with the implementation of educational practices to improve our water of water resources

The *Lower Swatara Township Municipal Authority Stormwater Program Fee Resolution* (Fee Resolution) currently in effect defines the fee and its relationship to Impervious Area (IA).

All property owners may reduce their fee by up to 30% (except for Stormwater Partnership credits), if they apply and qualify for the credits made available by this Manual, which provides the reader with the procedures to follow in order to apply for Stormwater Credits in Lower Swatara Township.

Disclaimer

By submitting a Stormwater Fee Credit Application pursuant to the Stormwater Fee Credit Manual, the Property Owner acknowledges and agrees that he/she and his/her heirs, grantees, successors, and assigns shall be solely responsible and liable for the operation and maintenance of any and all Best Management Practices (BMPs) constructed, installed, or employed by the Property Owner. The Township shall not be responsible for or liable with respect to the operation and maintenance of any BMP, or any damages arising therefrom. If degradation, destruction, or removal of BMP occurs without permission or approval of the Township, the Township holds the right to review or revoke the Property Owner's Stormwater Fee Credit, and adjust their monthly bill in accordance to penalty which will become active at the time of the next billing cycle.

Definitions

The following definitions apply to the Stormwater Management Program Credit Policy Manual. Any term not defined by this section can be defined by the *Lower Swatara Township Municipal Authority*

Stormwater Program Fee Resolution currently in effect or the Code of the Township of Lower Swatara Township Pennsylvania, to the extent not contradictory.

Attenuation – Reduction in magnitude, as in the lowering peak runoff discharge rates, such as dry ponds; or the reduction of contaminant concentrations, as in the action of biodegradation in wetlands or bioretention facilities.

Best Management Practices (BMPs) – as defined by Ordinance Chapter 26-111 Definitions.

Capital Additions – for Stormwater means new and additional property chargeable to plant or equipment account under sound accounting or engineering practice, including, without intending to limit the generality of the foregoing, additions, extensions, alterations, and improvements of or to the Stormwater Management System, including, without intending to limit the generality of the foregoing, all buildings and structures, basins, mains, pipes, pipe lines, interceptor lines, outfall lines, trunk lines, service lines, drainage swales, drainage channels, machinery and equipment, personal property and all franchises, land, rights-of-way, privileges, easements, licenses, rights and other interests in real property, in each case made, constructed or acquired after the date hereof and which are used or useful in connection with the Stormwater Management System.

Consulting Engineers – means a Person or Persons, who shall be Independent and qualified to pass upon engineering questions relating to Stormwater Management Systems and having a favorable reputation for skill and experience in construction, operation, and maintenance of Stormwater Management Systems. If such Person shall be individual, he shall be a professional engineer duly registered under the laws of the Commonwealth. If such Person shall be partnership, corporation or association, it shall have a partner, officer, employee, or member who is a professional engineer duly registered under laws of the Commonwealth.

Credit – A discount in the form of a percentage that can be applied to an owner's stormwater fee when approved and accepted stormwater practices or facilities are utilized to manage Stormwater Runoff as proposed in the PA Best Management Practices Manual Chapter 6 Structural BMPs in which provide Volume Control and Peak Rate Control for Stormwater Runoff.

Developed Parcel – A parcel that contains impervious area equal to or greater than 500 square feet.

Extraordinary Repairs – means alterations, repairs, renewals, improvements, or replacements with respect to the Stormwater Management System which are necessary or desirable for proper operation and maintenance thereof including emergency work and which are a type that would not ordinarily be made out of moneys deposited in the Stormwater Management Fund, respectively, as current operating expenses, as determined by a Consulting Engineers' Certificate.

Impervious Area (Impervious Surface) (IA) – A surface that prevents the infiltration of water into the ground. Impervious surface (or area) includes, but is not limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, swimming pools, paved parking or driveway areas, and private streets and sidewalk. Any surface areas initially proposed to be gravel or crushed stone shall be assumed to be impervious areas, as defined in Township Ordinance Chapter 26-111 Definitions.

Independent – means, with respect to the Consulting Engineers, a Person who is not a member of the Board, officer or employee of the Authority of an elected or appointed official or employee of the Township, or which is not a partnership, corporation or association having a partner, directors, officer, member or substantial stockholder who is a member of the Board, officer or employee of the Authority of an elected or appointed official, or employee of the Township; provided, however, that

the fact that such Person is retained regularly by the Authority or the Township shall not make such Person an employee within the meaning of this definition.

Infiltration – The entrance of surface water into the soil, usually at the soil/air interface.

Infiltration testing – Specific tests designed to measure the saturated movement of water into the soil in a single downward direction through a two dimensional soil surface.

Inlet – A surface connection to a closed drain. A structure at the diversion end of a conduit. The upstream end of any structure through which water may flow, as defined in Township Ordinance Chapter 26-111 Definitions.

Municipal Building – means the Township building located at 1499 Spring Garden Drive, Middletown, Pennsylvania 17057.

MS4 – Municipal Separate Storm Sewer System

Non-Residential – Any Developed Parcel not fitting the definition of Residential Property. Non-Residential shall include, but not be limited to: multi-family houses, townhouses and condominiums owned by a single Property Owner and leased to tenants, apartments, boarding houses, hotel and motels, churches, industrial properties, commercial properties, manufactured home or mobile home parks, commercial and office buildings, storage areas, parking lots and other impervious areas, parks, recreation properties, public and private schools and universities, hospitals and convalescent centers, office buildings, government properties, mixed-use properties, and other similar properties.

Operation and Maintenance Agreement – An agreement as described in the Township's Stormwater Management Ordinance regarding the required operation and maintenance activities for existing Stormwater Management BMP's and who will be responsible for performing them.

Operation and Maintenance (O&M) – The scheduled tasks and activities required to ensure the successfulness, functionality and compliance of Stormwater Management BMP's or Post-Construction Stormwater Management BMPs, as defined by Pennsylvania Best Management Practices Manual.

Outlet – Points of water disposal from a stream, river, lake, tidewater or artificial drain.

PADEP - Pennsylvania Department of Environmental Protection.

PCSM BMPs – Post-Construction Stormwater Management Best Management Practices

Peak Attenuation Storage – The volume set aside within a BMP for the purpose of attenuating the inflow peak rate.

Peak Rate – The maximum design flow rate at which runoff from a drainage area discharges past a specific point from a specific storm event.

Peak Rate Control Credit– A type of Credit that can be applied by a Property Owner, for utilizing proper stormwater rate control techniques that manage and or reduces the peak rate of stormwater runoff. Example: Detention tanks/basins with a controlled outlet.

Pennsylvania Stormwater Best Management Practices (BMP) Manual - The most recent version of the Pennsylvania Stormwater Best Management Practices Manual.

Percolation – The downward movement under the influence of gravity of water under hydrostatic pressure through the interstices of the rock or soil.

Permeability – The ability of rocks, soil or other materials to transmit a gas or liquid.

Person – means an individual, firm, partnership, limited liability company, association, a corporation, company, trust, government agency, society, political subdivision, municipality, municipality authority, school district, or any other group or entity.

Pervious Area – Any material/surface that allows water to pass through at a rate equal to or greater than Natural Ground Cover.

Pollutant Removal - Removing pollutants by decomposing them or eliminating them from an area or system, or rendering non-harmful or unavailable in a soil or medium by means of adsorption, chelation, and similar binding mechanisms.

Property Owner (Owner) - Any person, firm, corporation, limited liability company, partnership, trust, company, association, school district, authority, government agency, society or group owning real estate property in the Township of Lower Swatara.

Residential Property (RESIDENTIAL) – A Developed Parcel located within the Township, classified residential as defined in the Code of Ordinances of the Township of Lower Swatara. “Residential” shall not include developed land containing structures used primarily for or in conjunction with non-residential purposes; manufactured homes and mobile homes located within manufactured home or mobile home parks; or other multiple unit residential properties such as apartments, condominiums, and townhomes owned by a single Property Owner.

Revenue Bonds – mean the Bonds issued by the Authority for Stormwater system rehabilitation or improvement, as well as any portion of Lower Swatara Township General Obligation Bonds made available to the Authority for Stormwater system rehabilitation or improvement in accordance with a Subsidy Agreement.

Saturated Soil – Soil in which the pore space is completely filled with water.

Stormwater – Runoff resulting from precipitation, snowmelt, surface runoff, and drainage.

Stormwater Management – Functions associated with planning, designing, constructing, maintaining, financing, and regulating facilities, both constructed and natural, that collect, store, control, and/or convey stormwater.

- a. All moneys realized from collection of Stormwater Management Fees and other charges imposed, pursuant to a resolution or resolutions of the Authority, in effect at the time.
- b. All interest and income received, from time-to-time, by or on behalf of the Authority from investment of moneys in the Stormwater Management Fund; and
- c. All grants from state and federal government agencies; and
- d. All other monies deposited into the Stormwater Management Fund.

Stormwater Management Fee - Sums assessed, imposed, and to be collected from the Property Owner of a developed lot, parcel, building or portion thereof which uses, benefits from or is serviced by the Stormwater Management System, or which discharges stormwater, directly or indirectly, into the public Stormwater Management System, for the use, the service, improvement and replacement of all or parts of such system and additionally for the administration and operation of the Stormwater Management Program.

Stormwater Management Fund – means the Stormwater Management Fund established by the Authority for the purpose of funding responsibilities of the Stormwater Management Program.

Stormwater Runoff – Drainage runoff resulting from precipitation in the form of rain, snow or ice melt.

Stormwater Management System – means the collection and transmission system constructed, owned, operated, and maintained by the Authority, including all related facilities heretofore acquired or constructed by the Authority, together with all appurtenant facilities and properties which the Authority has acquired or hereafter shall acquire in connection therewith, including all property, real personal, and mixed, rights, powers, licenses, easements, rights-of-ways, privileges, franchises and any and all other property or interests in property of whatsoever nature used or useful in connection with such facilities, and together with all additions, extensions, alterations, and improvements which may be made or acquired, from time-to-time. As of any particular time, the “Stormwater Management System” means the aforesaid facilities and all property, real personal and mixed, rights powers, licenses, easements, rights-of-way, privileges, franchises, and all other property or interest in property of whatsoever nature used or useful in connection which such facilities, and Capital Additions (including property in the nature of Capital Additions acquired or constructed from funds wholly or partially contributed or advanced by users, developers or other Persons) acquired, owned, made or constructed by or for the Authority; and the “Stormwater Management System”, without intending to limit the generality of the foregoing, as of any particular time, shall include all buildings, basins, machinery and equipment, mains, pipes, pipe lines, interceptor lines, trunk lines, service lines, shops, outfall lines, drainage swales, drainage channels, personal property and all franchises, land, rights-of-way, privileges, easements, licenses, rights and any other interest in real property, in each case made, constructed or acquired after the date hereof and which are used or useful in connection with the Stormwater Management System.

Surface Infiltration Rate – The rate at which water enters the soil or other porous surface. The measurement of surface infiltration rates requires that the underlying soil be completely saturated and that infiltration occurs by gravity under a unit hydraulic gradient.

Volume Control – A type of Credit that can be applied against a Stormwater Management Fee by a Property Owner, for utilizing proper stormwater volume control techniques that manage and or captures the volume of stormwater runoff, such as infiltration bioretention to take advantage of evapotranspiration, or capture and reuse.

Year – defined as January 1 to December 31.

Credits and Credit Policies

General Policies

1. It is the responsibility of the Property Owner to apply for Credits and to provide all Credit application documents that are required by LSTMA.
2. Credits are available only to Non-Residential Property Owners.
3. The maximum amount of Credit to be granted by LSTMA **shall not exceed 30%, except for the Stormwater Partnership Credit described below.**
4. A Property Owner shall not be eligible for Credits or to Appeal an assessment if the Property Owner's account is past due.
5. Credits will not be applied to late payments nor can Credits be accrued.
6. Complete applications will be reviewed by LSTMA within 60 calendar days of receipt. Incomplete applications will be returned for completion. Credits will become effective at the beginning of the next billing cycle.

7. Property Owners shall pay a \$50 Credit Application Fee to LSTMA; however the application fee shall be waived for Credit applications submitted before August 31, 2021. Credit Application fees are non-refundable and may be subject to adjustment January 1 of each year. Property Owners may be required to establish an escrow account of \$2,000 for specific credits such as new or retrofitted BMPs to cover professional services for review of the application. If at any time funds are drawn below \$500 the escrow account must be replenished for the application review to proceed. Larger escrow amounts may be required for larger applications with multiple BMPs for review. A credit application may include multiple related parcels.
8. All Credits expire March 1, 2023 unless otherwise determined by the Township. At that time, the Credit Policy will be reevaluated at the discretion of Township. Reviews of applications may be conducted by the Township depending on compliance of Property Owners to complete O&M requirements, inspections, and provide related information to the Township, which ensures proper functionality of BMPs and their compliance standards described by the most recent edition of the Pennsylvania Best Management Practices Manual. Adjustments to the value of credits may be made at the discretion of the Township at either the reevaluation period of 2023 or at the time of failure in providing the above stated information in a timely manner. This may cause a revocation of credit reduction on monthly billing and resubmission of an application.
9. The LSTMA has full discretion over the Credit process.
10. Credits will be revoked when BMPs are not maintained by Property Owner.

Summary of Available Credit Types

Table 1. Summary of Available Credits by Property Type

CREDIT	ALL NON-RESIDENTIAL	MAX CREDIT
Peak Rate Control/Volume Control Structural BMP	X	25%
Low Impact Parcel	X	25%
Education Credit	X	10%
Stormwater Partnership Credit	X	n/a

Eligibility

To be eligible for a Credit, the property must have been assigned a minimum of 1 ERU and there must not be any outstanding and unpaid Stormwater Fee against the Property. Owners must submit the appropriate Credit Application along with any documentation required by the Township.

Credit Types

Peak Rate Control / Volume Control Structural BMP Credits

Structural BMPs that fall into the categories of Peak Rate Control and Volume Control of stormwater runoff from a property are eligible for Credit.

Peak Rate Control Credits can be applied for a facility which is an approved stormwater rate control system designed in accordance to the design rates described in Section 26-119, Rate Controls, of the Code of Ordinances of the Township of Lower Swatara Township. Stormwater rate control cannot exceed the predevelopment stormwater discharge rate for the following events:

- Up to 10% Credit for the 25-year event
- Up to 12% Credit for the 50-year event
- Up to 15% Credit for the 100-year event

A stormwater volume control system designed in accordance with Section 26-118, Volume Controls, of the Code of Ordinances of the Township of Lower Swatara Township may be awarded a 10% Credit. When applicable, this can be in addition to the rate control credit above. These are systems containing BMP's that do not increase the post-development total runoff volume when compared to the pre-development total runoff volume for the two-year/twenty-four-hour storm event. Approved volume control systems may be, but are not limited to, infiltration basins, infiltration trenches, and rain gardens.

For reference of possible stormwater facilities which fall under the above BMP credits, please advise the most recent edition of the PA BMP Manual, Chapter 6 Structural BMPs, for more information on the rate and volume control systems described above, as well as other BMP options.

A detailed operation and maintenance plan for all Structural BMP systems shall be completed by the Property/BMP Owner to maintain their credit eligibility. The operations and maintenance plan shall be located on or with Recorded Plans, as well as, the signed and executed O&M Agreement, which includes the detailed step-by-step procedures on how the Structural BMP system shall be maintained in order to function properly. All paperwork shall include contact information of the person responsible for operation and maintenance of the Structural BMP system. The Property Owner shall maintain detailed, up to date inspections and maintenance logs for each Structural BMP system located on the property which is having a credit applied for. This information will be sent to LSTMA, via mail, email, or personally delivered to the Codes Department, for continued tracking, review and verification of the system's functionality and will be kept on file with the property. All Structural BMP systems shall be constructed within a minimum 20-foot LSTMA stormwater maintenance easement. Access to the stormwater maintenance easement shall be provided from the nearest public right-of-way.

Existing Structural BMPs can be retrofitted to provide enhanced function and may be eligible for Credits. The credits only apply to the stormwater controlled and improved through the retrofitted Structural BMPs when meeting the most recent design criteria and specifications laid forth by the most recent PA BMP Manual. Peak flow rate, stormwater volume control, and water quality calculations shall be made in compliance with the Code of Ordinances of the Township of Lower Swatara Township. When applying for an existing Structural BMP with no adjustments, the system

must be proven through documentation that it is in proper working order and can be approved by LSTMA through investigation, if applicable. Credits will be prorated to the amount of stormwater managed relative to Total Impervious Area located on the property.

Low Impact Parcel Credit

A parcel is considered a Low Impact Parcel if its Total IA is less than or equal to 10% of the total parcel area. If a parcel meets this condition, it is eligible for a Credit of 25%. Parcels meeting this criteria as of the IA mapping in 2019 will have the credit automatically applied.

Education Credit

It is the goal of LSTMA to encourage both public and private educational systems (K-12 and higher education such as colleges) to educate and inform their students on the importance of surface water, ground water, and stormwater resources, most importantly, how they can play a role in preserving and restoring the physical, chemical, and biological integrity of the Township's water resources.

The educational program may include participation in a water resource-themed student poster session or science fair, take-home materials, classroom lessons, field trips, etc. The educational program/materials must be preapproved by LSTMA. The following list of educational resources and materials are provided as examples, but is not meant to exclude other educational material that may be approved by LSTMA:

- PSU Extension: *Rain to Drain – Slow the Flow*
- EPA NPDES Stormwater Outreach Materials and Reference Documents
- EPA Teacher Resources and Lesson Plans
- EPA Water Science and Technology for Students and Educators
- USGS Education Resources
- Soil Science Society of America: *Soils 4 Teachers*

Schools with more than 50% of its students enrolled in levels below Kindergarten (i.e. pre-K, pre-school, daycare, etc.) are not eligible for an Education Credit. Eligible education institutions may be granted up to a 10% Credit based on the following criteria:

- **Tier One Education Credit:** A 5% Education Credit is available to a qualifying education institution which educates 50% to 74% of qualifying grade levels within the school or school system.
- **Tier Two Education Credit:** A 10% Education Credit is available to a qualifying education institution which educates 75% to 100% of qualifying grade levels within the school or school system.

Education credits only apply to the Impervious Area associated with the property improvements actually used for education and associated infrastructure. For example, the credits would be applied to a High School building and its parking lot, but not to the School District Administrative offices that oversee the High School. Student living quarters, such as dorms, are also not eligible for education credits. Education credits are valid for one (1) year but will be renewable each year the curriculum is taught.

Libraries, religious organizations and other non-residential organizations are eligible for the education credit. Interested parties should contact the Authority to discuss an education plan specific to their capabilities.

Stormwater Partnership Credit

LSTMA recognizes that the ultimate goal of this policy is to improve the local and regional water quality of the stormwater entering into the Stormwater Sewer System and conveyed throughout the Township. Therefore, LSTMA encourages Property Owners to partner with the Township on either existing stormwater facilities where the partnership may include but not limited to, joint ownership of BMPs and pollutant reductions for developed PRPs, as well as, partnered O&M and inspection activities of the facilities. An example of a partnership, could be a farmer owner/operator who implements applicable water quality plans (manure management, nutrient management, agricultural erosion and sediment control, and/or soil conservation plan). Refer to the *Stormwater Partnership Credit Opportunity for Agricultural Use Properties* appendix for additional information.

If a Property Owner has an idea for a project that could merit Stormwater Management Fee Credits, LSTMA encourages the Property Owner to submit the project for consideration to LSTMA for a Stormwater Partnership Credit. The maximum credit will be dependent on the design and overall effectiveness of the project and its pollutant removal, peak rate reduction, and volume control. The actual amount of the credit will be based upon functionality of BMP, pollutant removal as per the most recent PA BMP Manual, and equal partnership with the Property Owner through partnered O&M activities.

Applying for Credit

Pre-Application Meeting and Field Review

If requested or desired by Property Owners, LSTMA shall hold a pre-application meeting to discuss and answer any questions regarding their Credit Application Submission. At the discretion or approval of the LSTMA Board, a field review may be conducted as an assessment which may assist the property owner in their Credit Application Process. All Property Owners interested in installing a new BMP or retrofitting an existing BMP should submit a completed Pre-Application Meeting Request form, which is attached hereto in Appendix D, to LSTMA. LSTMA will contact the Property Owner to schedule a meeting or notify the Property Owner if a specific installation does not require a pre-application meeting. Thus, the Property Owner must provide accurate and up to date contact information so that LSTMA may schedule pre-application meetings or field visits.

Design Standards

All proposed BMPs shall comply with the applicable design standards set forth in Lower Swatara Township's ordinances for which the property is located and the most recent version of the Pennsylvania Best Management Practices Manual including, but not limited to, the use of appropriate professionals, such as Professional Engineers, Professional Geologists, Landscape Architects, Soil Scientists, etc. when required. When applicable, karst hazards, soil investigations, infiltration testing, or other pertinent site-assessment activities should be conducted before ground breaking.

Credit Application

In order to receive Credit, all Property Owners must follow the specified application process. A credit application can be mailed, emailed, or personally delivered to Codes Department. Properly submitted applications will be reviewed by LSTMA within 60 days of submission. The Property Owner will be notified in writing whether or not the application has been approved. If unapproved, Property Owners will have 60 days to resubmit applications before their application is rejected. First resubmittal shall be of no charge, every resubmittal thereafter shall be a charge of \$25 per each resubmittal. Upon approval of an application, the Property Owner will receive a letter along with a Credit Agreement that must be signed and returned to LSTMA within 60 days. Failure to return the fully executed Credit Agreement in a timely manner will result in the termination of issued Credits. Once all paperwork and signatures have been received, see below, Credits will then be applied to the next billing period.

The following documentation must be submitted to LSTMA for a Credit Application to be reviewed:

1. An original completed and signed Credit Application.
 - a. The Credit Application form is attached hereto as Appendix A, and available online at the LSTMA website or the LSTMA office.
2. Clear and detailed photographs of the site sufficient to show layout, inlets, outlets, etc.
3. A copy of the proposed Operation and Maintenance (O&M) Plan including inspection schedule and maintenance log. (Existing facilities only)
4. Records of all maintenance and inspections undertaken since the installation of the facility. (Existing facilities only)
5. If the BMP is preexisting, a record of maintenance undertaken since installation shall be provided.
6. \$50 Application fee.
7. LSTMA reserves the right to require submission of additional design documentation, as-built or construction drawings, and an engineering analysis provided by a licensed

- engineer. Notification of this requirement will be provided upon submission of a Pre-Application Meeting Request Form.
8. LSTMA reserves the right to require certification by a licensed engineer that an existing BMP is in proper working order.
 9. Easement identification and planning is required, if applicable.
 10. Additional documentation may be required at the request of LSTMA.

Maintenance Policies:

All Property Owners who receive Credits will be required to sign an Operations and Maintenance Agreement which references an O&M Plan outlining any and all maintenance requirements to ensure compliance with this policy and submitted to the Township to be kept on file. The O&M Plan and its mandatory activities will be required to continually qualify for credit. The basic minimum maintenance requirements to be listed in an O&M Plan will include, but are not limited to:

- Sediment shall be removed when approximately 30% of storage capacity of the BMP is filled.
- Any sinkholes shall be repaired
- Trash shall be removed.
- No woody vegetation shall be allowed to grow on fill embankments, unless called for in the facility's design.
- Debris shall be removed from all inlets, outlets, and other structures that have the potential to clog.
- All BMPs must be inspected no less than 4 times per year and within 48 hours after any rain event of more than 1 inch.
- Documentation of inspections shall be submitted to LSTMA by June 1st of each year, so they can be evaluated and included in the MS4 Annual Report.
- Provide previous year's maintenance log to LSTMA by no later than June 1st of each year, so they can be evaluated and included in the MS4 Annual Report.
- BMP control structures and components shall remain unaltered, intact, and functioning as originally designed.
- See the current addition of the Pennsylvania Stormwater Best Management Practices Manual for system specific inspection requirements.

LSTMA reserves the right to inspect all stormwater facilities to ensure they are working properly. If a stormwater facility is, in the opinion of LSTMA, found to be operating inadequately, the Property Owner will be notified in writing of the deficiencies. If the Property Owner does not make the necessary corrections within 45 days of the date of the notice, all credits may be revoked. Failure to receive this notice doesn't delay or extend the time to correct these deficiencies. If Property Owner fails to submit annual reporting documentation by deadline listed above credits may be revoked.

Credit Renewal

Following the date of expiration of the Township's MS4 Permit (March 1, 2023), the Credit Policy will be reevaluated. All Credits expire March 1, 2023 (the "Credit Period"), unless otherwise determined by the Authority. Credits can be renewed. A Credit Renewal Application may be mailed, emailed, or personally delivered to Codes Department. In order to maintain Credits from one period to the next, Credit Renewal Applications must be submitted at least 75 days prior to the end of the Credit Period. Failure to timely submit a Credit Renewal Application may result in expiration of Credits.

Credit Renewal Applications will be reviewed by LSTMA within 60 days of submission. The Property Owner will be notified in writing whether or not Credits have been renewed, and will have 60 days to resubmit rejected Credit Renewal Applications before their application is terminated. Upon approval of a Credit Renewal Application, a Property Owner will receive a letter along with a Renewed Credit Agreement that must be signed and returned to LSTMA within 60 days. Failure to return the fully executed Credit Agreement in a timely fashion will result in the termination of issued Credits. The signed Renewed Credit Agreement must be returned at least 15 days before the next billing period to ensure that the renewed Credits will be applied.

The following documentation must be submitted for a renewal application to be reviewed.

1. An original Completed and signed Credit Renewal Application form.
2. Current (taken 1 month or less before submission) clear and detailed photographs of the site sufficient to show layout, inlets, outlets, etc.
3. A copy of the BMP maintenance log for the previous three (3) years.
4. Certification by a Pennsylvania licensed engineer that the BMP is in proper working order (this certification is not required for Low Impact Parcel Credits, or Education Credits).
5. \$25 Credit Renewal Application fee.

Appeals

An Impervious Area assessment and Stormwater Management Fee assessment may be appealed. Note that review of the Impervious Area may cause the assigned estimate to increase as a result of the appeal.

Appeal of Impervious Area Assessment

If a Property Owner feels that their Impervious Area estimate is incorrect they may appeal it. Appeal Applications are attached hereto as Appendix E, is available online at the LSTMA website, and at the LSTMA office. There is a \$25 appeal fee that must accompany all Appeal Applications; however this fee shall be waived for Appeal Applications submitted before the end of 2020. Appeal Applications and supporting documentation may be mailed, emailed or personally delivered to the Codes Department. Within 60 days of being received, LSTMA will contact the Property Owner with information about the status of the Appeal Application as well as instructions about how to proceed. Questions about a Property Owner's Impervious Area assessment can be made by contacting staff at the LSTMA office during regular business hours.

Appendix A – Credit Application

Credit Application Instructions

1. This form is provided to LSTMA stormwater customers who believe they qualify for an approved Stormwater Credit. Customers should review the LSTMA Credit Policy Manual for eligibility requirements for Credits.
2. Please fill out all sections of the form, except for the last section marked "For LSTMA Use Only". Please fill out all applicable sections on pages 1 and 2 related to the Credits you are applying for.
3. You may attach supporting documentation to the form. Please note that any submitted documentation will not be returned to the customer.

Please mail completed form to:	Lower Swatara Township Municipal Authority 1499 Spring Garden Dr., Middletown, PA 17057
Please email completed form to:	MS4@lowerswatara.org
Please personally deliver to:	Lower Swatara Township Codes Department

4. A LSTMA representative will review the Stormwater Credit Application Form within 60 days of receipt of the completed form.

Attached Documents

The following documentation must be submitted for an application to be reviewed:

- 1 Completed and signed credit application form and renewal application form (if applicable).
2. Photographs of the site showing the BMP, including layout, inlets, outlets, etc. within 60 days of application submission/resubmittal.
3. A copy of the operation and maintenance plan for the BMP.
4. For existing BMPs, a record of maintenance undertaken since installation shall be provided.
5. \$50 Application fee (waived for applications submitted before August 31, 2021)
6. LSTMA may require for the following additional documentation to be submitted:
 - a. Design documentation, as-built or construction drawings, and an engineering analysis from a professional engineer.
 - b. For existing BMPs, certification by a professional engineer that the BMP is in proper working order.
 - c. Other documentation as may be required at the request of the Authority.

Please review the LSTMA Stormwater Management Program Credit Policy Manual before applying

<input type="checkbox"/> Credit Application	<input type="checkbox"/> Renewal Credit Application
Select the Credit(s) being applied for if known (check applicable boxes):	
<input type="checkbox"/> Peak Rate/Volume Control Structural BMP	<input type="checkbox"/> Education Credit
<input type="checkbox"/> Low Impact Parcel	<input type="checkbox"/> Stormwater Partnership Credit

Customer Information

Owner's Name: _____

Alternate Contact Name: _____

Phone Number: _____ Alt. Phone Number: _____

E-mail: _____

Property Address: _____

Parcel Number: _____

Mailing Address: _____

Account Number: _____

Structural BMP

Check all boxes that apply:

- ☐ I have a BMP that controls for rate
- ☐ I have a BMP that controls for volume
- ☐ I have a BMP that controls for water quality
- ☐ I have a BMP but I'm not sure what it does

Please attach any supporting information.

Additional Credits

If you are applying for any additional Credits, LSTMA will contact you to discuss the details of the Credit after you submit Page 1 of the application.

Confirmation of Credit Conditions and LSTMA Access Rights

I, (please print name) _____ agree to all conditions of the Credits I have applied for as outlined in the Lower Swatara Township Municipal Authority *Stormwater Management Program Credit Policy Manual*. Additionally, I agree that Lower Swatara Township Municipal Authority may, at reasonable times, enter my property to inspect the condition or operation of BMPs. I also understand my obligations to any conditions listed in all Operation and Maintenance Agreements that are in existence for this property with the Township of Lower Swatara or LSTMA.

Signature: _____ Date: _____

FOR LSTMA USE ONLY

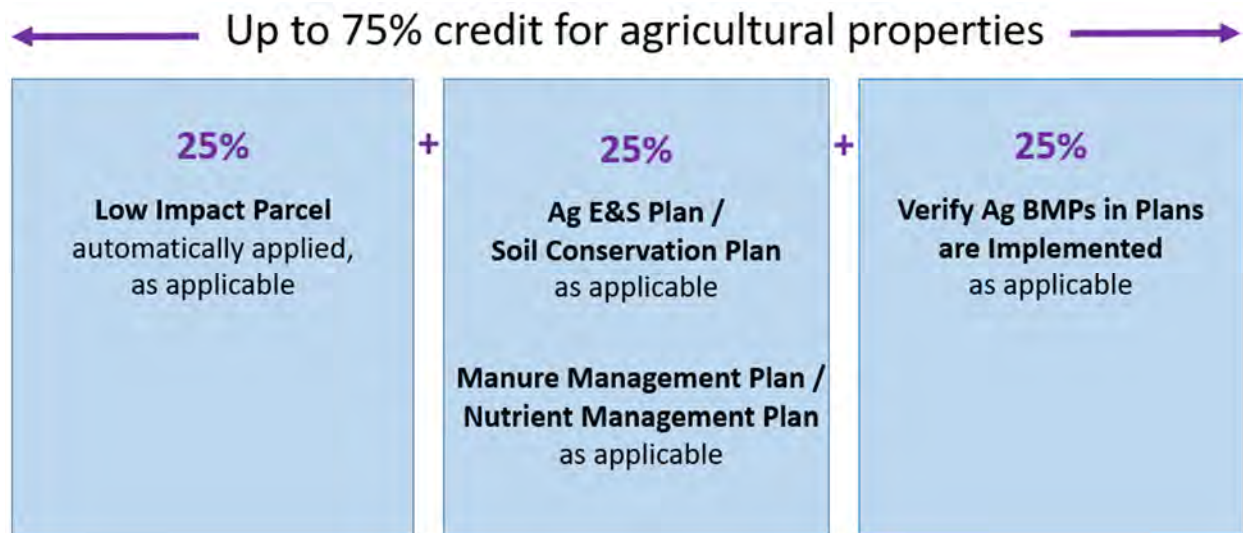
Date Received: _____	Credit(s): <input type="checkbox"/> Granted <input type="checkbox"/> Denied
Date Reviewed: _____	% Credit to be Applied: _____
Date of Credit Expiration: _____	Reviewer: _____

Appendix B – Stormwater Partnership Credit Opportunity for Agricultural Use Properties

LSTMA

Stormwater Partnership Credit Opportunity for Agricultural Use Properties

Lower Swatara Township has established a standard for a credit opportunity that pertains to Best Management Practices (BMPs) that are utilized on agriculturally-used properties (those with a County Land Use code of L07 Farm Land Unimproved or L08 Farm Land with Buildings). Through the Stormwater Partnership Credit, agricultural property owners can apply for applicable credits to reduce their monthly bill for Stormwater Fees by up to 75%. This process combines the Low Impact Parcel Credit with two additional stages of credits available under a Stormwater Partnership Credit. Currently, all Non-Single-Family-Residential (Non-SFR) properties that have under 10% total impervious automatically receive a 25% credit through the Low Impact Parcel Credit. An additional 25% Credit will be granted for properties that provide documentation of applicable water quality plans listed below. Property owners will receive another additional 25% credit when installed BMPs are as described in the Plans, as verified by the Township or their designee.



To receive the agricultural BMPs credit, a maintenance agreement will need to be signed. If you have additional questions or would like to discuss this opportunity further, please contact the MS4 Coordinator at MS4@lowerswatara.org or 717-939-9377.

Agricultural Use Credit Application Instructions

1. This form is provided to Stormwater Management customers whose County Land Use code is L07 Farm Land Unimproved or L08 Farm Land with Buildings who believe they qualify for an approved agricultural use Stormwater Partnership Credit. Customers should review the Credit Manual for eligibility requirements for Credits.
2. Please fill out all sections of the form, except for the last section marked "For LSTMA Use Only". Please fill out all applicable sections on pages 1 and 2 related to the Credits you are applying for.
3. Please note that any submitted documentation will not be returned to the customer.

Please mail completed form to:	Lower Swatara Township Municipal Authority 1499 Spring Garden Dr., Middletown, PA 17057
Please email completed form to:	MS4@lowerswatara.org
Please personally deliver to:	Lower Swatara Township Codes Department

4. A LSTMA representative will review the Stormwater Credit Application Form within 60 days of receipt of the completed form.

Attached Documents

The following documentation must be submitted for an application to be reviewed:

1. Completed and signed credit application form.
2. Copy of manure management, nutrient management, ag E&S, and/or soil conservation plan, where applicable.
3. Upon application review, LSTMA may require that additional documentation be submitted. Upon approval, a notarized Maintenance Agreement will be required (see Appendix C).

Please review the two flow charts and check applicable box of credit(s) being applied for

<input checked="" type="checkbox"/> Low Impact Parcel Credit – automatically applied, as applicable	25% credit
Nutrient Management – check one box	25% credit
<input type="checkbox"/> Manure Management Plan – not required	
<input type="checkbox"/> Manure Management Plan – copy of plan accompanies application	
<input type="checkbox"/> Nutrient Management Plan – copy of plan with Conservation District approval accompanies application	
Soil Conservation – check one box	
<input type="checkbox"/> Soil Conservation/Ag E&S Plan – not required	25% credit
<input type="checkbox"/> Ag E&S Plan – copy of plan with Conservation District approval accompanies application	
<input type="checkbox"/> Soil Conservation – copy of plan with NRCS approval accompanies application	
BMP Verification – check one box	25% credit
<input type="checkbox"/> Plan Implementation – request verification inspection	

Owner's Name: _____

Alternate Contact Name: _____

Phone Number: _____ Alt. Phone Number: _____

E-mail: _____

Property Address: _____

Parcel Number: _____

Mailing Address: _____

Account Number: _____

LSTMA Stormwater Credit Application Form (Cont.)

Confirmation of Credit Conditions and LSTMA Access Rights

I, (please print name) _____ agree to all conditions of the Credits I have applied for as outlined in the Lower Swatara Township Municipal Authority *Stormwater Management Program Credit Policy Manual*. Additionally, I agree that Lower Swatara Township Municipal Authority may, at reasonable times, enter my property to inspect the condition or operation of BMPs. I also understand my obligations to any conditions listed in all Operation and Maintenance Agreements that are in existence for this property with the Township of Lower Swatara or LSTMA.

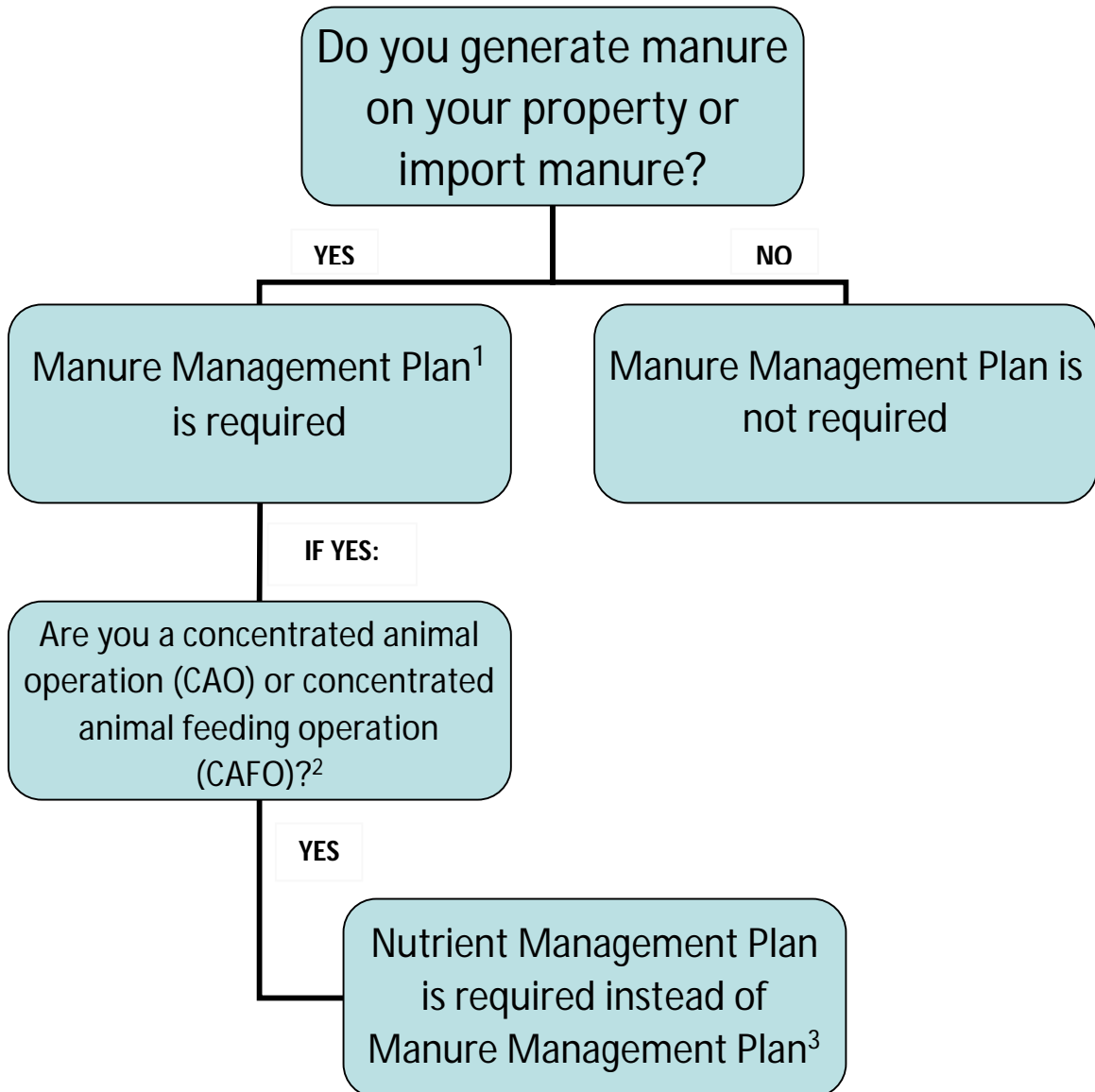
Signature: _____ Date: _____

FOR LSTMA USE ONLY

Date Received: _____	Credit(s): <input type="checkbox"/> Granted <input type="checkbox"/> Denied
Date Reviewed: _____	% Credit to be Applied: _____
Date of Credit Expiration: _____	Reviewer: _____

LSTMA

What is my Nutrient Management credit eligibility?



¹ Manure Management Plan: do not need to be written by a certified specialist (farmer can develop the plan themselves according to Manure Management Plan standards). [Provide plan to LSTMA for stormwater fee savings.](#)

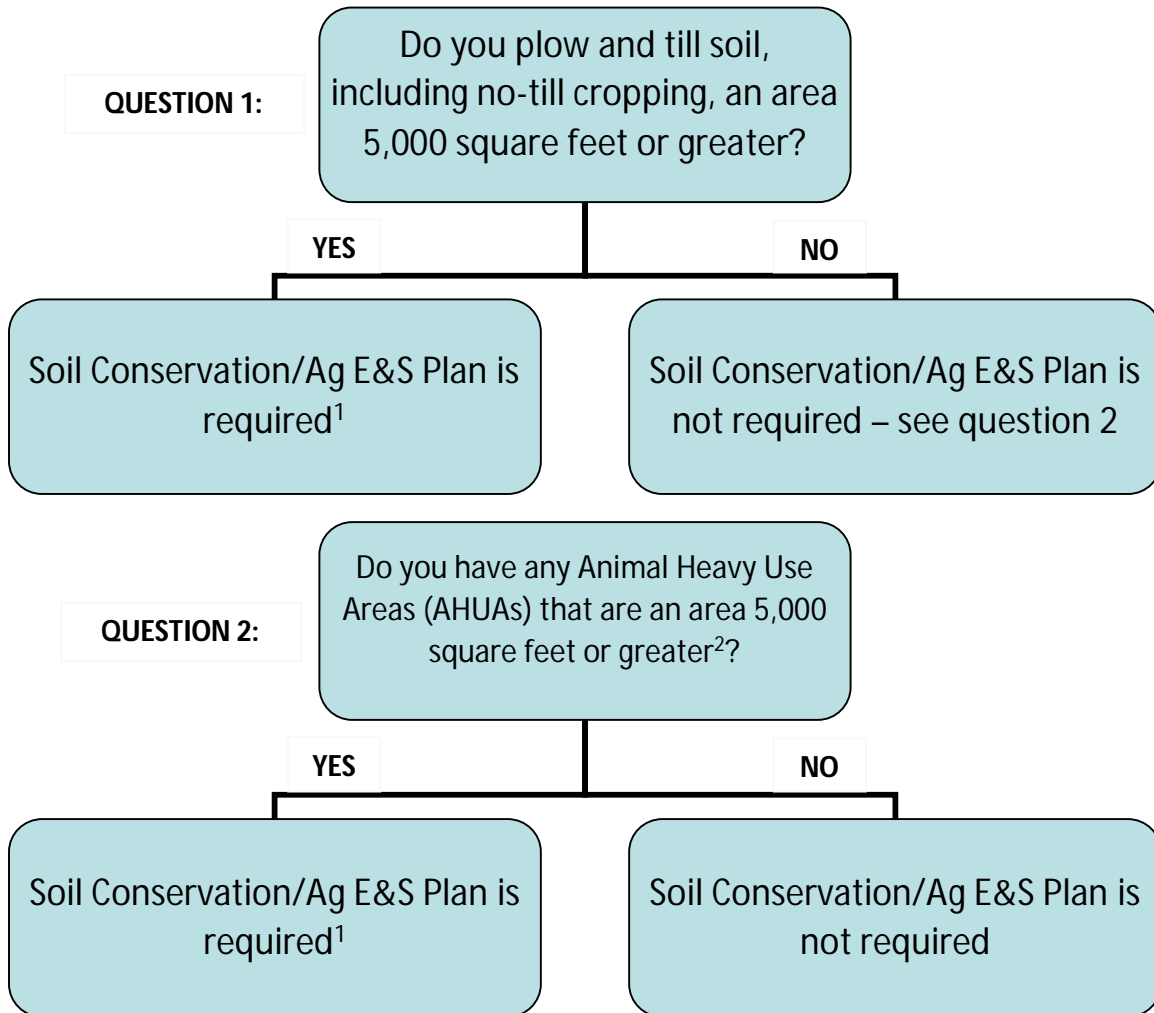
² CAO = farms with more than 2,000-lbs. of animals per acre of cropland; CAFO = farm with more than 700 cows, 2,500 hogs, 500 horses, 82,000 layers, 125,000 broilers or 1,000,000-lbs. or live weight of animals (combined animals) or more than 300,000-lbs. of animals and a CAO

³ Nutrient Management Plan: written by a certified nutrient management specialist to meet Nutrient Management Act 38 standards and approved by the Dauphin County Conservation District. [Provide the plan and evidence of plan approval to LSTMA for stormwater fee savings.](#)

Note: Flow chart modified from PSU Extension example: <https://extension.psu.edu/programs/nutrient-management/manure/understanding/what-type-of-plan-do-you-need-for-your-farm>

LSTMA

What is my Soil Conservation eligibility?



If answers to both questions are “no,” customer receives 25% credit without providing a plan.

¹ Soil Conservation Plan: written by a qualified specialist to meet USDA-NRCS requirements. Provide the plan and evidence of NRCS plan acceptance to LSTMA for stormwater fee savings.

Ag E&S Plan: written by a qualified specialist to meet Chapter 102 regulations and approved by the Dauphin County Conservation District. Provide the plan and evidence of plan approval to LSTMA for stormwater fee savings.

² (Is it muddy where your animals spend time outdoors?) AHUA = barnyard, feedlot, loafing area, exercise lot or other similar area on agricultural operations where, due to the concentration of animals, it is not possible to establish and maintain vegetative cover of a density capable of minimizing accelerated erosion and sedimentation by usual planting methods.

Note: Flow chart modified from PSU Extension example: <https://extension.psu.edu/programs/nutrient-management/manure/overview-of-deps-manure-management-manual/the-basics-of-agricultural-erosion-and-sedimentation-requirements>

LSTMA

Ag Credit FAQ's

1. I am interested in these credits but my farm plans are out of date, or I don't have any.

DEP has a grant reimbursement program that provides money back when an applicant spends money on developing the plans that are right for them. The new registration deadline is April 1, 2021. Reference DEP's website for more information:

<https://www.dep.pa.gov/Business/Water/Pennsylvania%20%80%99s%20Chesapeake%20Bay%20Program%20Office/agriculture/Pages/Funding-Programs.aspx>

References for plan writers*:

- i. USDA-NRCS: Carlisle, PA – 717-249-1037
- ii. Northeast Land Management, LLC: Carlisle, PA – 717-991-1095
- iii. TeamAg Inc.: Ephrata, PA – 717-721-6795
- iv. Rosetree Consulting: Shillington, PA – 610-396-7101
- v. AET Ag Consulting: Lititz/Thomasville, PA – 717-625-2218/717-792-1274
- vi. Red Barn Consulting: Lancaster, PA – 717-393-2176

2. If I'm in the process of getting plans in place for my farm, can I receive stormwater fee savings now?

No, farms that have plans in place are eligible for credit. However, where a complete credit application is approved by Township staff, credits will be retroactively applied to the period during which the complete submission was made.

3. I need a manure management plan and/or a soil conservation/ag E&S plan. Is that something I can write on my own?

Potentially yes. Contact the Dauphin County Conservation District office to see if training will be offered soon.

4. I need a nutrient management plan. Is that something I can write on my own?

Likely no because it needs certification. See Item 1.b for a few potential plan writers.

5. My farm is preserved; do I automatically receive stormwater fee savings?

No, but preserved farms, may already have the plans in place and have BMPs in place, which could make the owner eligible for the maximum reduction. To confirm eligibility, submit the requested documentation with the application.

6. I'm in the process of implementing my multi-year plan but not all BMPs are in place. Am I eligible for full stormwater fee savings under BMP verification?

Potentially yes, if the BMP installation completed to date is on schedule, the farm will receive full credit for BMP verification (25% savings). To continue receiving the credit, the farm needs to be compliant with the plan and the schedule it contains for BMPs.

* LSTMA does not promote or endorse any of these service providers. Their contact information is provided as a courtesy, and the applicant is responsible for verifying their qualifications for the service.

Appendix C – Maintenance Agreement Form

Owner's Name: _____

Phone Number: _____ Alt. Phone Number: _____

E-mail: _____

Property Address: _____

Parcel Number: _____

Mailing Address: _____

Account Number: _____

THIS AGREEMENT, is made this _____ day of _____, 20____, by and between _____, (hereinafter the "Landowner"), and the Lower Swatara Township Municipal Authority ("LSTMA");

WITNESSETH

WHEREAS, the Landowner is the owner of a certain real property in the Township of Lower Swatara, recorded by deed in the land records of Dauphin County, Pennsylvania, Deed Book ____ at Page ____ and identified by Uniform Parcel Identification Number(s) (UPI) _____ (hereinafter "Property").

WHEREAS, the Landowner installed certain Best Management Practices to manage stormwater impacts associated with the Property (herein the "Facilities"); and

WHEREAS, the LSTMA and the Landowner, for itself and its administrators, executors, successors, heirs, and assigns, agree that the health, safety, and welfare of the residents of the Township of Lower Swatara and the protection and maintenance of water quality require that stormwater practices and conveyances be properly constructed and maintained on the Property; and

WHEREAS, the LSTMA requires that stormwater practices be adequately operated and maintained by the Landowner and assigns.

NOW, THEREFORE, intending to be legally bound, the parties, agree as follows:

1. The recitals above are incorporated herein as terms of this agreement as if fully set forth below.
2. The Landowner shall operate and maintain the Facilities in good working order in accordance with the specified operation and maintenance procedures for the duration of the approved Credit period.
3. The Landowner agrees to be bound by all specifications, policies and procedures set forth in the LSTMA Stormwater Credit Policy Manual, the Township of Lower Swatara stormwater ordinance, and all documents referenced therein.
4. The Landowner hereby grants permission to the LSTMA, its authorized agents and employees to enter upon the Property, at reasonable times and upon presentation of proper credentials,

LSTMA

- to inspect the Facilities periodically at the discretion of the LSTMA. Except in the event of emergency, the LSTMA shall notify the Landowner prior to entering the property.
5. The Landowner shall annually inspect the Facilities and submit a written inspection report to LSTMA within thirty (3) days of inspection. The purpose of the inspection is to assure safe and proper functioning of the Facilities. The inspection shall cover the Facilities, and all appurtenant berms, outlet structures, pond areas, access roads, etc. Deficiencies shall be noted in the inspection report.
 6. The Landowner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the Facilities without the prior written approval of the LSTMA.
 7. The Landowner shall undertake necessary repairs and replacement of the Facilities at the direction of the LSTMA or in accordance with the recommendations of a professional engineer.
 8. In the event the Landowner fails to operate and maintain the Facilities as required under the terms of this Agreement, LSTMA may, in LSTMA's sole discretion revoke any or all Credits.
 9. It is the intent of this Agreement to ensure the proper maintenance of the Facilities 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 caused by stormwater runoff.
 10. The Landowner, its executors, administrators, heirs, successors and assigns, hereby releases LSTMA and its officers, directors, agents and employees from any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against LSTMA regarding the construction, , existence, operation, maintenance, or repair of the Facilities.
 11. Binding Obligations. The signors of this Agreement represent and warrant that each of them have full power and authority to enter into this Agreement and have been duly authorized to do so by appropriate action of each of their governing authorities; and this Agreement, constitutes a legal, valid and binding obligation of the parties enforceable in accordance with its terms.
 12. Illegality. In case any one or more of the provisions contained in this Agreement should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.
 13. Changes in Writing. No modification, amendment or waiver of any provision of this Agreement nor consent to any departure by the any party therefrom, will in any event be effective unless the same is in writing and signed by LSTMA, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. No notice to or demand on the any party hereto in any case will entitle the such party to any other or further notice or demand in the same, similar or other circumstance.
 14. Entire Agreement. This Agreement (including the documents and instruments referred to herein) constitutes the entire agreement and supersedes all other prior agreements and understandings, both written and oral, between the parties with respect to the subject matter hereof.
 15. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties hereto and to their respective heirs, executors, administrators, successors and assigns. This Agreement may be assigned at any time by LSTMA, and shall be binding upon the successive owners of the Property.

LSTMA

16. Governing Law; Venue. This Agreement will be deemed to be made in the Commonwealth of Pennsylvania. This Agreement will be interpreted, and the rights and liabilities of the parties hereto determined in accordance with the laws of the Commonwealth of Pennsylvania. Venue in any dispute arising hereunder shall lie in the courts having jurisdiction in Dauphin County, Pennsylvania. Notwithstanding the foregoing, nothing herein shall prohibit the parties from engaging in an alternate form of dispute resolution as they may agree.
17. Counterparts. This Agreement may be signed in any number of counterpart copies and by the parties hereto on separate counterparts, but all such copies shall constitute one and the same instrument. Signatures transmitted via facsimile or e-mail shall have the same binding effect as original signatures.

This Agreement shall be recorded at the Office of the Recorder of Deeds of 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. Landowner shall bear the burden of the recording of this agreement and the cost thereof. The Landowner shall provide the Township with proof of the recording of this agreement.

Lower Swatara Township Municipal Authority

BY: _____

LANDOWNER:

Date:

ATTEST:

County of Dauphin
Commonwealth of Pennsylvania

I, _____, a Notary Public in and for the County and Commonwealth aforesaid, whose commission expires on the ____ day of _____, 20____, do hereby certify that _____ signed to the foregoing Agreement bearing date of ____ of _____, 20____, has acknowledged the same before me in my said County and Commonwealth.

GIVEN UNDER MY HAND THIS ____ day of _____, 20____.

ATTEST:

County of Dauphin
Commonwealth of Pennsylvania

I, _____, a Notary Public in and for the County and Commonwealth aforesaid, whose commission expires on the ____ day of _____, 20____, do hereby certify that _____ signed to the foregoing Agreement bearing date of ____ of _____, 20____, has acknowledged the same before me in my said County and Commonwealth.

GIVEN UNDER MY HAND THIS ____ day of _____, 20____.

NOTARY PUBLIC

(SEAL)

Lower Swatara Township Municipal Authority
Stormwater Management Program Credit Policy Manual

NOTARY PUBLIC

(SEAL)

Page 29
September 2020

Appendix D – Pre-Application Meeting Request Form

Pre-Application Meeting Request Instructions

1. This form is provided to LSTMA stormwater customers who desire to install a new BMP or retrofit an existing BMP to become eligible for LSTMA Stormwater Credit. Customers should review the LSTMA Credit Policy Manual for eligibility requirements for Credits.
2. Please fill out all sections on the form, except for the last section marked "For LSTMA Use Only".
3. Please mail completed form to:
Lower Swatara Township Municipal Authority
1499 Spring Garden Dr, Middletown, PA 17057
4. A LSTMA representative will contact the Landowner within 60 days of receipt of the completed form.

Please Mark All That Apply

- ☐ I want to install a new BMP
☐ I want to retrofit an existing BMP
☐ I want to discuss a BMP easement
☐ I have an idea for a project that might qualify for the Stormwater Partnership Credit
☐ Other: _____

Customer Information

Owner's Name: _____
 Phone Number: _____ Alt. Phone Number: _____
 E-mail: _____
 Property Address: _____
 Mailing Address: _____
 Account Number: _____
 Parcel ID (if known): _____

FOR LSTMA USE ONLY

Date Received: _____	Reviewer: _____
Date Reviewed: _____	Meeting Date or Other Action Taken: _____

Appendix E – Appeal Application

LSTMA Appeal Form

Appeal Instructions

1. This form is provided to LSTMA stormwater customers who believe the Impervious Area (IA) calculation for their property is incorrect. Customers should also use this form if it is believed that stormwater fees have been assigned for a parcel they do not own.
2. Please fill out all sections on the form, except for the last section marked "For LSTMA Use Only".
3. You may attach supporting documentation to the form. Please note that any submitted documentation will not be returned to the customer. Please mail completed form to:
Lower Swatara Township Municipal Authority
1499 Spring Garden Dr, Middletown, PA 17057
4. A LSTMA representative will review the Appeal Form within 60 days of receipt of the completed form.
5. Approved adjustments will be applied to the current stormwater bill and all future billings.

Attached Documents

The following documentation must be submitted for an appeal and reassessment application to be reviewed:

1. Completed and signed appeal and reassessment application form.
2. \$25 application fee.

Appeal Information

Appeal Type: ☐ IA Estimate or ☐ Ownership

Property Type: ☐ Residential or ☐ Non- Residential

☐ Reassessment IA Estimate (optional): _____ square feet

Customer Information

Owner's Name: _____

Phone Number: _____ Alt. Phone Number: _____

E-mail: _____

Property Address: _____

Parcel Number: _____

Mailing Address: _____

Account Number: _____

Please provide a brief description as to why you believe this appeal or reassessment is necessary:

Signature: _____ Date: _____

FOR LSTMA USE ONLY

Date Received: _____	Appeal Result: _____
Date Reviewed: _____	Reviewer: _____

APPENDIX D

SAMPLE MS4 OUTFALL INSPECTION

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION				
Permittee Name: Lower Swatara Township		NPDES Permit No.: PAG1333543		
Date of Inspection: 8/11/2023		Outfall ID No.: B1		
Land Uses in Outfall Drainage Area (Select All): <input type="checkbox"/> Industrial <input type="checkbox"/> Urban Residential <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Open Space <input type="checkbox"/> Other		Latitude: 40.230083		
		Longitude: -76.768780		
		Dry Weather Inspection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
		Date of Previous Precipitation: 8/8/2023		
		Amount of Previous Precipitation: 0.12 in		
Inspector Name(s): Brian Davis		Were Photographs Taken? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
		Are Photographs Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
OUTFALL DESCRIPTION				
TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input checked="" type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Other	Diameter: 42 in	<input checked="" type="checkbox"/> Water <input type="checkbox"/> With Sediment <input type="checkbox"/> N/A
<input type="checkbox"/> Open Channel	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> V-Ditch <input type="checkbox"/> Other	Depth: in Top Width: in Bottom Width: in	
Dry Weather Flow Present at Outfall During Inspection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If No, skip to Certification Section)				
Description of Flow Rate: <input checked="" type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Significant <input type="checkbox"/> N/A				
DRY WEATHER FLOW EVALUATION				
Does the dry weather flow contain color? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide a description below.				
Does the dry weather flow contain an odor? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide a description below.				
Is there an observed change in the receiving waters as a result of the discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide a description below.				
Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide a description below.				

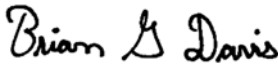
Were sample(s) collected of the dry weather flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, No. Samples:)					
FIELD / LABORATORY ANALYSIS					
PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Dissolved Oxygen		mg/L	Oil and Grease		mg/L
Temperature		Fahrenheit	Other:		
Indicate the parameters above that were analyzed by a DEP-certified laboratory:					
ILLICIT DISCHARGES					
Is the dry weather flow an illicit discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If Yes, describe efforts made to determine the source(s) of the illicit discharge.					
Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.					
Inspector Comments: Flow appears to be groundwater discharge and is known to flow often. No evidence of an illicit discharge.					
RESPONSIBLE OFFICIAL CERTIFICATION					
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).					
Brian Davis					
Responsible Official Name			Signature		
717-939-9377			8/11/2023		
Telephone No.			Date		



Photo 1: Image of outfall. Water ponding at location in slight pool.



Photo 2: Looking downstream from outfall. Only slight trickle of flow present.

APPENDIX E

OPERATIONS AND MAINTENANCE

AGREEMENT SAMPLE

**OPERATION AND MAINTENANCE (O&M) AGREEMENT
STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMPs)**

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between _____, (hereinafter the "Landowner"), and *Lower Swatara Township Municipal Authority, Dauphin County, Pennsylvania*, (hereinafter "Authority");

WITNESSTH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of Dauphin County, Pennsylvania, either Deed Book _____ at Page _____, or Instrument No. _____, (hereinafter "Property").

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

WHEREAS, the plan known as the _____ prepared for the Landowner by _____ dated _____ and last revised _____ (hereinafter referred to as the "Plan") approved by the Lower Swatara Township (the "Township") for the property identified herein, which is attached hereto by reference and made part hereof, as approved by the Township and recorded in the Dauphin County Courthouse, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Authority, and the Landowner, its successors and assigns, agree that the health, safety, and welfare of the residents of the Township and the protection and maintenance of water quality require that on-site BMPs be constructed and maintained on the Property; and

WHEREAS, the Township requires, through the implementation of the Plan, that BMPs as required by said Plan and the Lower Swatara Township Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors and assigns.

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

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the Plan
2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order in accordance with the specific maintenance requirements noted on the approved Plan.
3. The Landowner hereby grants permission to the Authority and Township, its authorized agents, and employees, to enter upon the Property, at reasonable times and upon presentation of proper credentials, to inspect the BMPs whenever necessary. Whenever possible, the Authority or Township shall notify the Landowner prior to entering the Property.

4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2, the Authority and Township or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMPs. It is expressly understood and agreed that the Authority 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 the Authority. The Landowner may be subjected to the Penalties Section of the applicable Ordinance.
5. In the event the Authority, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Authority for all expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Authority. If Landowner fails to reimburse the Authority for all expenses incurred within ten (10) days of receipt of invoice from the Authority, Landowner hereby authorizes Authority to file a Municipal lien with applicable attorney's fees and court costs pursuant to Township Ordinances or Township and Authority Resolutions against the property or properties.
6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner, provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Authority from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMPs by the Landowner or Authority.
8. The Landowner, his successors and assigns, shall indemnify the Authority and/or Township his agents and employees against any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the Authority and/or Township for the construction, presence existence or maintenance by the Landowner, his successors and assigns, of the BMPs on the Property and certain other lands and rights of way as shown on the Plan.
9. In the event a claim is asserted against the Authority and/or Township, their agents or employees, the Authority and/or Township shall promptly notify the Landowner, his successors and/or assigns, who shall defend, at their sole expense, any claim or suit against the Authority and/or Township based on such claim. If any judgments or claims against the Authority and/or Township, their agents or employees shall be allowed, the Landowner, his successors and/or assigns shall indemnify and hold Authority and/or Township harmless and shall pay all costs and expenses in connection therewith.
10. In the advent of an emergency or the occurrence of special or unusual circumstances or situations, the Authority and/or Township may enter the Property, if the Landowner is not

immediately available, without notification or identification, to inspect and perform necessary maintenance and repairs, if needed, when the health, safety or welfare of the citizens are in jeopardy. However, the Authority or Township shall notify the Landowner of any inspection, maintenance or repair undertaken within 5 days of the activity. The Landowner shall reimburse the Authority for all costs and expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Authority. If Landowner fails to reimburse the Authority for all expenses within said ten (10) days of receipt of invoice from the Authority, Landowner hereby authorizes the Authority to file a Municipal Lien with applicable attorney's fees and court costs pursuant to the Township Ordinances and Township and/or Authority Resolutions.

This Agreement shall be recorded in the Office of the Recorder of Deeds of 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.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Landowner:

By: _____
Name: _____
Title: _____

ATTEST:

_____ (City, Borough, Township)

_____ (County, State)

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20____, do hereby certify that _____ whose name (s) is/are signed to the forgoing Agreement bearing date of the _____ day of _____, 20____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HANDS THIS _____ day of _____, 20____.

NOTARY PUBLIC

(SEAL)

(SEAL)

For Lower Swatara Township Municipal Authority

By: _____

Name: _____

Title: _____

ATTEST:

_____ (City, Borough, Township)

_____ (County, State)

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20____, do hereby certify that _____ whose name (s) is/are signed to the forgoing Agreement bearing date of the _____ day of _____, 20____, has acknowledged the same before me in my said County and State.

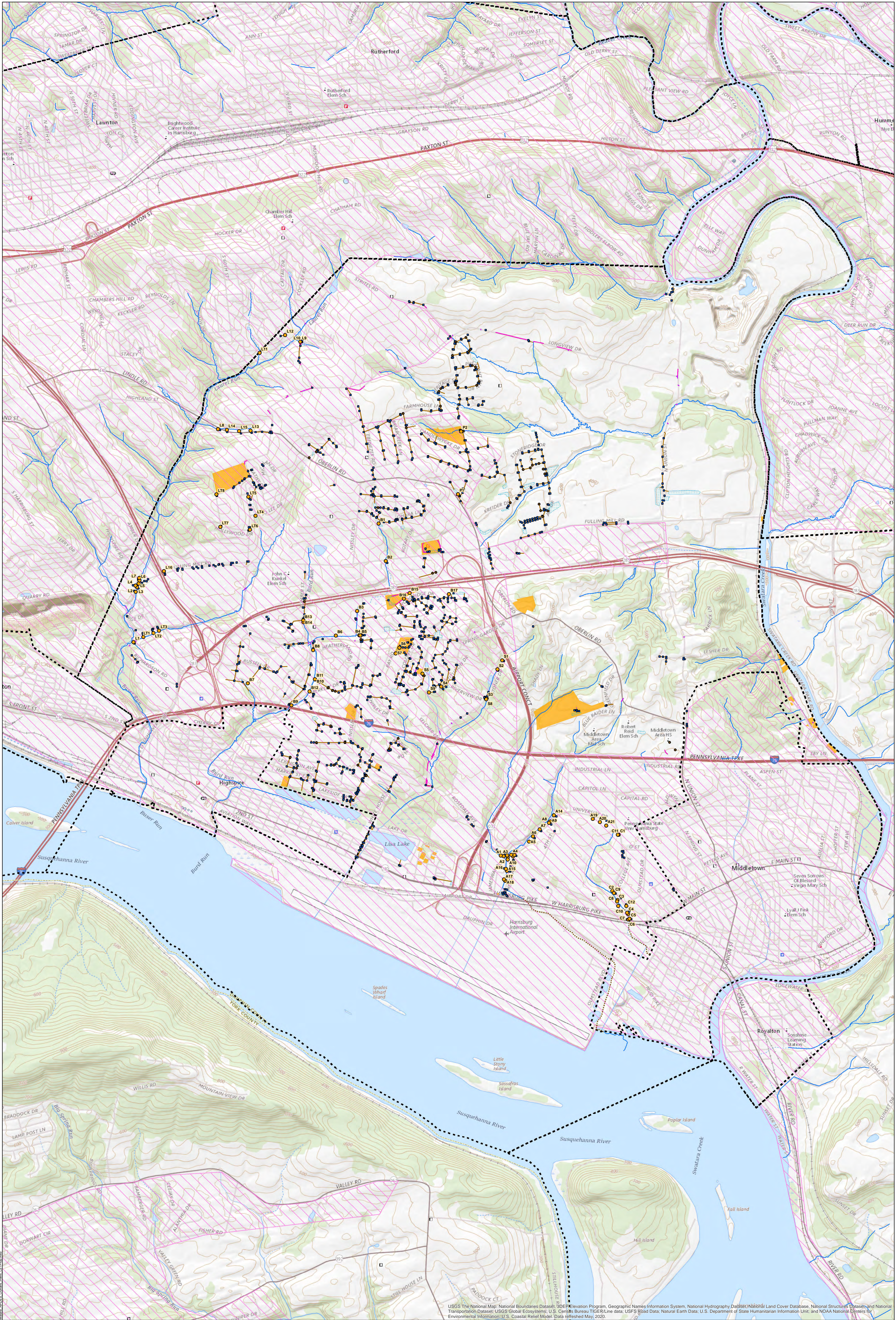
GIVEN UNDER MY HANDS THIS _____ day of _____, 20____.

NOTARY PUBLIC

(SEAL)

APPENDIX F

STORMWATER MAPPING
AND INVENTORY



Mapping derived from data provided by Lower Swatara Township, Dauphin County, US Census, and NHD.

9/22/2020 | PM:SEF | GIS:MSM | QA:SEF | R000257.0439

HRG
Hartmann, Reed & Grubbs, Inc.
Engineering & Related Services
An Employee-Owned Company

369 East Park Drive
Harrisburg, PA 17111
717.564.1151 (phone)
717.564.1158 (fax)
www.hrg-inc.com

- | | |
|-----------------|-----------------------------------|
| ● MS4 Outfall | — Streams (Dauphin County) |
| ● Storm Manhole | ■ Storm Basin |
| — Inlet | ■ Lower Swatara Township Property |
| — Conveyance | — Municipal Boundary |
| — Cross Pipe | — Urbanized Area Boundary |
| — Storm Pipe | |

USGS The National Map; National Boundaries Dataset; 3DEP Elevation Program; Geographic Names Information System; National Hydrography Dataset; National Land Cover Database; National Structures Dataset; and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information; U.S. Coastal Relief Model. Data refreshed May, 2020.

MS4 Map

Lower Swatara Township

Dauphin County, Pennsylvania

Appendix D – Table 4: Baseload Reduction for Previously Installed BMPs

BMP ID	Development Name	Location	Long	Lat	BMPs	Size (acre) / Length (ft)	Drainage Area (acre)	Watershed	Drainage Area Characteristics				Loading Rate TSS (lb/ac/yr)		Total Load TSS (lb/yr)	BMP Efficiency	Load Reduction TSS (lbs/yr)
									% Imperv.	% Pervious	Imperv. (acres)	Pervious (acres)	Imperv.	Pervious			
Ex-1	Morgans Run	Rear of Lot 6. N of Morgan Dr, S of Turnpike	-76.767197	40.212306	Detention Basin	0.09 ac	9.53	Laurel Run	35%	65%	3.37	6.16	1999.14	299.62	8,587	60%	5,152
Ex-2A	Stone Ridge Commerce Park Lot 7	Rear of Lot 7. SW corner of Lot	-76.754064	40.232968	Detention Basin	0.30 ac	2.66	Swatara Creek	7%	93%	0.18	2.49	1999.14	299.62	1094.80	60%	657
Ex-3A	Stone Ridge Commerce Park Lot 3	North of bldg.	-76.751398	40.234565	Detention Basin	0.39 ac	5.10	Swatara Creek	24%	76%	1.22	3.88	1999.14	299.62	3600.21	60%	2,160
Ex-5B	Conway Dr	Conway Dr. E of Lot 51, S of Rt. 283	-76.780973	40.222379	Detention Basin	0.08 ac	2.66	Laurel Run	34%	66%	0.90	1.76	1999.14	299.62	2334.46	60%	1,401
Ex-6A	Middletown Area School District Middle School	Middletown Middle School 215 Oberlin Rd Middletown, PA	-76.747500	40.214061	Detention	0.30 ac	22.46	Laurel Run	21%	79%	4.63	17.83	1999.14	299.62	14,605	60%	8,763
Ex-6B			-76.745022	40.216599	Basins (1,2)	0.08 ac	3.99		23%	77%	0.93	3.06	1999.14	299.62	2,774	60%	1,665
Ex-7A	Lakeside Towns	Southern corner of development, behind Lots 27-32	-76.771669	40.206538	Detention Basin	0.20 ac	5.99	Laurel Run	52%	48%	3.13	2.85	1999.14	299.62	7117.69	60%	4,271
Ex-7B			-76.773048	40.206837	Swale	100 ft	5.75		50%	54%	2.87	3.12	1999.14	299.62	6665.54	60%	3,999
Ex-8A	Highspire Road (Emerald Pointe)	SE corner of development, Along Route 283	-76.794675	40.227760	Basin A	0.72 ac	9.98	Laurel Run	48%	52%	4.82	5.15	1999.14	299.62	11184.55	60%	6,711
Ex-8B		NE corner of development along Route 283	-76.796499	40.231426	Basin B			Laurel Run									
Ex-10	Woody Waste Recycling Facility	Western edge of parking area, S of Industrial Rd	-76.739725	40.209578	Detention Basin	0.07 ac	2.22	Laurel Run	49%	51%	1.09	1.13	1999.14	299.62	2510.58	60%	1,506
Ex-11A	Old Reliance Farms Section 19	Rear of Lot 336	-76.756986	40.240788	Detention Basin	0.24 ac	9.09	Swatara Creek	7%	93%	0.65	8.44	1999.14	299.62	3831.31	60%	2,299
Ex-12A	Hollywood Motel Expansion	155 Richardson Rd. Middletown PA Adjacent to parking area	-76.794498	40.218069	Infiltration Trenches (1, 2)	0.08 ac	2.66	Laurel Run	34%	66%	0.90	1.76	1999.14	299.62	2334.46	60%	1,401
Ex-13C	1399 Fulling Mill Rd	Northern and Eastern sides of Office / Warehouse	-76.759972	40.228527	Detention Basin (1)and Forebay(2)	0.69 ac	14.85	Swatara Creek	19%	81%	2.85	12.00	1999.14	299.62	9300.01	60%	5,580
Ex-15A	Phoenix Contact Land Development	586 Fulling Mill Road Middletown, PA	-76.750355	40.228977	Detention Basins (2)	1.34 ac	57.20	Swatara Creek	36%	64%	20.67	36.54	1999.14	299.62	52259.46	60%	31,356
Ex-16A	Subdivision Lot 100 Georgetown	SE corner of development NW of White House Ln	-76.772584	40.209667	Infiltration Basin	0.24 ac	18.85	Laurel Run	52%	48%	9.83	9.01	1999.14	299.62	22357.29	60%	13,414
Ex-17D	Fulling Mill Rd Lot 185	2035 Fulling Mill Rd	-76.771748	40.225422	Detention Basin	0.43 ac	7.98	Laurel Run	40%	60%	3.17	4.81	1999.14	299.62	7787.11	60%	4,672
Ex-20A	Linden Centre Land Development	NW corner of the site, wrapping around to the E along University Dr	-76.756180	40.199333	Stormwater channel stabilization	1,400 ft	n/a	Laurel Run	n/a	n/a	n/a	n/a	1999.14	299.62	n/a	44.88 lbs/ft	62,832
Ex-20B		SE corner of site	-76.754538	40.202268	Detention Basin	0.08 ac	5.10		67%	33%	3.43	1.67	1999.14	299.62	7358.11	60%	4,415
Ex-21A	Land Development Lot 11A Stoneridge Commerce Park AIS Property Management	Americhem International 1401 AIP Dr. Suite 100 Middletown, PA N side of lot	-76.751387	40.234568	Retention Basin	0.2 ac	15.96	Swatara Creek	34%	66%	5.50	10.46	1999.14	299.62	14134.84	60%	8480.91
Ex-23A	Stoneridge Commerce Park Land Development Lot 13	AIP Dr. at Kreider Dr. Middletown, PA 17057	-76.750397	40.232300	Detention Basin	0.44 ac	5.37	Swatara Creek	21%	46%	1.12	2.49	1999.14	299.62	2995.45	60%	1,797
Ex-25A	Stoneridge Commerce Park Land Development Lot 6	500' North of the Kreider Dr. and Stoneridge Dr. intersection	-76.752512	40.233134	Detention Basin	0.61 ac	6.65	Swatara Creek	29%	71%	1.96	4.70	1999.14	299.62	5316.17	60%	3,190
Ex-29A	Medical Office Building (Family Care and Radiology / Lab Suite)	Southern edge of site, along Harrisburg Pike S.R. 230	-76.750497	40.198246	Detention Basin	0.19 ac	4.21	Laurel Run	28%	72%	1.20	3.01	1999.14	299.62	3300.60	60%	1,980

BMP ID	Development Name*	Location	Long	Lat	BMPs	Size (acre) / Length (ft)	Drainage area (acre)	Watershed	Drainage Area Characteristics**				Loading Rate*** TSS (lb/ac/yr)		Total Load TSS (lb/yr)	BMP Efficiency ****	Load Reduction TSS (lbs/yr)
									% Imperv.	% Pervious	Imperv. (acres)	Pervious (acres)	Imperv.	Pervious			
Ex-33A	Flagger Force Parking Lot Stoneridge Commerce Park Lot 7	1411 Stoneridge Dr, Middletown, PA	-76.754969	40.233083	Detention Basin	0.33 ac	19.73	Swatara Creek	0.26	0.74	7.34	12.39	1999.14	299.62	18387.75	60%	11,033
Ex-34A	PA Turnpike Highspire Service Plaza	PA Turnpike Eastbound, mile post 249.7	-76.743562	40.209336	Rain Garden	0.2 ac	6.65	Laurel Run	0.26	0.74	4.52	2.13	1999.14	299.62	9679.48	60%	5,808
Ex-39A	Middletown Home Access Driveways and Parking Revisions	Middletown Home 999 West Harrisburg Pike Middletown, PA	-76.749167	40.199192	Detention Basin 1	0.24 ac	3.10	Laurel Run	36%	64%	1.12	1.98	1999.14	299.62	2836.58	60%	1,702
Ex-39B			-76.747107	40.200436	Detention Basin 2	0.22 ac	1.77		49%	51%	0.87	0.90	1999.14	299.62	2008.47	60%	1,205
Ex-39C			-76.746300	40.199827	Detention Basin 3	0.1 ac	3.33		41%	59%	1.36	1.96	1999.14	299.62	3313.72	60%	1,988
Ex-42A	William Young / Accord Restoration SWMP	Northern side of Longview Dr, approx. 1500' east of Ebenezer Road / Longview Dr	-76.767262	40.243648	Infiltration Berm	0.04 ac	0.67	Swatara Creek	19%	81%	0.13	0.54	1999.14	299.62	414.06	60%	248
Ex-43A	Fulling Mill Rd	201 Fulling Mill Road E side of existing parking lot/ S side of new paving area	-76.738697	40.230780	Subsurface Infiltration	100 ft	19.07	Swatara Creek	39%	0.74	7.41	11.65	1999.14	299.62	18312.82	60%	10,988
Ex-45B	Harris Corp.	Oberlin Rd	-76.757296	40.229187	Infiltration Basins(2)	0.68 ac	7.76	Swatara Creek	52%	0.74	4.03	3.73	1999.14	299.62	9178.88	60%	5,507
Ex-45C	Securitas Security Services	Kreider Dr	-76.754943	40.231122	Infiltration Basin	0.18 ac	4.21	Swatara Creek	12%	0.74	0.51	3.70	1999.14	299.62	2132.52	60%	1,280
Total																	217,460

*Plan on file in municipal office. Reference plan listing of property owner, and O&M responsibilities/schedule
** Land Cover Estimates calculated using WikiWatershed “Model My Watershed” tool
***PADEP PRP Instructions - Attachment B, Developed Land Loading Rates for PA Counties
****PADEP – BMP Effectiveness Values



MUNICIPAL AUTHORITY OF LOWER SWATARA TOWNSHIP

1499 SPRING GARDEN DRIVE, MIDDLETOWN, PENNSYLVANIA 17057

PHONE 717/939-7633 • FAX 717/939-5682

«Date»

«Property_Owner»

«Owner_Address1»

«Owner_Address2»

Re: Municipal Inspection of «BMP_Type»(s)

Dear Sir/Madame:

I am writing on behalf of Lower Swatara Township concerning the Structural BMP on your property at «Site_Address». In accordance with the Township's Municipal Code, and our efforts to monitor stormwater infrastructure within the municipality, we will be performing a routine inspection of your «BMP_Type»(s) within the next few months.

For this inspection, a member of our municipal staff will take photographs of the Structural BMP on your property and complete a comprehensive inspection log detailing the current state of the «BMP_Type»(s). During this time, we will make an effort to remain within the Township's drainage easements, but our staff may need to enter portions of your property to gain access to the stormwater facility.

Should any work need to be performed after we have completed our inspection (vegetation trimming, structure repair, etc.) we will contact you to develop a maintenance plan. You are not required to perform any specific maintenance activities prior to our visit. However, we have included a short handout describing the function of «BMP_Type»(s) and the best way to maintain one. If you are aware of any issues with your facility, you are welcome to use this handout to address those problems before our inspection.

If you are not able to be present at the time of inspection, we can provide a copy of our final inspection report upon request. Should you wish to be available for the inspection, you may call our office to schedule an inspection date and time that is convenient for you within normal business hours.

If you have any further questions about this process, please feel free to contact me. Thank you, and we appreciate your cooperation with our efforts.

Sincerely,
Lower Swatara Township

A handwritten signature in black ink that reads "Brian G Davis".

Brian G Davis
MS4 Coordinator
717-939-9377 x3041
bdavis@lowerswatara.org

Lower Swatara Township

DETENTION BASIN MAINTENANCE

Detention basins are surface stormwater facilities which provide temporary storage of stormwater runoff to prevent flooding and erosion downstream. Basin outlet structures are designed to slowly release the stored water over an extended period of time, thus reducing the overall rate of water being released. Although the overall volume of water released can also be reduced through the processes of infiltration and evaporation, this is usually minimal.



In order to ensure your detention basin continues to function effectively, it is important to perform some basic maintenance routinely. The following steps should be considered when performing maintenance activities:

General Conditions

1. Perform a visual inspection of the basin at least once a month, checking for any visible issues that would impede the overall effectiveness of the detention basin.
2. Remove any pollutants or contaminants, such as trash and debris that may be present.
3. If pollutants are chronic, it may be necessary to ascertain the source and notify the Township.

Structural Conditions

1. Inspect the inlet and outlet structures at least once a year. Look for cracks or corrosion that may compromise the integrity of the structure. If any are found, repairs will be necessary.
2. Clean out any sediment deposits which may clog the inlet and outlet structures.
3. Check for excessive erosion along the banks of the basin. Soil should be stable and well vegetated.
4. Clear away any animal burrows that prohibit the natural flow of water in the detention basin.
5. If sinkholes develop, notify the Township for guidance on repair.

Vegetation Coverage

1. Vegetation is important for bank and soil stabilization. At least 95% of the basin should be covered by grass or other vegetation. If large bare spots begin to develop, spread a water tolerant grass seed on the exposed soil.
2. If bank slope permits, the vegetation within a basin should be mowed regularly. It's recommended to keep grass no more than 2 inches in height.
3. Invasive plant species can crowd out and kill native plants. If any are discovered, they should be removed from the basin to allow native species to flourish.
4. While tree growth is allowed within a detention basin, it is important that vegetation not prohibit the flow of water. To prevent clogging at inlet and outlet structures, trees and shrubs must be planted a minimum of 15 feet away.

If it is part of the Township's Existing BMP Database, an official from the Township will perform an annual inspection on your basin. The inspections are intended to review the facility's condition and assist owners by offering guidance. You will be notified at least 30 days prior to the annual inspection. It is recommended that owners keep a log of maintenance activities performed over the past year for review by the inspector.

APPENDIX G

SAMPLE BMP INSPECTION

POST CONSTRUCTION BMP INSPECTION REPORT

BACKGROUND INFORMATION	
Municipality: Lower Swatara Township	NPDES Permit No: PAG133543
Reason for Inspection:	Inspector: Brian Davis
<input checked="" type="checkbox"/> Initial / Routine <input type="checkbox"/> Follow-up	Inspection Date: August 17, 2023
<input type="checkbox"/> Response to Complaint <input type="checkbox"/> Other	Date of Previous Rainfall: August 15, 2023
BMP DESCRIPTION	
BMP Type:	BMP ID No: BMP-3
<input type="checkbox"/> Rain Garden <input type="checkbox"/> Detention Basin	Parcel ID No: 36-013-140
<input type="checkbox"/> Vegetated Swale <input checked="" type="checkbox"/> Retention Basin	Latitude: 40.214094
<input type="checkbox"/> Subsurface Infiltration <input type="checkbox"/> Infiltration Berm	Longitude: -76.747477
<input type="checkbox"/> Vegetated Filter Strip <input type="checkbox"/> Other	Installation Year: 2018
Property Type	Owner Name: Lower Swatara Township
<input type="checkbox"/> Residential <input type="checkbox"/> Commercial	Owner Address: 1499 Spring Garden Dr
<input checked="" type="checkbox"/> Institutional <input type="checkbox"/> Industrial	Middletown, PA 17057
<input type="checkbox"/> Other	Property owner notified of inspection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
GENERAL CONDITION	
<input type="checkbox"/> BMP cannot be located for inspection	<input type="checkbox"/> BMP destroyed or removed from property
Access to BMP obstructed or limited due to:	Pollutants / Contaminants present:
<input type="checkbox"/> Fence / Gate <input type="checkbox"/> Excessive Vegetation	<input type="checkbox"/> Trash / Debris <input type="checkbox"/> Oil / Grease
<input type="checkbox"/> Locks <input type="checkbox"/> Property Owner	<input type="checkbox"/> Foul Odor <input type="checkbox"/> Other
<input type="checkbox"/> Water flow diverted away from the BMP	
Inspector Comments: BMP remains generally in good condition	
STRUCTURAL	
<input type="checkbox"/> Unauthorized modifications to BMP have resulted in reduced effectiveness	
Damage to structural components	<input type="checkbox"/> Excessive erosion or sedimentation
<input type="checkbox"/> Outlet structure(s) <input type="checkbox"/> Berm embankment	<input type="checkbox"/> Leaks / Seepage at berms, check dams, etc
<input type="checkbox"/> Inlet structure(s) <input type="checkbox"/> Swale cross-section	<input type="checkbox"/> Animal burrows inhibiting water flow
<input type="checkbox"/> Other	<input type="checkbox"/> Evidence of sinkholes
Inspector Comments: No structural issues present.	

VEGETATION

☐ Type of vegetation does not match the Post Construction Stormwater Management Plans

☐ Invasive, nuisance, or noxious vegetation present? (Provide description in comments)

Vegetation coverage if poor:

☐ 0-25%

☐ 25-50%

☐ 50-75%

☐ 75-90%

☐ Dead, diseased, or dying trees / shrubs (f applicable)

☐ Requires additional mowing / trimming

☐ Vegetation blocking flow at inlet or outlet

Inspector Comments:

Vegetation in good condition

☐ FOLLOW-UP AND ENFORCEMENT ACTIONS

No follow-up actions are required at this time.

Days until Follow-Up: 0 Days

INSPECTOR CERTIFICATION

Brian Davis

Responsible Official Name

717-939-9377

Telephone No.



Signature

8/17/2023

Date



Photo 1: Eastern side of basin.



Photo 2: Western side of basin.



Photo 3: Outlet structure. No clogging from vegetation.



Photo 4: Looking downstream from outlet structure.

APPENDIX H

TRAINING DOCUMENTATION

ASSOCIATION OF STATE

FLOODPLAIN MANAGERS, INC.

CERTIFICATION BOARD OF REGENTS


HEREBY CERTIFIES THAT PURSUANT TO THE PROVISIONS OF THE CHARTER FOR THE
CERTIFIED FLOODPLAIN MANAGER PROGRAM

Brian G. Davis, CFM

IS DULY REGISTERED AS AN

ASFPM CERTIFIED FLOODPLAIN MANAGER

IN TESTIMONY WHEREOF THIS CERTIFICATE HAS BEEN ISSUED BY THE AUTHORITY OF THE
CERTIFICATION BOARD OF REGENTS, CERTIFICATE NO. US-22-12444, ISSUED 9/1/2022. THIS
CERTIFICATE SHALL EXPIRE 1/31/2025, UNLESS RENEWED ACCORDING TO THE RULES OF THIS BOARD.



CERTIFICATION BOARD OF REGENTS
PRESIDENT, ROGER LINDSEY, P.E., CFM



ASSOCIATION OF STATE FLOODPLAIN MANAGERS
EXECUTIVE DIRECTOR, CHAD M. BERGINNIS, CFM





THIS CERTIFIES THAT

Brian Davis

has completed the requirements set out by the Chesapeake Bay Landscape Professional (CBLP) certification program and is entitled to recognition as a CBLP-certified landscape professional having given evidence of his or her professional skills and met requirements for knowledge of sustainable landscape design, installation, and maintenance.

Certification Number: 5-00048

Credential(s) Given: CBLP

Effective: April 2021

Expiration Date: September 2023

APPENDIX I

APPROVED AMENDMENT TO THE
POLLUTION REDUCTION PLAN



LOWER SWATARA TOWNSHIP

Dauphin County, Pennsylvania

Chesapeake Bay Pollutant Reduction Plan

Amendment 1

February 2023

HRG Project No. R000257.0439

HRG

Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

AN EMPLOYEE-OWNED COMPANY

Chesapeake Bay Pollutant Reduction Plan

LOWER SWATARA TOWNSHIP

DAUPHIN COUNTY, PENNSYLVANIA

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INTRODUCTION

Lower Swatara Township (Township) discharges stormwater to surface waters located within the Chesapeake Bay Watershed and is, therefore, regulated by a PAG-13 General Permit, Appendix D (nutrients and sediment in stormwater discharges to waters in the Chesapeake Bay watershed). The Township also has watershed impairments regulated by PAG-13 General Permit, Appendix E (nutrients and/or sediment in stormwater discharges to impaired waterways). This Chesapeake Bay Pollutant Reduction Plan (CBPRP) was developed in accordance with both PAG-13 requirements and documents how the Township intends to achieve the pollutant reduction requirements listed in the Pennsylvania Department of Environmental Protection (PADEP) Municipal MS4 Requirements Table¹.

This document was prepared following the guidance provided in the PADEP National Pollutant Discharges Elimination System (NPDES) Stormwater Discharges from Small Municipal Separate Storm Sewer Systems Pollutant Reduction Plan (PRP) Instructions².

General Information	
Permittee Name: Lower Swatara Township	NPDES Permit No.: PAG133543
Mailing Address: 1499 Spring Garden Drive	Effective Date: July 1, 2018
City, State, Zip: Middletown, PA 17057	Expiration Date: March 15, 2025
MS4 Contact Person: Brian Davis	Renewal Due Date: September 2024
Title: MS4 Coordinator	Municipality: Lower Swatara Township
Phone: (717) 939-9377 ext. 3041	County: Dauphin
Email: bdavis@lowerswatara.org	Consultant Name: Herbert, Rowland & Grubic, Inc.
Co-Permittees (if applicable): N/A	Consultant Contact: Shawn E. Fabian, CPESC, CPSWQ 369 East Park Drive Harrisburg, PA 17111 (717)564-1121

Lower Swatara Township is a small MS4 community that will be starting its second permit term in March 2018. According to the United States Census Bureau's 2010 census, 100% of the Township (7,943.2 acres) is classified as urbanized area (UA).

The municipal UA is split between the Swatara Creek-Susquehanna River and Laurel Run-Susquehanna River HUC-12 Watersheds. The Laurel Run-Susquehanna River has been classified as impaired by PADEP. The Pollution Reduction Plan (PRP) requirements for this impaired watershed are included as part of this CBPRP.

¹ PADEP, MS4 Requirements Table (Municipal) (rev. 5/9/2017)

² PADEP PRP Instructions; Document # 3800-PM-BCW0100k (rev. 3/2017)

SUMMARY OF PROPOSED AMENDMENTS

All proposed amendments are included in the following pages. They have been structured so that once approved, they can fully replace the equivalent section, figure, or table in the original PRP. The original PRP is included at the end of this list for the sake of comparison, though no other changes other than the following amendments are proposed.

Section A: Public Participation

Amended to meet the requirements for public comment on the Amendment 1 portion of the Chesapeake Bay Pollutant Reduction Plan.

Section B: Mapping

No amendments proposed.

Section C: Pollutants of Concern

No amendments proposed.

Section D: Determine Existing Loading for Pollutants of Concern

No amendments proposed.

Section E: BMPs to Achieve Required Pollutant Load Reductions

Amended to show updated proposed BMPs.

Section F: Identify Funding Mechanisms

No amendments proposed.

Section G: BMP Operation and Maintenance (O&M)

Amended to show updated O&M plans.

Appendix A: Public Participation Documentation

Amended to display updated documentation of public participation for Amendment 1.

Appendix B: Mapping

Amended to show updated proposed BMP locations.

Appendix C: PADEP Municipal MS4 Requirements Table

No amendments proposed.

Appendix D: Existing Pollutant Loading Calculations

No amendments proposed.

Appendix E: Proposed BMP Pollutant Load Reduction Calculations

Amended to show updated proposed BMP load reduction calculations.

Appendix F: Agreements

New section added to show details of WREP Program and Agreement between Lower Swatara Township and Dauphin County and Statewide Contract for the Chesapeake Bay Watershed between Lower Swatara Township and PennDOT

SECTION A: PUBLIC PARTICIPATION

A complete copy of this CBPRP was made available for the public to review at the Lower Swatara Township municipal office from XXXX XX, 2023 to XXXX XX, 2023. The availability of the document was publicized on the Township's website and in The Patriot News on XXXX XX, 2023. The published public notice contained a brief description of the plan, the dates and locations at which the plan was available for review by the public, and the length of time provided for the receipt of comments. Public comments were accepted for 30 days following the publication date of the public notice.

The public notice (newspaper and municipal website post), public comment and response, and public meeting presentation are included in Appendix A.

SECTION E: BMPs TO ACHIEVE THE REQUIRED POLLUTANT LOAD REDUCTIONS

E.1 Required Pollutant Load Reduction Calculation

No proposed changes for this section.

E.2 Proposed BMPs

The following section outlines the BMP implementation strategy developed to achieve the required pollutant load reduction goals stated in Section E.1. The proposed BMPs were determined through discussions with the public works employees and municipal staff, in-field site assessments, and public outreach meetings. These proposed BMPs revise what was shown in the original PRP as projects, so some BMP numbering has been reused from that original plan. A map of the new BMP locations has been provided in Appendix B for easy reference.

The proposed strategy (Table 7) includes multiple BMP types including bioretention (rain gardens), stream restoration, and riparian buffer plantings. The pollutant loading reduction for each proposed BMP was calculated in terms of pounds per year using PADEP's standard BMP Effectiveness Values³ and Master Stream Restoration Crediting Guide⁴. Complete calculations for the anticipated pollutant load reductions for each of the BMPs listed below is provided in Appendix E.

Table 7: BMP Strategy Summary

Site	BMP ID	BMP Type	Planning Area	Drainage Area (acres)	Length (ft)	Load Reduction TSS (lbs/yr)
Old Reliance Park	BMP-1	Bioretention	CBPRP	1.11	n/a	621
Shope Gardens Park	BMP-2	Bioretention	CBPRP	1.33	n/a	1,458
Greenfield Park	BMP-3	Basin Retrofit	CBPRP	8.65	n/a	4,452
*WREP Program (Londonderry Township)	BMP-4	Conewago Creek Stream Restoration (Including Brills Run)	CBPRP	n/a	6,382	234,163
**Richardson Road Stream Restoration	BMP-5	Stream Restoration	Laurel Run PRP	n/a	830ft	37,250
**PennDOT Rosedale Project	BMP-6	Stream Restoration/ Floodplain Reconnection	CBPRP	n/a	2,315ft	120,000
Total						397,944

* Lower Swatara Township is partnering with Londonderry Township for the Conewago Creek Stream Restoration project and will be receiving a portion of the sediment reduction of the complete project sediment load reduction.

** These projects are planned for design, permitting and construction 2023 and will be credited to the next permit term covering 2025-2030.

³ PADEP Document 3899-PM-BCW0100M, NPDES Stormwater Discharges from Small MS4s, BMP Effectiveness Values (5/2015)

⁴ A Unified Guide for Crediting Stream and Floodplain Restoration Projects in the Chesapeake Bay Watershed (Wood, Schueler and Stack, 2021).

Table 7 has been updated per PADEP's request as of May, 2018. New calculations were completed using WikiWatershed "Model my Watershed" tool to determine the land use included within the BMP drainage area. The impervious and pervious areas were determined using the percentage information provided in each land use definition.

Table 8: Proposed BMP Load Reductions by Planning Area

Planning Area	Load Reduction from Proposed BMPs TSS (lbs/yr)	Required Load Reduction TSS (lbs/yr)	Percent of Goal Achieved
Laurel Run PRP	156,296	37,250	24%
CBPRP	360,694	242,238	149%

E.3 BMP Project Descriptions

Old Reliance & Shope Gardens Park Bioretention – Both Old Reliance Park and Shope Gardens Park have received recent upgrades in park facilities. New play structures and swing sets have been installed at each park. A small bioretention basin (raingarden) was installed at each park next to the playground areas to manage runoff from the play structure and swing set area. The rain garden was designed as excavated shallow surface depressions with amended soil media (a mixture of soil, and organic material) and planted with specially selected native vegetation to treat and capture runoff. The bioretention basin design also include educational signage.

Greenfield Park Basin Retrofit – Greenfield Park is a municipally-owned community park located in the central portion of the Township. The 25-acre park contains several soccer fields and three small parking areas. A siltation-impaired unnamed tributary is located in a wooded area along the northern part of the park.

The existing stormwater basin adjacent to the parking lot was originally designed as a bioretention basin but it was installed as a detention basin. As originally designed, the detention basin received, temporarily held, and discharged stormwater at a controlled rate. While this can provide rate control, the basin offered only a limited water quality benefit. The only water quality benefit is realized through minimal infiltration. This project retrofitted the existing basin with bioretention features to transform the basin from a simple catch, store, and release pond into a BMP which provides infiltration and improved sediment and nutrient removal capabilities. These benefits are achieved by extending the storage time by modifying the structure, improving soil conditions to allow for greater infiltration rates, and naturalizing the basin with native and/or wetland plant species.

WREP Program/Conewago Creek Stream Restoration – This project proposes a partnership with the Dauphin County WREP Program and consists of a stream and floodplain restoration along 4,960-LF of the Conewago Creek and 1,422-LF of the tributary Brills Run. The restoration originates immediately downstream of the Hertzler Rd bridge on Brills Run, and approximately 3,500-LF downstream of the Mill Rd bridge on the mainstem. The restoration continues through the Brills Run-Conewago Creek confluence and downstream through an existing farm bridge to its terminus approximately 750-LF upstream of the PA-230 bridge in Londonderry Township.

The purpose of this project is to restore Conewago Creek, Brills Run, the associated floodplain, and existing wetland system as close as possible to historical pre-settlement conditions by removing legacy sediment from the floodplain. The stream restoration will include both structural repairs (as needed), in-stream calming measures (rock vanes, wing deflectors, etc.) to decrease water velocity and direct stream flow away from eroding streambanks. The structures will be constructed of natural materials such as rock, root wads, and logs. If needed, additional plantings will be added to areas in which the existing riparian buffer is in poor condition. Buffer rehabilitation will include the removal and replacement of dead and diseased vegetation, as well as the addition of new plantings to provide further streambank stabilization. The exact number and locations for structural and in-stream structures, and riparian planting areas will be determined during engineering design of the project.

Richardson Road Stream Restoration– This project proposes to restore an approximate 830 ft stretch of stream with in-stream structures and riparian buffer restoration techniques. The stream between the box culvert on Richardson Road and the outfall from S. Eisenhower Blvd is eroding badly and starting to infringe upon nearby trailers. Restoration of this stream will address these points of erosion, which have been clogging the box culvert with sediment. The stream restoration will include both structural repairs (as needed), in-stream calming measures (rock vanes, wing deflectors, etc.) to decrease water velocity and direct stream flow away from eroding streambanks. The structures will be constructed of natural materials such as rock, root wads, and logs. If needed, additional plantings will be added to areas in which the existing riparian buffer is in poor condition. Buffer rehabilitation will include the addition of new plantings to provide further streambank stabilization. The exact number and locations for structural and in-stream structures, and riparian planting areas will be determined during engineering design of the project.

PennDOT Rosedale Project– This project proposes design and construction of a full floodplain restoration project south of Rosedale Avenue and east of Whitehouse Lane. PennDOT is working with RES for the design and construction and have reached out to the Township to partner on the project since it is in their municipality.

Table 9: BMP Implementation Schedule

Site	BMP ID	BMP Type	Permitting & Engineering Design (Permit Year)	Construction/ Reporting (Permit Year)
Old Reliance Park	BMP-1	Bioretention	1	2
Shope Gardens Park	BMP-2	Bioretention	1	2
Greenfield Park	BMP-3	Basin Retrofit	3	3
WREP Program (Londonderry Township)	BMP-4	Conewago Creek Stream Restoration (Including Brills Run)	2/3	4/5
Richardson Road Stream Restoration	BMP-5	Stream Restoration	5	6
PennDOT Rosedale Project	BMP-6	Stream Restoration/ Floodplain Reconnection	5	5

SECTION G: BMP OPERATIONS AND MAINTENANCE (O&M)

Bioretention Areas/Basin Retrofits

Operation and maintenance requirements for the bioretention projects includes:

- Ensure disturbed areas are kept free of foot and/or vehicular traffic until full stabilization has occurred. Properly designed and installed Bioretention areas require some regular maintenance.
- While vegetation is being established, pruning and weeding may be required.
- Detritus may also need to be removed every year. Perennial plantings may be cut down at the end of the growing season.
- Mulch should be re-spread when erosion is evident and be replenished as needed. Once every 2 to 3 years the entire area may require mulch replacement.
- Bioretention areas should be inspected at least two times per year for sediment buildup, erosion, vegetative conditions, etc.
- During periods of extended drought, Bioretention areas may require watering.
- Trees and shrubs should be inspected twice per year to evaluate health.

The contractor shall be responsible for the operation and maintenance of the bioretention basin until all features of the project have been successfully constructed to the specifications and design standards set forth by the Township Engineer. The Contractor should provide a one-year 80% care and replacement warranty for all planting beginning after installation and inspection of all plants.

Once construction of the project(s) is complete, the Township shall be responsible for long term implementation of all Operation and Maintenance procedures to ensure the basin remains operationally functional and physically consistent with the original design.

WREP Program/Conewago Creek Stream Restoration

Through the Intergovernmental Cooperation Agreement (Appendix F) between Lower Swatara Township and Dauphin County, all perpetual long-term maintenance of the stream restoration will be completed by Londonderry Township. Lower Swatara Township has no responsibility for long-term O&M for the Conewago Creek Restoration Project.

Stream Restoration/Riparian Restoration

Operation and maintenance requirements for the streambank stabilization and buffer restoration projects include:

- Ensure disturbed areas are kept free of foot and/or vehicular traffic until full stabilization has occurred.
- Regular watering of plantings during the first growing season. Planting in the fall may reduce the need for additional watering.
- Conduct monthly site visits to ensure plantings are healthy and sufficiently watered, weeds are properly managed, sufficient mulch is in place until site is stabilized and planting have become established.
- Conduct monthly site visits to ensure all disturbed earth remains stabilized and erosion or cutting of the streambank has not taken place. Any destabilized earth or active streambank erosion shall be repaired immediately upon discovery.
- Conduct annual inspections once streambank is stabilized and plants have become established.
- Immediately upon notice; repair any rills, gullies, or streambank cutting that may occur.
- Remove weeds and invasive plant species during each growing season. Naturally growing native vegetation should be left intact to promoted stabilization of the streambank and surrounding area.

- Replace mulch as needed.
- Remove accumulated trash and debris weekly.
- Remove and replace dead and diseased plantings annually.
- Keep machinery and vehicles away from stabilized areas.

The contractor shall be responsible for the operation and maintenance of the streambank restoration and buffer project(s) until all features of the project have been successfully constructed to the specifications and design standards set forth by the Township Engineer. The Contractor shall remain responsible for operation and maintenance of the streambank restoration and buffer project(s) until 70% permanent stabilization has been achieved.

Once construction of the project(s) is complete and stabilization has occurred, the Township shall be responsible for long term implementation of all Operation and Maintenance procedures to ensure the streambank stabilization and buffer improvements remain operationally functional and physically consistent with the original design.

PennDOT Rosedale Project

Through the Statewide Contract for the Chesapeake Bay Watershed (Appendix F) between Lower Swatara Township and PennDOT, all perpetual long-term maintenance of the stream restoration will be completed by PennDOT. Lower Swatara Township has no responsibility for long-term O&M for the Rosedale Restoration Project.

APPENDIX J

POLLUTANT REDUCTION PLAN (PRP) FINAL REPORT

(3800-FM-BCW0014)



POLLUTANT REDUCTION PLAN (PRP) / TMDL PLAN FINAL REPORT

Before completing this report please review the instructions, which are located within the Annual MS4 Status Report Instructions (3800-FM-BCW0491)

PRP / TMDL PLAN SUMMARY

Permittee Name: Lower Swatara TownshipPermit No.: PA133543
☒ PRP ☐ TMDL Plan ☐ Combined PRP / TMDL Plan
Plan Approval Date: 6/7/2018Required Completion Date: 3/1/2023Joint Plan? ☐ Yes ☒ No *If Yes, identify all participating permittees as an attachment to this report*Surface Waters Addressed by Plan: Chesapeake Bay, Laurel RunPermittee's Planning Area (acres): 7943Total Planning Area (Joint Plans): 0 acres

Pollutant Load Reduction Calculation Methodology:

☒ Simplified Method ☐ Mapshed ☐ ModelMyWatershed ☐ Other:

	TSS	TN	TP
Baseline Pollutant Load – Planning Area	2,402,094 lbs/yr	lbs/yr	lbs/yr
Pollutant Load Reduction Requirement (%)	10 %	%	%
Pollutant Load Reduction Requirement (lbs/yr)	240210 lbs/yr	lbs/yr	lbs/yr
WLA Reduction Requirement (<i>TMDL Plan only</i>)	lbs/yr	lbs/yr	lbs/yr

BMP IMPLEMENTATION

BMP Type	No. of BMPs	Pollutant Load Reductions Achieved (Credit)		
		TSS	TN	TP
Structural BMPs	4	240694 lbs/yr	lbs/yr	lbs/yr
Non-Structural BMPs		lbs/yr	lbs/yr	lbs/yr
Total	4	240694 lbs/yr	lbs/yr	lbs/yr

Pollutant Load Reductions are documented on the following attachments:

☒ Attachment A – Infiltration BMPs No.: 2
☒ Attachment B – BMP Retrofits No.: 1
☒ Attachment C – Stream and/or Floodplain Restoration No.: 1
☐ Attachment D – Street Sweeping or Storm Drain Solids Removal No.: _____

☐ Attachment E – Tree Planting No.: _____

☐ Attachment F – Non-structural (Annual Practice) BMPs No.: _____

☐ BMP(s) have been implemented for which there are no attachments (*attach calculations*)

COMPLIANCE DETERMINATION

Were the pollutant load reduction requirements of the permit met? ☒ Yes ☐ No

If the pollutant load reduction requirements of the permit were **not met**, report the required load reductions remaining in lbs/yr and as a percentage of the total required load reduction.

	TSS	TN	TP
Load Reduction Remaining	0 lbs/yr	lbs/yr	lbs/yr
Percent of Required Load Reduction Remaining	0 %	%	%

If the pollutant load reduction requirements of the permit were not met, attach an explanation and provide a schedule for completing implementation of the PRP or TMDL Plan, including interim milestones.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Brian Davis

Responsible Official Name



Signature

MS4 Coordinator

Official Title

09/29/2023

Date Signed