

Application Type Renewal
Facility Type MS4
Permit Type Individual

NPDES PERMIT FACT SHEET
MS4s

Application No. PAI130051
APS ID 951607
Authorization ID 1200756

Applicant and Facility Information

Applicant Name	<u>Upper Southampton Township</u>	Facility Name	<u>Upper Southampton Township MS4</u>
Applicant Address	<u>939 Street Road</u> <u>Southampton, PA 18966-4728</u>	Facility Address	<u>939 Street Road</u> <u>Southampton, PA 18966-4728</u>
Applicant Contact	<u>Joseph Golden</u>	Facility Contact	<u>Joseph Golden</u>
Applicant Phone	<u>(215) 322-9700</u>	Facility Phone	<u>(215) 322-9700</u>
Client ID	<u>72597</u>	Site ID	<u>613842</u>
SIC Code	<u>9199</u>	Municipality	<u>Upper Southampton Township</u>
SIC Description	<u>Public Admin. - General Government Services</u>	County	<u>Bucks</u>
Date Application Received	<u>September 14, 2017</u>		
Date Application Accepted	<u>September 22, 2017</u>		
Purpose of Application	<u>Formerly PAG130029.</u>		

Internal Review and Recommendations

This applicant has submitted a renewal MS4 Individual Permit Application Package containing TMDL Plan and the Pollutants Reduction Plan (PRP) for the coverage under the permit cycle 2018-2023. The previous permit (PAG130029) was issued on January 22, 2004.

The Borough enacted a SWM Ordinance on December 17, 2013.

The applicant has indicated in the application that it will rely on Pennsylvania's Chapter 102 program for E & S controls and post-construction SWM requirements.

The review of TMDL Plan and the PRP detailed in the respective review check lists. Some important items are included below.

The TMDL Plan

Existing Sediment Load for Southampton Creek:

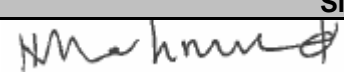

Approve	Deny	Signatures	Date
X		 Harris Mahmud / Environmental Engineering Specialist	12/18/2020
X		 Elizabeth Mahoney / Environmental Group Manager	12/30/2020

Table 12. Existing Sediment Load for Southampton Creek Watershed

Source Category	Area (ac)	Sediment (lb/yr)	Unit Area Loading (lb/ac/yr)
HAY/PAST	39	3,621	93
CROPLAND	169	127,964	758
FOREST	355	2,400	7
TRANSITION	42	114,462	2708
LO INT DEV	2453	240,345	98
HI INT DEV	863	48,069	56
Stream Bank	-	1,216,589	-
Groundwater	-	0	-
Sub-total	3921	1,753,450	447

Sediment WLA for Southampton Creek:

Summary of Sediment TMDL Results

Components	Sediment (lb/yr)	Sediment (lb/day)
TMDL (Allowable Loading by LU Category)	1,214,060	3,326
10 % MOS	121,406	333
Sediment WLA for Continuous Discharger	16,986	47
Sediment WLA for MS4's	1,075,668	2,947
LA	0	0

Existing Sediment Load and WLA for Upper Southampton

Sources	Acres	Existing Sediment (lbs./year)	Unit Area Loading (lbs/ac/year)	WLA
Hay/Past	40.03	3842.9	93	1666
Cropland	16.90	12,810.2	758	10537
Forest	160.12	1120.8	7	641
Transition	0	0	2708	0
Low Intensity Dev	757.92	74,276.2	98	38008
High Intensity Dev	246.41	13,799.0	56	11065
Stream Bank	34.12%	415100.2		288119
Groundwater				
Sub-total		520949.3		350036

Southampton Creek Sediment WLA

Sediment WLAs for MS4 Municipalities in Southampton Watershed

Municipality	Allocated Sediment Load (lbs/yr)	Allocated Sediment Load (lbs/day)
UPPER SOUTHAMPTON	349,977	959
LOWER MORELAND	123,449	338
UPPER MORELAND	229,252	628
WARMINSTER	367,675	1,007
BRYN ATHYN	5,400	15

Based on the above tables, the Upper Southampton Township has the following TMDL sediment Loads:

Existing Load = 520,949 lbs./year

WLA = 349,977 lbs./year

Required Reduction = 520,949 – 349,977 = 170,972 lbs./year

Approximately 33% of existing load

The township decided to use Wikiwatershed modeling to calculate its existing load in Southampton Creek Watershed.

According to this modeling, the following table contains the required information:

WIKIWATERSHED AREAS							
SOUTHAMPTON CREEK WATERSHED							
13036	1,020	2,519	53,476,620	1,228	49%	62	1,166

The township has 1228 acres in Southampton Creek Watershed TMDL, but 62 acres are state roads which do not convey stormwater to this MS4, so these 62 acres are parsed by the township to calculate its planning area.

Planning area = 1228 -62 = 1166 acres

The existing loads calculated by Wikiwatershed Model:

I	J	K	L	M	N	O	P	Q
Total N (kg/ha)	Total N (lbs/ac)	Total P (kg/ha)	Total P (lbs/ac)	Total SS (kg/ha)	Total SS (lbs/ac)	TOTAL N (LBS)	TOTAL P (LBS)	TOTAL SS (LBS)
Wikiwatershed	I*2.20432/2.47	Wikiwatershed	K*2.20432/2.47	Wikiwatershed	M*2.40462/2.47	J*H	L*H	N*H
SOUTHAMPTON CREEK WATERSHED								
7.03	6.28	1.30	1.16	503	449	7,318	1,356	523,834

UNIT CONVERSIONS

1 ha = 2.47 ac

1 kg = 2.20462 lbs

Total Existing Sediment Load = 523,834 lbs./year

The municipality decided to reduce only 10% of existing load in this permit term:

Internal Review and Recommendations

Permit term reduction = 523,834 X .10 = 52,383 lbs./year

The township also has TMDL WLA for nutrient (total phosphorous):

Table 24. TP WLAs for MS4 Municipalities in Southampton Watershed

Source	Area (acre)	Allocated TP load (lbs/day)
Upper Southampton MS4	1224.2	0.006
Lower Moreland MS4	450.8	0.002
Upper Moreland MS4	832.1	0.004
Warminster MS4	1344.0	0.006
Bryn Athyn MS4	43.4	0

The township has stated in TMDL Plan:

Based on PADEP TMDL Plan Instruction (3800-PM-BCW0200d, Rev 3/20/2017), per paragraph 1.B., the Township chooses to utilize the ‘Presumptive Approach’ allowing MS4’s to calculate loads and pollutant reductions based on sediment, under the assumption that the achievement of TMDL Plan objectives for sediment will also achieve the objectives for TP.

The township has not taken any credit for any existing BMPs.

Proposed BMP:

For permit term, the municipality has proposed to implement approximately 456 feet of stream restoration to achieve the required reduction of sediment.

Required Sediment Reduction from proposed BMP = 456 LF X 115 lbs./ft/year = 52,440 lbs./year

Funding

While the Township intends to investigate funding via grants/loans (via Growing Greener, PennVEST, etc.), the funding may likely be achievable from the Township’s General Fund with appropriate budgeting.

Operation & Maintenance (O & M)

As the proposed work in the Southampton Creek watershed will be done on property owned/controlled by Upper Southampton Township, the Township will be responsible for the operation and maintenance of the stream restoration areas.

PRP

Internal Review and Recommendations

The Upper Southampton Township has the sediment and nutrient (total phosphorous) reduction under Appendix E for Mill Creek and Neshaminy Creek. But both of these receiving streams being in the same HUC – 12, the township has developed one PRP under Mill Creek Watershed which covers both of these receiving streams.

The township used Wikiwatershed Model to calculate its existing sediment load. It has taken the presumptive approach that 10% of sediment reduction will suffice the 5% total phosphorous required reduction.

The sediment existing load:

WIKIWATERSHED AREAS							
A	B	C	D	E	F	G	H
ID	ha	ACRES	S.F. IN TWP	ACRES IN TWP	% IN TWP	PARSED ACRES	NET ACRES
CALCS		B*2.47	From Mapping	D/43560	E/C	From Mapping	E-G
MILL CREEK WATERSHED							
4851	245	605	13,755,203	316	52%	7.09	309
4852	54	132	1,408,043	32	24%	4.33	28
4853	422	1,042	39,746,126	912	88%	79.99	832
4854	754	1,862	69,794,326	1,602	86%	31.54	1,571
4855	198	489	7,750,517	178	36%	1.77	176
TOTALS		4,131	132,454,215	3,041	74%	124.72	2,916

POLLUTANT LOADING CALCULATIONS								
I	J	K	L	M	N	O	P	Q
Total N (kg/ha)	Total N (lbs/ac)	Total P (kg/ha)	Total P (lbs/ac)	Total SS (kg/ha)	Total SS (lbs/ac)	TOTAL N (LBS)	TOTAL P (LBS)	TOTAL SS (LBS)
Wikiwatershed	I*2.20432/2.47	Wikiwatershed	K*2.20432/2.47	Wikiwatershed	M*2.40462/2.47	J*H	L*H	N*H
MILL CREEK WATERSHED								
5.46	4.87	0.26	0.23	317	283	1,504	72	87,340
6.91	6.17	0.33	0.29	548	489	173	8	13,693
6.62	5.91	0.34	0.30	487	435	4,919	253	361,849
5.82	5.19	0.25	0.22	199	178	8,159	350	278,990
7.11	6.35	0.31	0.28	252	225	1,118	49	39,622
					TOTAL	15,873	732	781,493
					10% REMOVAL			78,149

UNIT CONVERSIONS
1 ha = 2.47 ac
1 kg = 2.20462 lbs

Existing Sediment Load = 781,493 lbs./year

The Required Sediment Reduction for PRP = 781,493 X 0.10 = 78,149 lbs./year

Proposed BMP

The municipality has proposed 680 LF of stream restoration project in Mill Creek Watershed.

Internal Review and Recommendations

Sediment Reduction = 680 LF X 115 lbs./ft/year = 78,200 lbs./year

Funding

The municipality stated in the plan:

While the Township intends to investigate funding via grants/loans (via Growing Greener, PennVEST, etc.), the funding may likely be achievable from the Township's General Fund with appropriate budgeting.

The costs are greater than the Township budgets for this type of project, therefore the Township must receive state/federal grants to complete the work. No work will be done on any private property until grants are received for the entire part of the project involving all work on private property.

Operation & Maintenance (O & M)

The municipality stated in the plan:

As the proposed work in both the Southampton Creek as well as the Mill Creek watershed will be done on property owned/controlled by Upper Southampton Township, the Township will be responsible for the operation and maintenance of the stream restoration areas.

Any private BMP's, such as rain gardens or buffers would be the responsibility of the individual homeowners. As such, homeowners would be asked to sign a maintenance agreement, similar to those used for the O&M of private (commercial/industrial property) basins. These would be inspected annually by Township personnel.

Public Participation by Township

The township held a public meeting on September 8, 2020; the agenda of the meeting included MS4 Permit Application Package which included the TMDL Plan and PRP. The consultant who developed the plans also made a presentation of the application including the plans in that meeting. Following the meeting, the application package was made available for public review in the township building for 30 days and was also posted in the township's website for public comments. No comments were received.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.