



POLLUTION REDUCTION PLAN SUSQUEHANNA RIVER AND CHESAPEAKE BAY WATERSHED

**Marysville Borough
Perry County, PA**



Prepared For:
Marysville Borough
200 Overcrest Road
Marysville, PA 17053
(717) 957-3110

Prepared By:
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September 2017

Vicki P. Aycock
Engineer
PENNSYLVANIA PE: 078106



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EXECUTIVE SUMMARY

The 2010 United States Census identified certain areas within Marysville Borough as Urbanized Area (UA). Because the Borough includes areas designated as urbanized, it must apply for permit coverage for a National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from its Small Municipal Separate Storm Sewer Systems (MS4s). The NPDES Permit Notice of Intent (NOI) requires that all municipalities seeking coverage under the General Permit develop Pollution Reduction Plans (PRPs) to address discharges to impaired surface waters including the Chesapeake Bay Watershed.

The urbanized areas of Marysville Borough discharge stormwater to the Susquehanna River. The Susquehanna River is tributary to the Chesapeake Bay Watershed. The Susquehanna River is identified by the Pennsylvania Department of Environmental Protection (PADEP) as being impaired by siltation (total suspended solids (TSS)) and nutrients (i.e., phosphorus and nitrogen). The Chesapeake Bay Watershed is also impaired by siltation and nutrients.

Permittees with stormwater discharges to surface waters considered impaired for nutrients (nitrogen and phosphorus) and/or siltation (TSS) must develop a PRP to reduce pollutant loads to those waters including the Chesapeake Bay Watershed. The minimum reductions in loading for the pollutants of concern for the Chesapeake Bay Watershed are 10% sediment, 5% phosphorus and 3% nitrogen. Overall within the Chesapeake Bay Watershed it is assumed the phosphorus and nitrogen goals are achieved when a 10% reduction of sediment is achieved. The pollutant load reductions must be achieved within five (5) years following PADEP's approval of coverage under the General Permit. Progress with achieving the required pollutant load reductions must be reported to PADEP in an Annual MS4 Status Report.

This combined PRP addresses the Susquehanna River and the Chesapeake Bay Watershed. The Plan has been developed to satisfy the requirements of Appendix D (Pollutant Reduction Plan Requirements for Discharges to the Chesapeake Bay Watershed) for submission with the Notice of Intent (NOI) for Coverage under the NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems.

A. PUBLIC PARTICIPATION

The Marysville Borough Pollution Reduction Plan was advertised for public review in the Patriot-News on July 13, 2017. The public notice and proof of publication are included in Appendix A. The PRP was available for review at the Borough office located at 200 Overcrest Road, Marysville Borough, Pennsylvania.

The Borough accepted public comment for the minimum 30-day period from the date of public notice on July 13, 2017 through August 11, 2017. Refer to Appendix A for the record of public comment.

A public meeting for the PRP was held on August 14, 2017 during the regularly scheduled Borough Council meeting. Refer to Appendix A for a record of the meeting minutes.

The record of consideration of public comments received is included in Appendix A.

B. MAP

The Borough's urbanized area lies entirely within the Susquehanna River / Chesapeake Bay Watershed and there are no other local surface water impairments identified by PADEP; therefore, the entire urbanized area plus an additional area tributary to the urbanized area represent the PRP Planning Area. Mapping identifying land uses and the PRP Planning Area discharging to impaired surface waters and/or surface waters draining to the Chesapeake Bay is included in Appendix B.

Locations of structural Best Management Practices (BMP(s)) proposed to be implemented to achieve required pollutant load reductions are depicted on the map located in Appendix B.

PADEP defines BMPs as schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce pollutant loading to surface waters of the Commonwealth. The term includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. The term includes activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim and restore the quality of waters and the existing and designated uses of waters within the Commonwealth before, during and after earth disturbance activities.

The term BMP as used in this document generally refers to structural BMP practices such as infiltration basins, vegetated open channels, storm sewer system solids removal, and dry extended detention basins. These facilities will be used to manage stormwater runoff to minimize pollutant loading, including nutrients and sediments, thereby improving water quality.

C. POLLUTANTS OF CONCERN

The following table summarizes the PRP Planning Area pollutants of concern for the Susquehanna River and the Chesapeake Bay Watershed. Refer to Appendix C for an excerpt from PADEPs MS4 Aggregation Table last revised May 9, 2017.

IMPAIRMENTS		
DESCRIPTION	IMPAIRMENT	REQUIREMENT
Susquehanna River	Nutrients, Siltation	Appendix D
Chesapeake Bay Watershed	Nutrients, Siltation	Appendix D

D. EXISTING LOADING FOR POLLUTANTS OF CONCERN

EXISTING LOADING SUMMARY

Existing loading for pollutants of concern was calculated using DEP's simplified method. Attachment B - Developed Land Loading Rates for PA Counties, Perry County was used in the simplified method calculation to estimate the existing loading within the PRP Planning Area. The existing loading estimates were established during 2017 in the months leading up to the MS4 NPDES Permit application due date of September 16, 2017. Please refer to Appendix D for detailed base load calculations. Following is a summary of the existing base loads and required 10% TSS load reduction required for the PRP Planning Area. The base loadings presented in the following table represent the final loads after considering parsed acreage and existing BMPs.

BASE LOAD SUMMARY

DESCRIPTION	TN (LBS/YEAR)	TP (LBS/YEAR)	TSS (LBS/YEAR)	10% TSS REDUCTION (LBS/YEAR)
Susquehanna River	15,330.73	447.98	500,890.05	50,089.01

The following table summarizes the acreage which was parsed from the PRP Planning Area. Parsed acreage was determined by delineating area(s) which do not drain to the MS4 and /or areas that are covered by an NPDES permit for the control of stormwater. The parsed area represents PennDOT roads located within the PRP Planning Area. A detailed accounting of the parsed acreage is included in Appendix D.

PARSED ACREAGE

DESCRIPTION	PARSED ACREAGE
Susquehanna River	5.56

EXISTING BMPS

Structural BMPs implemented prior to development of the PRP were credited to reduce existing loading estimates. Please refer to Appendix D for a detailed listing of existing BMPs. The list includes the following information:

- Detailed description of the BMP;
- Latitude and longitude coordinates for the BMP;
- Permit number, when available, that authorized installation of the BMP;
- Calculations demonstrating the pollutant reductions achieved by the BMP;
- Date BMP was installed and a statement that the BMP continues to serve the function(s) it was designed for; and
- Operation and maintenance activities and frequencies associated with the BMP.

Following is a summary of the base load reductions resulting from existing BMPs located in the PRP Planning Area.

EXISTING BMP REDUCTIONS

DESCRIPTION	TN (LBS/YEAR)	TP (LBS/YEAR)	TSS (LBS/YEAR)
Susquehanna River	500.82	29.85	88,083.53

E. PROPOSED BMPS TO MEET REQUIRED LOAD REDUCTIONS

The minimum required reduction in pollutant loading for the PRP Planning Area is identified in the following table. The table also summarizes the projected load reductions anticipated to result from structural BMP implementation. BMP efficiencies used to derive the load reductions were taken from the PADEP BMP Effectiveness Values table. The projected load reductions slightly exceed the required load reductions allowing for some flexibility should final design result in less than projected load reductions.

PROPOSED BMP REDUCTIONS

DESCRIPTION	REQUIRED TSS REDUCTION (LBS/YEAR)	PROJECTED TSS REDUCTION (LBS/YEAR)
Susquehanna River	50,089.01	60,635.59

A variety of structural BMPs are proposed throughout the PRP Planning Area to meet required pollutant load reductions for the Susquehanna River and Chesapeake Bay Watershed. The proposed facilities include storm sewer system solids removal; retrofits of existing detention basins for infiltration; retrofit of existing swale to include water quality measures; and construction of new basins which will incorporate bioretention and/or infiltration. In accordance with PADEP stipulations, less than 50% of the total pollutant reduction requirement is proposed to be met using solids removal systems.

A detailed listing of the proposed BMPs and load reduction calculations are included in Appendix E. BMP locations are depicted on the map in Appendix B.

F. FUNDING MECHANISMS

The following table summarizes the planning level cost estimate for implementation of the proposed BMPs within the PRP Planning Area. Detailed planning level costs are included in Appendix F.

PROJECTED COST

DESCRIPTION	TOTAL CAPITAL COST
Susquehanna River	\$648,694.70

The Borough proposes to use its General Fund to pay for implementation of the proposed BMPs to achieve the required pollutant load reductions within 5 years following PADEP's approval of coverage under the General Permit. The Borough also anticipates but will not be dependent upon supplementing the costs of implementation through applying for grant funding, should opportunities become available.

The Borough plans to investigate the feasibility of forming a Stormwater Authority to collect stormwater management fees to augment Borough resources in implementing its Stormwater Management Program (SWMP) and constructing the proposed BMPs.

G. BMP OPERATION AND MAINTENANCE

The following facilities will be operated and maintained by Borough public works staff:

- Storm Sewer System Solids Removal System;
- Marysville Lions Club Dry Extended Detention Basin(s)
- Municipal Complex Infiltration Basin; and
- Cameron / Broad Street Vegetated Open Channel

The following facilities will be operated and maintained by the respective property owners:

- Senior Citizens Center Infiltration Basin; and
- Locust Village Infiltration Basin.

All new and retrofitted facilities will be operated and maintained in accordance with acceptable practices as outlined in the Pennsylvania Stormwater Best Management Practices Manual. Guidelines for operation and maintenance of the proposed BMPs are included in Appendix G.

H. PLAN IMPLEMENTATION SCHEDULE

Marysville Borough plans to implement the proposed BMPs over the 5-year permit term by spreading out the total cost over the 5-year period. Factors with the potential to affect any schedule include land acquisition, stakeholder buy-in, and permitting. The proposed new dry extended detention basin(s) is expected to have a longer lead time; therefore, full implementation of this BMP is not anticipated until later in the permit term.

IMPLEMENTATION SCHEDULE

DESCRIPTION	FISCAL YEAR
Begin Implementation of Basin Retrofits	2018 - 2019
Begin Implementation of New Basin Construction	
Continue Implementation of Basin Retrofits	2019 - 2020
Continue Implementation of New Basin Construction	
Begin Implementation of Vegetated Channel Retrofit	
Install Storm Sewer System Solids Removal	
Complete Implementation of Basin Retrofits	2020 - 2021
Continue Implementation of New Basin Construction	
Complete Implementation of Vegetated Channel Retrofit	
Continue Implementation of New Basin Construction	2021 - 2022
Complete Implementation of New Basin Construction	2022 - 2023

APPENDICES

APPENDIX A

Public Participation



Order Confirmation

Ad Order Number 0008261158

Customer

BOROUGH OF MARYSVILLE

Account: 4607

BOROUGH OF MARYSVILLE

200 OVERCREST RD,

MARYSVILLE PA 17053 USA

(717)957-3110

FAX:

Connie Zitcsh <boro17053@comcast.net>

Payor Customer

BOROUGH OF MARYSVILLE

Account: 4607

BOROUGH OF MARYSVILLE

200 OVERCREST RD,

MARYSVILLE PA 17053 USA

(717)957-3110

PO Number

Sales Rep. Marianna Aldridge

Order Taker Marianna Aldridge

Order Source Phone

Special Pricing

Tear Sheets	0	Net Amount	\$203.44
Proofs	0	Tax Amount	\$0.00
Affidavits	1	Total Amount	\$203.44
Blind Box		Payment Method	Invoice
Promo Type		Payment Amount	\$0.00
Materials		Amount Due	\$203.44
Invoice Text			

Ad Schedule

Product	The Patriot News	Placement/Class	Main Legals
# Inserts	1	POS/Sub-Class	Misc Legal Notices
Cost	\$195.94	AdNumber	0008261158-01
Ad Type	PA CLS Legal Liner	Ad Size	1 X 42 li
Pick Up #		Ad Attributes	
External Ad #		Color	<NONE>
Production Method	AdBooker	Production Notes	
Run Dates	Sort Text	NOTIC2500OFPUBLICCOMMENTANDPUBLICMEETINGFORNPDESSTORMWATERDISCHARGE POLLUTANT REDUCTIO	
07/13/2017			

Product	PennLive.com	Placement/Class	Main Legals
# Inserts	1	POS/Sub-Class	Misc Legal Notices
Cost	\$2.50	AdNumber	0008261158-01
Ad Type	PA CLS Legal Liner	Ad Size	1 X 42 li
Pick Up #		Ad Attributes	
External Ad #		Color	<NONE>
Production Method	AdBooker	Production Notes	
Run Dates	Sort Text	NOTIC2500OFPUBLICCOMMENTANDPUBLICMEETINGFORNPDESSTORMWATERDISCHARGE POLLUTANT REDUCTIO	
07/13/2017			

Ad Content Proof

**NOTICE OF PUBLIC COMMENT
AND PUBLIC MEETING FOR NPDES
STORMWATER DISCHARGE
POLLUTANT REDUCTION PLAN**

Marysville Borough is hereby giving notice of the 30-day public comment period for its National Pollutant Discharge Elimination (NPDES) Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) Pollutant Reduction Plan (PRP). The Plan proposes best management practices (BMPs) to satisfy the PRP requirements for the following impaired waterways: Chesapeake Bay/ Susquehanna River (Appendix D - Siltation/Nutrients).

The plan is available for public examination as noted below. The public is invited to review this document and provide written comments to the individual listed below:

Pollutant Reduction Plan:
Marysville Borough
200 Overcrest Road
Marysville, PA 17053
Phone (717) 957-3110

Comments to Scott Weaver

Visit times are Monday through Friday, between 7:00 am and 3:30 pm or visit the Borough's website at <http://www.marysvilleboro.com/>.

The minimum 30-day public comment period will begin July 13, 2017 and end August 11, 2017.

A public meeting for the Plan will be held on August 14, 2017 during the regularly scheduled Borough Council meeting. The meeting is held at 200 Overcrest Road, Marysville, PA 17053, beginning at 7:00 pm.

MARYSVILLE BOROUGH

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Pollution Reduction Plan

July 20th, 2017

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Our Pollution Reduction Plan is available in PDF format and can be downloaded here!

[Download Plan](#)

Contact Marysville

200 Overcrest Road

Marysville, PA 17053

Call: 717-957-3110

Fax: 717-957-4793

Right to know | Employment

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Vicki Aycock

From: Vicki Aycock
Sent: Tuesday, July 18, 2017 8:58 AM
To: 'Scott Weaver'
Cc: Gregory R. Rogalski
Subject: RE: Re: Pollution Reduction Plan
Attachments: PADEP 2010 UA.pdf; DC10UA37081 - 2010 Census UA Reference Map Harrisburg PA.pdf

Scott,

In answer to the question, please find attached a pdf file of the 2010 Census Urbanized Area as taken from the PADEP website. Also, please find attached a pdf file of the 2010 Census Urban Area Reference Map for the Harrisburg area which was pulled from the United States Census Bureau website at www.census.gov/geo/maps-data/maps/2010ua.html

If there are additional questions or more information is needed, please let us know.

Thank you,

-----Original Message-----

From: Scott Weaver [mailto:sweaver17053@comcast.net]
Sent: Tuesday, July 18, 2017 7:00 AM
To: Gregory R. Rogalski <GRogalski@Pennoni.com>; Vicki Aycock <VAycock@Pennoni.com>
Subject: Fwd: Re: Pollution Reduction Plan

Please read below, Mr. Wentzel is asking about the urbanized area and where we got that information.

Thanks

Scott

> ----- Original Message -----

> From: Charles Wentzel <cwentzel@embarqmail.com>

> To: Scott Weaver <sweaver17053@comcast.net>

> Date: July 17, 2017 at 8:03 PM

> Subject: Re: Pollution Reduction Plan

>

> Thanks, I'm curious to hear what the engineer says in reply.

>

> I have other comments, but am working on summarizing them. This one seemed to potentially derail the whole project, so it seemed more urgent.

>

> ----- Original Message -----

> From: Scott Weaver <sweaver17053@comcast.net>

> To: Charles Wentzel <cwentzel@embarqmail.com>

> Sent: Mon, 17 Jul 2017 07:46:28 -0400 (EDT)

> Subject: Re: Pollution Reduction Plan

>

> I do not have anything in writing that I know of tell me we are a Urbanized Area. I can ask our engineers where they got that information. I know we are listed as urbanized when it comes to the emergency services.

>

>

> Scott

>

>> On July 16, 2017 at 8:40 PM Charles Wentzel <cwentzel@embarqmail.com> wrote:

>>

>> That's *not* evidence that Marysville is an Urbanized Area. That's just the Census population count by race for Marysville. They do that for every township or borough or even zip code.

>>

>> Go to <https://factfinder.census.gov> and type in any township in Perry County - like Watts Township (Census count 1,265). Or even Toboyne township (just 443). You'll see the same thing provided.

>>

>> So... Do we have any evidence that Marysville is an Urbanized Area?

>>

>> - Charles Wentzel

>>

>>

>> -----

>> From: "Scott Weaver" <sweaver17053@comcast.net>

>> To: "Charles Wentzel" <cwentzel@embarqmail.com>

>> Sent: Thursday, July 13, 2017 2:48:10 PM

>> Subject: Re: Pollution Reduction Plan

>>

>>

>> Attached is our report for the 2010 census.

>>

>>> On July 12, 2017 at 10:07 PM Charles Wentzel <cwentzel@embarqmail.com> wrote:

>>>

>>> One comment that probably should be handled most expediently:

>>>

>>> · According to the report, "The 2010 United States Census identified certain areas within Marysville Borough as Urbanized Area (UA)." However, according to the 2010 US Census Urban Area Reference Maps, (reference: <https://www.census.gov/geo/maps-data/maps/2010ua.html>) there is no recognized Urbanized Area (nor Urban Cluster) in Marysville, PA. Please provide evidence that Marysville Borough is classified as an Urbanized Area.

>>>

>>> - Charles Wentzel

>>>

>>>

>>> -----

>>> From: "Scott Weaver" <sweaver17053@comcast.net>

>>> To: cwentzel@embarqmail.com

>>> Sent: Wednesday, July 12, 2017 7:04:01 AM

>>> Subject: Fwd: Pollution Reduction Plan

>>>

>>>

>>>

>>>> ----- Original Message -----

>> From: Vicki Aycock <VAycock@Pennoni.com>

>> To: Scott Weaver <sweaver17053@comcast.net>

>> Cc: "Gregory R. Rogalski" <GRogalski@Pennoni.com>

>> Date: July 10, 2017 at 2:59 PM

>> Subject: Pollution Reduction Plan

>>
>>
>> Scott,
>>
>>
>>
>> Please find attached a pdf of the Pollution Reduction Plan. Regarding the public notice, we will need a copy of the notice and proof of publication to include in the final report.
>>
>>
>>
>> If you have any questions, please let us know.
>>
>>
>>
>> Regards,
>>
>>
>> Vicki Aycock, P.E.
>>
>> Pennoni
>> 1215 Manor Drive, Suite 100 | Mechanicsburg, PA 17055
>> Direct: 717-620-5968 | Mobile: 717-580-9506 www.pennoni.com |
>> VAycock@Pennoni.com
>>
>> [Pennoni]
>> PARTNERS FOR WHAT'S POSSIBLE
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Vicki Aycock

From: Vicki Aycock
Sent: Tuesday, August 08, 2017 8:27 AM
To: Gregory R. Rogalski
Subject: RE: Marysville Pollution Reduction Plan
Attachments: PADEP Statewide MS4 Land Cover Estimates.pdf

Good Morning Scott,

PADEP's recommended "Simplified Method" was used to determine the existing loading for pollutants of concern. This method of calculating the existing load is detailed in Appendix D *Pollutant Reduction Plan Requirements for Discharges to the Chesapeake Bay Watershed* (Document 3800-PM-BCW0100d 5/2016).

DEP's simplified method of calculating existing pollutant loads as described in its PRP Instructions Document cited above calls for the determination of the percentages of impervious and pervious land cover within the planning area using the PADEP *Statewide MS4 Land Cover Estimates*. The email attachment above is an excerpt from the Land Cover Estimates table documenting the impervious and pervious percentages of land within and outside of the urbanized areas for Marysville Borough.

If there are additional questions, please let us know.

Regards,

From: Scott Weaver [mailto:sweaver17053@comcast.net]
Sent: Tuesday, August 08, 2017 7:25 AM
To: Gregory R. Rogalski <GRogalski@Pennoni.com>; Vicki Aycock <VAycock@Pennoni.com>
Subject: Fwd: Marysville Pollution Reduction Plan

Morning crew,

I got this request from a resident. He wanted me to share it with you and have an answer at the next council meeting. Greg, do you plan on being at the next council meeting (8/14/17)?

Thanks

Scott

----- Original Message -----

From: Charles Wentzel <cwentzel@embarqmail.com>
To: Scott Weaver <sweaver17053@comcast.net>
Date: August 7, 2017 at 6:39 PM
Subject: Marysville Pollution Reduction Plan

Scott --

Attached please find a satellite map of Marysville, with the borderlines of the current US Census Urbanized Area (UA) overlayed.

Please share this with the lead engineer for the Marysville PRP. I would like him to justify his estimate of 32% impervious, as he asserts in Appendix D. It looks more like 8% to me.

I plan to be at the next Council meeting, and hopefully the working group as well. If he will be there, perhaps he can address it then.

- Charles Wentzel, 222 Ridgeview.

Vicki Aycock

From: Vicki Aycock
Sent: Monday, August 14, 2017 2:31 PM
To: 'julie.pfromm@yahoo.com'
Cc: 'Scott Weaver'; Gregory R. Rogalski
Subject: Response to Comment on Pollutant Reduction Plan

Julie,

Thank you for taking the time to review and provide comment on the Borough's Pollution Reduction Plan. The Plan currently proposes to retrofit several existing facilities to provide for infiltration and/or bio-retention. The Borough targeted retrofits of existing facilities since this should be less costly than constructing new facilities. In addition, these existing facilities are located in areas that receive a fair amount of stormwater runoff. As the Plan is implemented, the Borough will be assessing other opportunities to apply stormwater management practices to reduce pollutant loadings to local water resources. The MS4 Permit for 2018 – 2023 requires the Borough to develop an inventory of suspected and known anthropogenic sources of Priority Organic Compounds in stormwater within the drainage area of Borough outfalls discharging to the Susquehanna River. The inventory is required to be submitted to DEP not later than three years following DEP's written approval of the General Permit coverage. Development of the inventory will provide the Borough an opportunity to assess and address potential sources of pollutants.

If you have any further comment or questions, please let us know.

Regards,

From: Scott Weaver [mailto:sweaver17053@comcast.net]
Sent: Monday, August 14, 2017 8:08 AM
To: Gregory R. Rogalski <GRogalski@Pennoni.com>; Vicki Aycock <VAycock@Pennoni.com>
Subject: Fwd: Comment on Pollutant Reduction Plan

Here is a comment for the plan.

----- Original Message -----

From: Julie Pfromm <julie.pfromm@yahoo.com>
To: "sweaver17053@comcast.net" <sweaver17053@comcast.net>
Date: August 11, 2017 at 5:28 PM
Subject: Comment on Pollutant Reduction Plan

Hi Scott,
Thank you for allowing me to comment via email, work does not allow me to get to the borough office during the week. Overall, I want to stress that any projects that are planned should include beautification components so that while we are meeting requirements as a borough, we are also improving our community to make it more attractive to residents, potential residents, businesses, and customers.

As it pertains to the current plan, I would like to see going in the direction of converting to vegetated infiltration basins or bio-retention basins to assist with beautification strategies but also help reduce some of the maintenance requirements for the borough.

The plan did not include drainage patterns so these additional ideas I understand are without all the information of where stormwater most needs to be collected. With both beautification and pollutant reduction in mind I believe adding

stormwater infiltration basins along sidewalks in sidewalk planter strips with curb cuts. Also, a larger project would be to create a median on 11/15 in areas not in need of a turn lane (specifically between Speciality Bakers and the Recycling Center) with curb cuts and rain gardens would really help maintain/recreate our small town feel.

In conjunction, I would also think it may be beneficial to work with the owner at the recycling center/junkyard to ensure no pollutants are leaching into the ground from car storage on the bank of a Susquehanna River tributary as well as help them come into compliance with the ordinance that cars must be moved within one month.

Thank you so much for considering my suggestions and I hope the final plan will incorporate ideas to beautify our town and see it as an opportunity to increase community pride. Have a great weekend!

Julie Walter
317 Maple Avenue

BOROUGH OF MARYSVILLE
Council Meeting Minutes
August 14, 2017
7:00 PM

President Pro-Temp, Lance Barthel called the council meeting to order at 7:00pm. The Pledge of Allegiance was recited and innovation given by Mayor Troutman.

Roll call

Lance Barthel - Present	Mayor Troutman - Present
Gary Perry - Absent	Boro. Mgr. Scott Weaver - Present
Stephen Copp - Absent	Sec. Connie Zitsch- Present
Allen Metzger - Present	Treas. John Tennant – Present
Larry Little - Present	Sol Dan Altland - Absent
David Magee - Present	Eng. Greg Ragolski – Present
Alexandria Snyder - Present	Alex Gasdaska, Junior Council – Absent

Consent Items

A motion was made by Lance Barthel, seconded by Allen Metzger and approved with one nay vote to approve the minutes. The financial statement and to pay the bills approved unanimously.

Opening of Jetter Bids

Scott Weaver, Borough Manager opened four sealed bids for the sewer and drain jetter. The bids were as follows:

1. Hal REIGI DYNA-VAC EQUIPMENT, INC.	\$47,157.00
2. CAM SPRAY	\$37,199.00
3. A&H EQUIPMENT	\$57,170.00
4. US Municipal	\$54,901.00

Junior Council

Scott Weaver stated Alex Gasdaska started baseball and was unable to attend the meeting.

Public Comment

Robert Ford of 409 Cassel Street stated he has a problem with Mayor Troutman and the police of Marysville. He purchased his home last year beside the mayor.

Mayor Troutman and her husband came out screaming and yelling to get off of their property.

Mayor Troutman filed a complaint to the Marysville Police Department regarding the wooden fence is on their property. The police officer showed up at Robert Ford's property to tell him this is not your property where the wooden fence is.

Robert Ford had a survey done on his property and pins were put in where his property line is. The wooden fence is on his property and would like the fence to be removed. Robert Ford stated the fence also is on borough property as well.

He is planning on having a contractor better his driveway to his property.

Having a police officer come to your house and threaten you is unacceptable.

Robert Ford feels with the police being involved it has now become a borough problem as well.

Chief Aaron Richards asked council if he could ask a couple of questions to Robert Ford.

1. What was the threat from the police officer?

The police officer told him not to touch or mark his property.

2. Did the police officer tell you this was a civil matter between you and the Mayor?

Robert Ford did not respond to the question.

Engineer's Report

Greg Ragolski reported Pennoni is applying for the MS4 permit this month.

Greg reported the street project bid package should be ready to advertise October 2017 and the borough will be ready to accept bids early December 2017 and as late as January 2018. Park Drive will be completed first due to the extensive work and Ridgeview Drive would be done after Park Drive is completed. The borough will be doing overlay only on Ridgeview Drive.

Greg reported the Sewer Department is running the camera through the lines to further investigate where the sewer laterals are located.

The camera found a manhole covered over with pavement on Ridgeview Drive and cracks in the main. There was one crack located on Ridgeview Drive and two on Park Drive's main.

Dave Magee stated the camera has paid for itself six (6) times over.

Old Business

Road Project for Park and Ridgeview Drive

The street project bid package will be advertised October 2017 and the borough will be ready to accept bids as early as December 2017 or early in January 2018.

Cassel Street – Possible Option on Paving Project

The borough is looking at adding the 700 block of Maple Avenue to the paving project as an option.

Generator for the Fire Company – Tabled

Cam Spray (Flusher Trailer) – Tabled

Dave Magee referred the cam spray (flusher trailer) back to the Finance Committee for further discussion.

Codes Enforcement with East Pennsboro Township

Scott said due to vacations he has not been able to meet with East Pennsboro Township; however we will meet next week to get further information.

Dead Ash Tree's Through Out Borough

Scott reported throughout the borough there are 42 dead ash trees and one (1) located on borough property. Scott Weaver and Solicitor, Dan Altland will work on a letter to send out to the residence to have the trees removed especially ones leaning toward houses or roads. Scott said not to take this lightly; this is a safety issue for borough residence.

The borough employees will remove the dead ash tree from the borough property.

New Business

Resolution Authorizing Council Members to Participate in meetings via Telecommunication Devices

A motion made by Alexandria Snyder, seconded by Allen Metzger and approved unanimously to adopt the Resolution for Council members to participate in meetings via telecommunication devices.

Trick-or-Treat (Tuesday, October 31, 2017 6:00pm to 8:00pm)

A motion made by Lance Barthel, seconded by Larry Little and approved unanimously to have trick-or-treat on Tuesday, October 31, 2017 from 6:00pm to 8:00pm.

Close Marysville Borough Conway D. Hammaker Jr., Tax Collector checking account. The account is a zero balance.

A motion was made by Dave Magee, seconded by Larry Little and approved unanimously to close the banking check account for Marysville Borough Conway D. Hammaker Jr., Tax Collector. The account has a zero balance.

Curbing Repair/Replacement for Sewer Separation and Paving

A motion was made by Dave Magee, seconded by Alexandria Snyder and approved unanimously to send letters to residence that may need curbing repair and or replacement of curbs during the sewer separation project from South of Cameron Street to Cassel Street.

Advance Disposal Services Extend the Last Year of Contract

A motion was made by Alexandria Snyder, seconded by Allen Metzger to extend the trash contract for 2018 with a three percent (3%) increase.

Dave Magee asked if the three percent (3%) increase would affect the trash bill amount.

Scott said the three percent (3%) increase was part of the trash contract.

Pollution Reduction Plan (Public Comment)

Charles Wentzel of 222 Ridgeview Drive shows the calculation of 32% excess of imperious land. Are we able to challenge the calculation of the percent of imperious surface?

Engineer Greg Ragolski said the cost to do the study of the imperious surface would be greater than the cost of the plan now.

Charles Wentzel asked what the plans for the lake were. Engineer Greg Ragolski said they were looking at a four bay which means a three smaller sediment ponds in front of the established pond existing.

John Edkin said this is private property. Greg said we will have to talk to the residence and businesses this would affect.

Dan Stephens Sr. of 900 Lansvale Street Ext. asked if the figures and cost of the engineering are established in the plan.

Greg Ragolski answered this is a general concept plan with criteria needed for the application. The next five year plan is to look at projected cost of storm water and four times a year for inspections. The projection of time there will be more information in the future. Changes will be coming in the future could be more or less costs.

Dan Stephens would like facts and designs of the controlled plan.

Greg Ragolski said we plan to submit the application in September 2017. Department of Environmental (DEP) will review the application. Every year we will build on the plan.

Rich Stees of 598 Cassel Street feels the Borough Engineer has a sound concept for the permit application based on utilizing existing storm water facilities. Rich reviewed the report and the engineer addressed all the requirements for the application. The overall concept met the requirements for controlling the release of storm water discharges and minimizing the need for acquiring additional lands.

Julie Walters of 317 Maple Avenue said we should put efforts to beautifying our properties with rain gardens and to improve the way our community looks.

Dan Stephens of 900 Lansvale Street Ext. said to replant trees, however you need to know what type of trees to plant because some trees can make problems.

Lance Barthel said the road project for Park Drive and Ridgeview Drive will be closed and should be opened prior to the start of 2018 school year.

The question was asked if the school was notified. Scott said no they have not been contacted but he will contact the school closer to the project.

Audit Approval – Tabled

Dave Magee requested Scott to contact the auditors to set up a meeting to go over the audit report with council.

Commission Reports on File

Brian Webster of the Marysville Fire Company announced the chicken barbeque will be held the second Saturday of September and weather permitting for October 2017.

The Marysville Fire Department dinners will start up again in October 2017.

Committee Reports On file

Public Comment

Dan Stephens of 900 Lansvale Street Ext. would like to spend some time with Scott to share his knowledge of the borough.

Melissa Zimmerman of 204 Ridgeview Drive asked if the borough was going to offer some type of payment plan for the curbs and sidewalks the residence need to put in.

Dave Magee said there have been discussions brought up concerning the cost of the curbs and sidewalks for the residence. We will have to talk with our Solicitor, Dan Altland to help out with this matter.

It was suggested possibly adding the fees into the sewer and garbage bills and put liens on the house until the curbs and sidewalks are paid for.

Dave Magee said we plan to bid the road project for Ridgeview Drive and Park Drive this fall. Park Drive will be done first and then Ridgeview Drive. The prices for the project will be better bidding them early.

Scott said the natural gas would be held in a centralized tank and to have smaller vehicles to fill the tanks. They are looking to have the natural gas start with milk run, large farms and businesses as a tested concept.

Laterals would be run into residential properties for the natural gas.

Scott said in order to vote by phone you would need to have a speaker phone to hear both sides of the conversation of the person voting via telecommunication and council.

Julie Walters of 317 Maple Avenue does not allow a lot of time for the plan to be reviewed and to have a new revised plan by the 19th.

Greg Ragolski said the revised plan is due by September 15th, 2017.

Media Questions - None

Jim Ryan of the Duncannon Record said he would talk to Scott Weaver later.

A motion was made by Lance Barthel, seconded by Alexandria Snyder and approved unanimously to adjourn the meeting at 8:00pm.

Respectfully Submitted,

Connie Zitsch, Borough Secretary

APPENDIX B

Map

APPENDIX C

Pollutants of Concern

MS4 Name	Permit Number	HUC 12 Name	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)
Perry County				
MARYSVILLE BORO	PAG133690	Cove Creek-Susquehanna River, Fishing Creek-Perry County, Laurel Run-Susquehanna River	Chesapeake Bay Nutrients\Sediment, Susquehanna River	Appendix D-Siltation/Nutrients
		Cove Creek-Susquehanna River, Laurel Run-Susquehanna River	Susquehanna River	Appendix C-PCB
PENN TWP	PAG133696	Cove Creek-Susquehanna River, Fishing Creek-Perry County, Laurel Run-Susquehanna River	Chesapeake Bay Nutrients\Sediment, Susquehanna River	Appendix D-Siltation/Nutrients
		Cove Creek-Susquehanna River, Laurel Run-Susquehanna River	Susquehanna River	Appendix C-PCB
RYE TWP	PAG133646	Cove Creek-Susquehanna River, Fishing Creek-Perry County, Laurel Run-Susquehanna River	Chesapeake Bay Nutrients\Sediment, Susquehanna River	Appendix D-Siltation/Nutrients
		Cove Creek-Susquehanna River, Laurel Run-Susquehanna River	Susquehanna River	Appendix C-PCB
Philadelphia County				
PHILADELPHIA CITY		Petty Island-Delaware River, Pompeston Creek-Delaware River	Delaware River, Frankford Creek, Pennypack Creek	Appendix C-PCB, Priority Organics
		Pompeston Creek-Delaware River, Tacony Creek-Frankford Creek	Frankford Creek, Pennypack Creek, Tacony Creek	Appendix E-Excessive Algal Growth, Nutrients, Organic Enrichment/Low D.O., Siltation
		Plymouth Creek-Schuylkill River	Unnamed Tributaries to Schuylkill River, Wissahickon TMDL	Appendix E-Excessive Algal Growth, Nutrients, Organic Enrichment/Low D.O., Siltation, TMDL Plan-Siltation, Suspended Solids
		Lower Pennypack Creek, Swede Run-Delaware River	Delaware River, Pennypack Creek, Poquessing Creek	Appendix C-PCB, Priority Organics
		Pompeston Creek-Delaware River	Pennypack Creek	Appendix B-Pathogens
		Lower Pennypack Creek	Pennypack Creek	Appendix B-Pathogens
		City of Philadelphia-Schuylkill River, Plymouth Creek-Schuylkill River	Schuylkill River PCB TMDL	Appendix C-PCB, Priority Organics
		Cobbs Creek	Cobbs Creek, Cobbs Creek, East Branch Indian Creek, Indian Creek, West Branch Indian Creek	Appendix B-Pathogens, Appendix E-Excessive Algal Growth, Nutrients, Organic Enrichment/Low D.O., Siltation
		Lower Wissahickon Creek	Unnamed Tributaries to Wissahickon Creek, Wissahickon Creek, Wissahickon Creek, Wissahickon TMDL	Appendix B-Pathogens, Appendix E-Excessive Algal Growth, Nutrients, Organic Enrichment/Low D.O., Siltation, TMDL Plan-Siltation, Suspended Solids
		Repaupo Creek-Delaware River	Darby Creek, Delaware River	Appendix C-PCB, Priority Organics
		Cobbs Creek, Darby Creek, Woodbury Creek-Delaware River	Cobbs Creek, Darby Creek, Delaware River, East Branch Indian Creek, Indian Creek, Schuylkill River PCB TMDL, West Branch Indian Creek	Appendix C-PCB, Priority Organics
		Lower Pennypack Creek, Poquessing Creek	Black Lake Run, Byberry Creek, Pennypack Creek, Poquessing Creek, Walton Run, Wooden Bridge Run	Appendix E-Excessive Algal Growth, Nutrients, Organic Enrichment/Low D.O., Siltation

APPENDIX D

Existing Loading for Pollutants of Concern

MARYSVILLE BOROUGH, PERRY COUNTY, PA
SUSQUEHANNA RIVER PRP PLANNING AREA EXISTING LOADING FOR POLLUTANTS OF CONCERN
JUNE 2017

SUSQUEHANNA RIVER PRP PLANNING AREA	DEVELOPED LAND LOADING RATES FOR PERRY COUNTY					
	Impervious			Pervious		
	TN lbs/acre/yr 26.77	TP lbs/acre/yr 1.32	TSS lbs/acre/yr 2,314.70	TN lbs/acre/yr 23.94	TP lbs/acre/yr 0.51	TSS lbs/acre/yr 343.16

Susquehanna River Sewershed								
Susquehanna River Total Sewershed Area (square feet)	Susquehanna River Sewershed Area Outside UA Area (square feet)	Susquehanna River Sewershed Area Outside UA Area (acres)	Susquehanna River Sewershed Area Within UA Area (square feet)	Susquehanna River Sewershed Area Within UA Area (acres)	UA Impervious Percent	UA Pervious Percent	Outside of UA Impervious Percent	Outside of UA Pervious Percent
28,082,871.4343	4,637,063.49	106.4523	23,203,761.9883	532.69	0.32	0.68	0.16	0.84

Susquehanna River
Parsed Area
(square feet)

242,045.96

Susquehanna River
Total Sewershed Area
Less
Parsed Area
(square feet)

27,840,825.47

Impervious and pervious area within sewershed calculated based upon Statewide MS4 Land Cover Estimates.	Susquehanna River Impervious (acres)	Susquehanna River Pervious (acres)	Susquehanna River Impervious Outside UA (acres)	Susquehanna River Pervious Outside UA (acres)
	170.46	362.23	17.03	89.42

Susquehanna River Impervious Loads			Susquehanna River Pervious Loads		
TN lbs/yr	TP lbs/yr	TSS lb/yr	TN lbs/yr	TP lbs/yr	TSS lbs/yr
5,019.15	247.49	433,986.80	10,812.40	230.34	154,986.78

Existing BMP Load Reduction	Susquehanna River Loads		
	TN lbs/yr	TP lbs/yr	TSS lbs/yr
	15,831.55	477.83	588,973.58
Rockville Estates - Detention Basins 1, 2, & 3	85.86	4.49	4,610.51
Snouts® at Outfalls 002 & 003	N/A	N/A	46,858.29
Marysville Lions Club Wet Pond	414.96	25.36	36,614.72
	15,330.73	447.98	500,890.05

10% TSS Reduction Required (lbs/yr)
50,089.01

Proposed BMPs	
Sanitary Sewer Separation South Storm Sewer System Solids Removal	13,899.71
Lions Club Dry Extended Detention Basin(s)	24,765.94
Locust Village Associates Retrofit existing basin to infiltration basin	1,253.96
Senior Citizens Center Retrofit existing basin to infiltration basin	822.60
Municipal Complex Construct Infiltration Basin	688.09
Cameron / Broad Street Vegetated Open Channel	19,205.30
Balance	-10,546.58

MARYSVILLE BOROUGH, PERRY COUNTY, PA
POLLUTANT REDUCTIONS FROM EXISTING BMPs

MS4 Outfall #	Project Number	Name	NPDES Permit No.	Latitude	Longitude	Receiving Watershed	Stream Classification	Watershed	BMP	Operation & Maintenance Frequency/Summary	Party Responsible for O&M	Date Installed	Is BMP Serving Design Function (Yes or No)
010	109.01	Rockville Estates, Phase I	PAG2 0350 09 004	40.33265	-76.93368	Fishing Creek	CW, MF	Susquehanna River	Detention Basin 1	Inspect for clogging & excessive debris & sediment accumulation 4 times/year & after every storm greater than 1".	Developer/HOA	2015	Yes
				40.33267	-76.93439				Detention Basin 2	Mow &/or trim vegetation as necessary.		2015	Yes
				40.33464	-76.92679				Detention Basin 3	Inspect annually for erosion & unwanted growth. Maintain vegetatvie cover @ a minimum of 95%. Re-establish if reduced by 10%.		2015	Yes
002	006.07	Sanitary Sewer Separation North	N/A	40.34587	-76.92801	Susquehanna River	WWF, MF	Susquehanna River	Snout®	Structure should be cleaned when sump is half full.	Marysville Borough	2012	Yes
003				40.34343	-76.92729	Susquehanna River	WWF, MF	Susquehanna River	Snout®	For floatbles & trash, service when 6" of floating material accumulates above static water level. Clean if a spill or other incident occurs. Maintenance with vacuum truck. Annually inspect anti-siphon vent & access hatch. Refer to manufacturer's recommended maintenance for more detailed guidance.	Marysville Borough	2013	Yes
010	N/A	Marysville Lions Park Wet Pond	N/A	40.33598	-76.9312	Fishing Creek	CW, MF	Susquehanna River	Wet Pond	Inspect at least 4 times/year and after major storms (greater than 2" in 24 hours) or rapid ice breakup. Inspections should assess vegetation, erosion, bank staibility, inlet/outlet conditions, embankment, & sediment/debris accumulation. Pond drain should be inspected & tested 4 times/year.	Marysville Lions Club	Unknown	Yes

MARYSVILLE BOROUGH, PERRY COUNTY, PA
POLLUTANT REDUCTIONS FROM EXISTING BMPs

MS4 Outfall #	Project Number	Name	Pollutant Reduction Calculation (lbs/yr)				Developed Land Loading Rates for Perry County Loading from Impervious				Developed Land Loading Rates for Perry County Loading from Pervious				Total Loading (lbs/yr)			
			Drainage Areas	TN	TP	TSS	Impervious (Ac)	TN	TP	TSS	Pervious (Ac)	TN	TP	TSS	TN	TP	TSS	
010	109.01	Rockville Estates, Phase I	Dry Detention Basin	% Removal	0.05	0.10	0.10		26.77	1.32	2,314.70		23.94	0.51	343.16			
			7.17	8.71	0.44	423.48	0.90	24.09	1.19	2,083.23	6.27	150.10	3.20	2,151.61	174.20	4.39	4,234.84	
			18.9	23.14	1.26	1,372.13	3.67	98.25	4.84	8,494.95	15.23	364.61	7.77	5,226.33	462.85	12.61	13,721.28	
			44.34	54.00	2.79	2,814.90	6.56	175.61	8.66	15,184.43	37.78	904.45	19.27	12,964.58	1,080.06	27.93	28,149.02	
			Total	85.86	4.49	4,610.51	11.13	297.95	14.69	25,762.61	59.28	1,419.16	30.23	20,342.52	1,717.11	44.92	46,105.14	
002	006.07	Sanitary Sewer Separation North	Snout®	% Removal	0.50													
			29.00	Refer to Snout Pollutant Reduction Calculation on next page.			9.28	248.43	12.25	21,480.42	19.72	472.10	10.06	6,767.12	720.52	22.31	28,247.53	
			197.20				63.10	1,689.19	83.29	146,057.57	134.10	3,210.35	68.39	46,017.76	4,899.54	151.68	192,075.33	
003			Total	N/A	N/A	110,161.43	72.38	1,937.61	95.54	167,537.99	153.82	3,682.45	78.45	52,784.87	5,620.06	173.99	220,322.86	
010	N/A	Marysville Lions Park Wet Pond	Wet Pond	% Removal	0.20	0.45	0.60											
			84.75	414.96	25.36	36,614.72	16.20	433.70	21.39	37,500.50	68.55	1,641.12	34.96	23,524.03	2,074.82	56.35	61,024.53	

MARYSVILLE BOROUGH, PERRY COUNTY, PA
PARSED AREA DETAIL

Watershed	Location	Square Feet	Acres
Susquehanna River	PennDOT	242,045.96	5.56
Subtotal		242,045.96	5.56

Parse PennDOT	Route No.	ROW (FT)	Length (LF)	Area (SF)	Area (Acres)	Watershed
North & South State Road	0011	50	1,985.62	99,280.76	2.28	Susquehanna River
Valley Road	0850	33	4,326.22	142,765.20	3.28	Susquehanna River
				6,311.83	242,045.96	5.56

APPENDIX E

Proposed BMPs to Meet Required Load Reductions

MARYSVILLE BOROUGH, PERRY COUNTY, PA
BMPs PROPOSED TO ACHIEVE MINIMUM REQUIRED REDUCTIONS IN POLLUTANT LOADING

MS4 Outfall #	Project Number	Name	NPDES Permit No.	Latitude	Longitude	Receiving Watershed	Stream Classification	Watershed	BMP	Description	Operation & Maintenance Frequency/Summary	Party Responsible for O&M
004	006.14	Sanitary Sewer Separation South Storm Sewer System Solids Removal	N/A	40.34218	-76.92669	Susquehanna River	WWF, MF	Susquehanna River	Storm Sewer System Solids Removal	Storm Sewer System Solids Removal	Structure should be cleaned when sump is half full. For floatbles & trash, service when 6" of floating material accumulates above static water level. Clean if a spill or other incident occurs. Maintenance with vacuum truck. Annually inspect anti-siphon vent & access hatch. Refer to manufacturer's recommended maintenance for more detailed guidance.	Marysville Borough
010	N/A	Lions Club Dry Extended Detention Basin(s)	N/A	40.33630	-76.92957	Fishing Creek	CWF, MF	Susquehanna River	Dry Extended Detention Basin(s)	New Construction	Maintain quarterly. Inspect all basin structures expected to receive &/or trap debris & sediment for clogging & excessive debris & sediment accumulation 4 times/year and after every storm greater than 1". Perform mowing &/or trimming of vegetation as necessary. Inspect vegetated areas annually for erosion & unwanted growth. Maintain vegetative cover at a minimum of 95% & reestablish if reduced by 10%.	Marysville Borough
013	N/A	Locust Village Associates Retrofit existing basin to infiltration basin	N/A	40.33993	-76.93913	Fishing Creek	CWF, MF	Susquehanna River	Retrofit existing basing to infiltration basin.	Retrofit	Inspect catch basins & inlets upgradient of basin 2 times/year & after runoff events. Maintain vegetation in good condition & revegetate bare spots as soon as possible.	Locust Village Associates
013	N/A	Senior Citizens Center Retrofit existing basin to infiltration basin	N/A	40.33962	-76.94007	Fishing Creek	CWF, MF	Susquehanna River	Retrofit existing basing to infiltration basin.	Retrofit	Avoid excessive compaction by mowers. Inspect basin after runoff events & make sure runoff drains down within 72 hours. Inspect for sediment accumulation; damage to outlet control structures; erosion control measures; signs of contamination/spills; & slope stability in berms.	Marysville Borough
005	N/A	Municipal Complex Construct Infiltration Basin	N/A	40.34078	-76.93878	Susquehanna River	WWF, MF	Susquehanna River	Infiltration Basin	New Construction	Mow only as appropriate for vegetative cover species. Remove accumulated sediment from basin as necessary & restore original cross section & infiltration rate.	Marysville Borough
005	N/A	Cameron / Broad Street Vegetated Open Channel	N/A	40.34146	-76.93359	Susquehanna River	WWF, MF	Susquehanna River	Vegetated Open Channel A/B Soils	Retrofit	Maintain annually & within 48 hours after every major storm event (> 1" rainfall depth). Inspect & correct erosion problems; damage to vegetation; & sediment & debris accumulation (address when > 3" at any spot or covering vegetation). Inspect vegetation on side slopes for erosion & formation of rills or gullies; correct as needed. Inspect for pools of standing water; dewater & discharge to approved location : restore to design grade. Mow & trim vegetation as needed; mow only when swale is dry. Remove litter prior to mowing. Inspect for uniformity in cross-section & longitudinal slope; correct as needed. Inspect for signs of erosion or blockage; correct as needed. Rototill & replant if draw down time is more than 48 hours.	Marysville Borough

MARYSVILLE BOROUGH, PERRY COUNTY, PA
BMPs PROPOSED TO ACHIEVE MINIMUM REQUIRED REDUCTIONS IN POLLUTANT LOADING

MS4 Outfall #	Project Number	Name	Notes	Pollutant Reduction Calculation (lbs/yr)			Impervious (Ac)	Perry County Loading from Impervious (lbs/yr)			Pervious (Ac)	Perry County Loading from Pervious (lbs/yr)			Total Loading (lbs/yr)				
				Drainage Areas	TN	TP		TSS	TN	TP		TSS	TN	TP	TSS	TN	TP	TSS	
004	006.14	Sanitary Sewer Separation South Storm Sewer System Solids Removal						26.77	1.32	2,314.70		23.94	0.51	343.16					
			Snout®	% Removal			0.50												
				67.10				21.47	574.75	28.34	49,696.61	45.63	1,092.38	23.27	15,658.39	1,667.13	51.61	65,355.00	
			Refer to Snout Pollutant Reduction Calculation on next page.																
			Total	N/A	N/A	13,899.71	21.47	574.75	28.34	49,696.61	45.63	1,092.38	23.27	15,658.39	1,667.13	51.61	65,355.00		
010	N/A	Lions Club Dry Extended Detention Basin(s)																	
			Dry Extended Detention Basin	% Removal	0.20	0.20	0.60												
				42.38	210.57	6.52	24,765.94	13.56	363.01	17.90	31,388.16	28.82	689.85	14.70	9,888.42	1,052.86	32.60	41,276.57	
013	N/A	Locust Village Associates Retrofit existing basin to infiltration basin																	
			Infiltration Practice w/Sand. Veg.	% Removal	0.85	0.85	0.95												
				1.36	28.62	0.89	1,253.96	0.43	11.61	0.57	1,003.74	0.92	22.06	0.47	316.21	33.67	1.04	1,319.95	
013	N/A	Senior Citizens Center Retrofit existing basin to infiltration basin	Infiltration Practice w/Sand. Veg.	0.89	18.77	0.58	822.60	0.28	7.62	0.38	658.45	0.60	14.47	0.31	207.44	22.09	0.68	865.89	
005	N/A	Municipal Complex Construct Infiltration Basin	Infiltration Practice w/Sand. Veg.	0.74	15.70	0.49	688.09	0.24	6.37	0.31	550.78	0.51	12.11	0.26	173.52	18.48	0.57	724.30	
005	N/A	Cameron / Broad Street Vegetated Open Channel																	
			Vegetated Open Channel A/B Soils	% Removal	0.45	0.45	0.70												
			Vegetated Open Channel A/B Soils	28.17	314.92	9.75	19,205.30	9.01	241.29	11.90	20,863.40	19.15	458.54	9.77	6,572.73	699.83	21.67	27,436.14	

MARYSVILLE BOROUGH, PERRY COUNTY, PA
POLLUTANT LOAD REDUCTION FOR SNOUTS

MS4 Outfall #	Project Number	Name	Pollutant Reduction Calculation (lbs/yr)				Perry County Loading from Impervious (lbs/yr)				Perry County Loading from Pervious (lbs/yr)			Total Loading (lbs/yr)		
			TN	TP	TSS	Impervious (Ac)	TN	TP	TSS	Pervious (Ac)	TN	TP	TSS	TN	TP	TSS
			Snout	% Removal	0.50		26.77	1.32	2,314.70		23.94	0.51	343.16			
002	006.07	Sanitary Sewer Separation North			14,123.77	9.28	248.43	12.25	21,480.42	19.72	472.10	10.06	6,767.12	720.52	22.31	28,247.53
003		Installed			96,037.66	63.10	1,689.19	83.29	146,057.57	134.10	3,210.35	68.39	46,017.76	4,899.54	151.68	192,075.33
					110,161.43	72.38	1,937.61	95.54	167,537.99	153.82	3,682.45	78.45	52,784.87	5,620.06	173.99	220,322.86
004	006.14	Sanitary Sewer Separation South			32,677.50	21.47	574.75	28.34	49,696.61	45.63	1,092.38	23.27	15,658.39	1,667.13	51.61	65,355.00
		Proposed														
				Snout Efficiency 50%	lbs/year Wet Weight	Debris 10%	lbs/year Wet Weight Less 10% Debris	Inorganic Sediment 55% (x 0.55 x 0.7)	Organic Material 45% (x 0.45 x 0.2)	TN	TN	TP	TP	Total Sediment Loading Reduction lbs/yr		
							x 0.7	x 0.2		0.0027	0.0111	0.0006	0.0012			
				Snout 002 & 003	0.50000	110,161.43	11,016.14	99,145.29	38,170.94	8,923.08	103.06	99.05	22.90	10.71	46,858.29	
				Snout 004	0.50000	32,677.50	3,267.75	29,409.75	11,322.75	2,646.88	30.57	29.38	6.79	3.18	13,899.71	

APPENDIX F

Planning Level Cost Estimate

MARYSVILLE BOROUGH, PERRY COUNTY, PA
PLANNING LEVEL COST ESTIMATE

No. Name		Receiving Watershed	Proposed BMP	Description	\$ / Acres Treated	Acres Treated	Subtotal Cost	Contingency 10%	Engineering 15%	Total Cost
1	Sanitary Sewer Separation South - Storm Sewer System Solids Removal	Susquehanna River	Storm Sewer System Solids Removal	End of Pipe (Structural) Treatment	N/A	67.10	\$ 178,500.00	\$ 17,850.00	\$ 26,775.00	\$ 223,125.00
2	Marysville Lions Club - Construct Dry Extended Detention Basin(s)	Susquehanna River	Dry Extended Detention Basin(s)	New Construction	\$ 4,096.40	42.38	\$ 173,589.52	\$ 17,358.95	\$ 26,038.43	\$ 216,986.90
3	Locust Village Associates - Retrofit existing basin to infiltration basin.	Susquehanna River	Infiltration Basin	Retrofit	\$ 9,744.00	1.36	\$ 13,204.24	\$ 1,320.42	\$ 1,980.64	\$ 16,505.30
4	Senior Citizens Center - Retrofit existing basin to infiltration basin.	Susquehanna River	Infiltration Basin	Retrofit	\$ 9,744.00	0.89	\$ 8,662.01	\$ 866.20	\$ 1,299.30	\$ 10,827.51
5	Municipal Complex - Construct Infiltration Basin	Susquehanna River	Infiltration Basin	New Construction	N/A	0.74	\$ 20,000.00	\$ 2,000.00	\$ 3,000.00	\$ 25,000.00
6	Cameron / Broad Street - Retrofit Vegetated Open Channel	Susquehanna River	Vegetated Open Channel	Retrofit	N/A	28.17	\$ 125,000.00	\$ 12,500.00	\$ 18,750.00	\$ 156,250.00
							\$ 518,955.76	\$ 51,895.58	\$ 77,843.36	\$ 648,694.70

NOTE: COSTS DO NOT INCLUDE LEGAL OR LAND ACQUISITION COSTS

Cost References:

BayFAST Website - PA Default Cost - Cost Profile
BayFAST Website - Unit Cost Spreadsheets for BMPs in Phase II WIPs prepared for EPA using existing data.
Planning Level Unit Cost Development for Stormwater Best Management Practices (BMPs) - Part 1: Initial Costs Per Impervious Acre Treated
Storm Sewer System Solids Removal Budgetary Cost Estimate Provided by CONTECH Engineered Solutions LLC.

APPENDIX G

Proposed Operation and Maintenance Plan

MARYSVILLE BOROUGH, PERRY COUNTY, PA
PROPOSED OPERATION AND MAINTENANCE PLAN

Name	Receiving Watershed	Proposed BMP	Description	Responsible Party	Operation and Maintenance
Snout 004 - Storm Sewer System Solids Removal	Susquehanna River	Storm Sewer System Solids Removal	New Construction	Marysville Borough	Storm Sewer System Solids Removal In accordance with manufacturer's recommended operation and maintenance.
Lions Club Dry Extended Detention Basin(s)	Susquehanna River	Dry Extended Detention Basin	Retrofit	Marysville Borough	Dry Extended Detention Basins Inspect all basin structures expected to receive and/or trap debris and sediment at least four times per year, as well as after every storm greater than 1 inch. Conduct sediment removal when basin is completely dry. Dispose of sediment properly; immediately stabilize and revegetate disturbed areas. Perform mowing and/or trimming of vegetation as necessary to sustain the system. Remove all detritus from the basin. Inspect vegetated areas annually for erosion and unwanted growth of exotic/invasive species. Maintain vegetative cover at a minimum of 95%. Reestablish vegetative cover if reduced by 10%.
Cameron / Broad Street - Vegetated Open Channel	Susquehanna River	Vegetated Open Channel	Retrofit	Marysville Borough	Vegetated Open Channels Maintain annually & within 48 hours after every major storm event (> 1" rainfall depth). Inspect & correct erosion problems; damage to vegetation; & sediment & debris accumulation (address when > 3" at any spot or covering vegetation). Inspect vegetation on side slopes for erosion & formation of rills or gullies; correct as needed. Mow & trim vegetation as needed; mow only when swale is dry. Inspect for pools of standing water; dewater & discharge to approved location: restore to design grade. Remove litter prior to mowing. Inspect for uniformity in cross-section & longitudinal slope; correct as needed. Inspect for signs of erosion or blockage; correct as needed. Rototill & replant if draw down time is more than 48 hours.
Locust Village Associates - Infiltration Basin	Susquehanna River	Infiltration Basin	Retrofit	Property Owner	Infiltration Basins Inspect and clean catch basins and inlets (upgradient of infiltration basin) at least two times per year and after runoff events. Maintain vegetation along the surface of the infiltration basin in good condition and revegetate any bare spots as soon as possible. Do not park or drive vehicles on infiltration basin and take care to avoid excessive compaction by mowers. Inspect the basin after runoff events and make sure that runoff drains down within 72 hours, Mosquito's should not be a problem if the water drains within 72 hours. Inspect for accumulation of sediment, damage to outlet control structures, erosion control measures, signs of water contamination/spills, and slope stability in berms. Mow only as appropriate for vegetative cover species. Remove accumulated sediment from basin as required. Restore original cross section and infiltration rate. Properly dispose of sediment.
Senior Citizens Center - Infiltration Basin	Susquehanna River	Infiltration Basin	Retrofit	Property Owner	
Municipal Complex - Infiltration Basin	Susquehanna River	Infiltration Basin	New Construction	Marysville Borough	