BOROUGH OF NORTH WALES

300 School Street, North Wales, PA 19454
Phone: 215-699-4424 • Fax: 215-699-3991
http://northwalesborough.org

COUNCIL MEETING
Tuesday, May 9, 2023 – 7:00 P.M.

Salvatore Amato
Sherwin Collins
Anji Fazio
Alexander Groce
Brittany Kohler
Wendy McClure
Sally Neiderhiser
Mark Tarlecki
Sarah Whelan
Neil McDevitt, Mayor

Call to Order, Date and Time
Roll Call
Pledge of Allegiance

1. Public Comment

2. Proclamation: Daniel O'Connell Day

3. Consideration: Resolution Recognizing Emergency Medical Services Week

4. Consideration: Acceptance of Donations 2023 Summer Kick-Off Fireworks Event

5. Consideration: Approval of Minutes: April 25, 2023

6. Old Business / Committee & Board Reports / Zoning Applications

7. Solicitor / Mayor / Council / Chief / Public Works / Manager

Adjournment

All interested parties may participate on the date and time noted above and when called upon by the Council President. The public may also submit questions or comments prior to the meeting by e-mail to info@northwalesborough.org; these must be received no later than 12 Noon on

May 9, 2023. Persons with disabilities who wish to attend the meeting and require auxiliary aid, service, or other accommodation to participate in the meeting should contact North Wales Borough at 215-699-4424 or by e-mail to info@northwalesborough.org.

Mayor's Office Hours:

2nd Tuesdays	5:00 P.M. - 7:00 P.M.
3rd Saturdays	10:00 A.M. - 12:00 P.M.

Monthly Meetings Information:

HARB	3rd Wednesday of Month
Historic Commission	4th Thursday of Month
Human Relations Commission	3rd Thursday of Month
Nor-Gwyn Pool Commission	2nd Thursday of Month – 7:30 P.M.
Park & Recreation Board	2nd Thursday of Month
Planning Commission	1st Wednesday of Month
Shade Tree Commission	2nd Thursday of Month
Zoning Hearing Board	1st Tuesday of Month, as needed

All above meetings begin at 7 P.M. at Borough Hall, unless noted otherwise.

North Wales Water Authority	3rd Wednesday of Month 5:00 P.M., 200 W. Walnut Street

Please note: The meeting is being digitally recorded.

Proclamation

WHEREAS: Daniel H. O'Connell, past member of North Wales Borough Council from 1994 to 1998, died on April 3, 2023;

WHEREAS: Mr. O'Connell has a long and rich history in our community, born in Phillipsburg, NJ on May 15, 1944;

WHEREAS: With his wife, Donna L. Mengel, he founded the Lamb Foundation, a nonprofit organization in the Borough that provides services for individuals with a variety of disabilities that may have difficulty remaining independent without assistance;

WHEREAS: Mr. O'Connell served for a total of 20 years on Borough Council across 3 different terms reaching as far back as 1984;

WHEREAS: Mr. O'Connell held several leadership roles in the Council during his service to the Borough including as President of Council and Chair of the Pension Committee;

WHEREAS: Mr. O'Connell's contemporaries remember him as a quiet and respectful Council member who was dedicated to ensuring that the Borough's finances were properly managed as well as being a fierce defender of the Borough's Police Department;

WHEREAS: Mr. O'Connell was instrumental in preserving the residential character of the Borough's First Ward when industrial businesses intended to expand their operations in the 1980's;

WHEREAS: Dan took pride in his commitment to making lives better for the people in our communities, often by representing them as a pro-bono attorney and around the world through the missions he established;

WHEREAS: Dan's family continues to be an integral part of the Borough, including his 16 children - Robert, Brick, Dane, Fawn, Daniel Jr., Ammah, Maude, Bruin, Blue, Yayou, Felecia, Joseph, Amogeshe, Seizah, and Nathaniel – many of whom are adopted from developing nations;

NOW THEREFORE, I, Neil McDevitt, Mayor of the Borough of North Wales, Pennsylvania, do hereby proclaim his upcoming birthday, **May 15, 2023**, to be **Daniel O'Connell Day in North Wales Borough**. I encourage all citizens to support their local communities in Mr. O'Connell's example with selfless service to others and honor Mr. O'Connell's example in making their communities a better place.

Neil McDevitt, Mayor
North Wales Borough
May 9, 2023

BOROUGH OF NORTH WALES
RESOLUTION 2023-028
A RESOLUTION TO RECOGNIZE EMERGENCY MEDICAL SERVICES WEEK

WHEREAS, in 1974, President Gerald Ford authorized Emergency Medical Services Week to celebrate EMS practitioners and the important work they do in our nation's communities; and

WHEREAS, EMS providers are ready to provide lifesaving care to those in need, 24 hours a day, seven days a week; and

WHEREAS, access to quality emergency care dramatically improves the survival and recovery rate of those who experience sudden injury or illness; and

WHEREAS, through service, compassion, and dedication, EMS providers represent the very best of public service; and

WHEREAS, this year's theme is *Rising to the Challenge*, which is especially significant after these first responders continued to provide essential services during a worldwide pandemic; and

WHEREAS, National Emergency Services Week brings together local communities and medical personnel to honor the dedication of those who provide day-to-day lifesaving services.

NOW, THEREFORE BE IT RESOLVED by the Borough Council of the Borough of North Wales, Montgomery County, Pennsylvania, that we hereby recognize the week from May 21, 2023, through May 27, 2023, as National EMS Week.

ADOPTED this 9th day of May, 2023.

BOROUGH COUNCIL OF THE
BOROUGH OF NORTH WALES

BY: _____
Salvatore Amato, President

ATTEST:

_____
Christine A. Hart, Secretary

BOROUGH OF NORTH WALES
RESOLUTION 2023-029
A RESOLUTION TO ACCEPT DONATIONS TOWARDS
2023 SUMMER KICK-OFF FIREWORKS CELEBRATION

NOW, THEREFORE, BE IT RESOLVED, that the BOROUGH COUNCIL OF THE BOROUGH OF NORTH WALES hereby accepts donations in the amount of $8,000.00 from the following, to be deposited into the General Fund;

- North Wales Community Day Committee - $5,000.00
- Linda and Mike McAdoo - $1,000.00
- Nick and Sandy Paulson - $1,000.00
- Jim and Neree Sando - $1,000.00

ADOPTED this 9th day of May, 2023.

BOROUGH COUNCIL OF THE
BOROUGH OF NORTH WALES

BY: _____
Salvatore Amato, President

ATTEST:

_____
Christine A. Hart, Secretary

BOROUGH OF NORTH WALES
300 SCHOOL STREET
NORTH WALES, PENNSYLVANIA

MEETING: April 25, 2023, 7:01 P.M., EST

CALL TO ORDER made by President Amato.

ROLL CALL:	Salvatore Amato	Present
	Sherwin Collins	Present
	Anji Fazio	Present
	Alexander Groce	Present
	Brittany Kohler	Present
	Wendy McClure	Present
	Sally Neiderhiser	Present
	Mark Tarlecki	Present
	Sarah Whelan	Present
	Mayor Neil McDevitt	Present

Also, in attendance were Gregory Gifford, Borough Solicitor and David Erenius, Chief of Police.

President Amato led the Pledge of Allegiance.

Public Comment

Justin Copenhaver, 212 Highland Avenue reported on the relaunch status of the Borough Business Alliance. There are 16 members who have pledged to participate, and he hopes to add more. He reported that they are working on organizing the Charter and would like to do a soft launch at the Summer Kickoff Event. Member Whelan asked if he would be attending the Parks and Recreation Board Meeting to coordinate that effort. Justin responded that he would once they have their information ready. Member Collins asked if Justin would use any of the previous BBA materials. Mr. Copenhaver responded no, there are no materials available to his knowledge. President Amato thanked Mr. Copenhaver for his efforts.

Presentation: DCED 2022 Annual Audit Report(s)

Manager Hart introduced Chris Herr from Maillie, LLP, who then began to present an executive summary and overview of the 2022 DCED Audit reports and financials. Member Collins asked if the adverse opinions were common across most Boroughs. Mr. Herr responded that this has been consistent across municipalities. Member Collins asked if the Police Pension Fund shortfall would be expected to be repeated in 2023. Manager Hart responded that it would depend on the actuarial study. Mr. Herr gave more details as to the schedule of the study and when it is to be completed. Manager Hart thanked Mr. Herr for his presentation.

Swearing-In: North Penn Volunteer Fire Company Fire Police Officer Ross & Officer Heiser

Mayor McDevitt swore in Officer Ross and Officer Heiser. Manager Hart thanked the officers and their guests for coming. President Amato also thanked the officers for their service.

Consideration: Appointment of William Kaelin as Emergency Management Coordinator

Manager Hart explained that these appointments are official housekeeping items required for the Emergency Preparedness Plan and thanked Mr. Kaelin and Mr. Holt for their work and dedication to the community. Mr. Kaelin will be providing an up-to-date plan within the next few weeks to be presented to the Council.

Member Neiderhiser made a motion to appoint William Kaelin as Emergency Management Coordinator. Member McClure seconded the motion. Motion passed 9 yes, 0 no.

Consideration: Appointment of Donald Holt, Jr. as Deputy Emergency Management Coordinator

Member McClure made a motion to appoint Donald Holt, Jr. as Deputy Emergency Management Coordinator. Member Whelan seconded the motion. Motion passed 9 yes, 0 no.

Consideration: Resignation of Collette D'Angelo, Human Relations Commission

Council thanked Ms. D'Angelo for her service to the Borough. Manager Hart commented that Ms. D'Angelo was one of the initial members of the Human Relations Commission and appreciated the time she served.

Member Fazio made a motion to accept Collette D'Angelo's resignation from the Human Relations Commission. Member Whelan seconded the motion. Motion passed 9 yes, 0 no.

Consideration: Approval of Inter-Governmental Agreement with Upper and Lower Gwynedd Townships for UCC Board of Appeals

Manager Hart explained the need for the UCC Board of Appeals IGA and explained the process of how and when the UCC Appeals Board convenes.

Member McClure made a motion to approve the Inter-Governmental Agreement with Upper and Lower Gwynedd Townships. Member Whelan seconded the motion. Motion passed 9 yes, 0 no.

Consideration: Approval of Minutes: April 11, 2023

Changes were requested to correct spelling of 'Manager' and to change the theater name to "Montgomery Theater". Member Whelan and Member Kohler approved the changes.

Member Whelan made a motion to approve the minutes of April 11, 2023. Member Kohler seconded the motion. Motion passed 9 yes, 0 no.

Consideration: Approval of Disbursements: $70,492.18

Manager Hart reviewed the bills on the disbursement list for April 2023.

Member McClure made a motion to approve payment of the bills in the amount of $70,492.18. Member Neiderhiser seconded the motion. Motion passed 9 yes, 0 no.

Consideration: Approval of Certificate of Appropriateness: 200 W. Walnut Street

Member McClure made a motion to approve the Certificate of Appropriateness as presented for 200 W. Walnut Street. Member Whelan seconded the motion. Motion passed 9 yes, 0 no.

Old Business / Committee & Board Reports / Zoning Applications

Manager Hart commented about the proposed Zoning Ordinance and Zoning Map Amendments, she reminded everyone that the Planning Commission will be having a public presentation on May 3rd at 7pm. Council will be asked to vote on these proposed changes and the public input will be discussed. Council is expecting to review the recommended amendments and vote on them in the mid to latter part of the Summer. Member Tarlecki encouraged Council members to attend the meeting. Member Whelan asked if the meeting could be broadcast or virtual. Manager Hart said she would investigate the logistics. Manager Hart commented that every document related to the upcoming presentation is located on the website for review.

Gregory D'Angelo, 915 East Montgomery, reported the importance of all Council members to be present at the meeting for the updates pertaining to the Zoning Ordinance and Zoning Map Amendments.

Manager Hart reported there are no Zoning Applications.

Member Fazio asked if the Human Relations had enough people on the Commission. Manager Hart commented that only two members remain, but she is hopeful the vacancies will be filled sooner than later.

Solicitor / Mayor / Council / Chief / Public Works / Manager

Solicitor Gifford announced that there will be no executive session this evening.

Mayor McDevitt reported he was excited to hear about the BBA restarting and the efforts Justin has made. Mayor McDevitt reported he met with Maura, the head of Feline Frenzy Adoption and was able to learn more about her efforts. He also thanked all the staff, volunteers, vendors, and participants who participated in the Earth Day Extravaganza. Mayor McDevitt reported he is looking forward to the Taste of Montgomery County Fundraiser to support the North Wales Area Library. Lastly, the Mayor announced that he has raised $235.00 for the Fire Company, and he is hoping to raise more towards his 50th Birthday Fundraiser.

Member Whelan congratulated and thanked Officer Ross and Officer Heiser for their service. Member Whelan also thanked William Kaelin for keeping our Community safe. Member

Whelan thanked Manager Hart for all the work she has been doing and for the Earth Day Extravaganza.

Member Kohler stated she is excited for the BBA and the benefits it will bring to the community.

Member Neiderhiser stated that she attended the Recycling event on Earth Day and appreciated all the work done for a successful event.

Member Fazio stated she is excited for the BBA and thanked Justin for his work. Member Fazio reported that she took a tour of the Water Treatment Facility and recommended the experience. Member Fazio also attended the Earth Day Event and thanked Manager Hart for putting together a successful and well-organized event.

Member McClure reported that the North Wales Cultural Center had a good turnout for the recent concert of the Tookany Creek Bluegrass Band and recommended Council attend future concerts.

President Amato agreed with Member Fazio regarding the Water Treatment Tour and all the other comments from Council Members relating to events, staff , and community participation.

Chief Erenius had no comments.

Manager Hart commented that the Tookany Creek Bluegrass Band was a great event. She also appreciates Justin's work on the BBA. She also announced the following events: Taste of Montgomery County on Thursday, April 27, and Acclaimed Pianist Alexei Tartakovsky's concert at the North Wales Arts and Cultural Center on Sunday, May 21, and Community Day on Saturday, September 30. She mentioned that at the upcoming meeting in May, she would be requesting Council to approve generous donations from community members towards Fireworks for the Summer Kick-Off on Saturday, June 3rd.

Member Neiderhiser made a motion to adjourn. Member McClure seconded the motion. Motion passed 9 yes, 0 no. Meeting adjourned at 8:02 P.M.

Attest: _____
Christine A. Hart
Borough Manager

North Wales Borough Pollutant Reduction Plan (PRP) / Total Maximum Daily Load (TMDL) Plan

North Wales, Pennsylvania

April 21, 2023

Prepared for:

North Wales Borough
300 School Street
North Wales, PA 19454

Prepared by:

LandStudies, Inc.
315 North Street
Lititz, PA 17543
717-627-4440
landstudies.com

Table of Contents

Appendices

1 Introduction

Purpose

North Wales Borough has developed a combined Pollutant Reduction Plan (PRP) and Total Maximum Daily Load (TMDL) Plan as a requirement of Permit PAI#130074 for their municipal separate storm sewer system (MS4). The PRP outlines the actions the Borough will take to address pollutant loads to waterbodies within the MS4 that drain to the Impaired waters of the Wissahickon Creek within the MS4. They also must submit a Total Maximum Daily Load (TMDL) Plan to address the existing siltation TMDL for the Wissahickon Creek Watershed.

This PRP / TMDL Plan includes public participation documentation, mapping of MS4 infrastructure, existing pollutant load calculations, proposed best management practices (BMPs) selection, identification of potential funding sources and partners, and operations and maintenance (O&M) activities for North Wales Borough to address PRP and TMDL requirements.

2 Public Participation

Public participation is an essential part of the PRP because it enhances buy-in from landowners that may have an impact on pollutant discharges, can uncover missing elements or errors in calculations, and builds cooperative partnerships among the municipality and other entities.

- Advertising of the PRP –The availability of the original draft PRP / TMDL Plan was released via public notice on March 16, 2023 in The Reporter and The Reporter Digital in Montgomery County. A copy of the public notice is included in Appendix A as an item in A-1.

- Public Comments Received - The public was given 30 days to provide commentary on the contents of the PRP / TMDL. No written comments were received during the public comment period. At the April 11, 2023 North Wales Borough Council public meeting, there was a presentation on the PRP / TMDL Plan and there was an opportunity for public feedback on the plan. During the public meeting, general questions were asked regarding the tracking of BMPs and location of proposed BMPs. There were no concerns noted regarding the PRP / TMDL Plan at the public meeting. Meeting minutes excerpts for the PRP / TMDL Plan Presentation portion of the April 11, 2023 public meeting are included in Appendix A Item A-2.

3 Map

Figure 1 below identifies the Upper Wissahickon Creek HUC12 Subwatershed within the Wissahickon Creek HUC10 Watershed. North Wales Borough lies completely within the

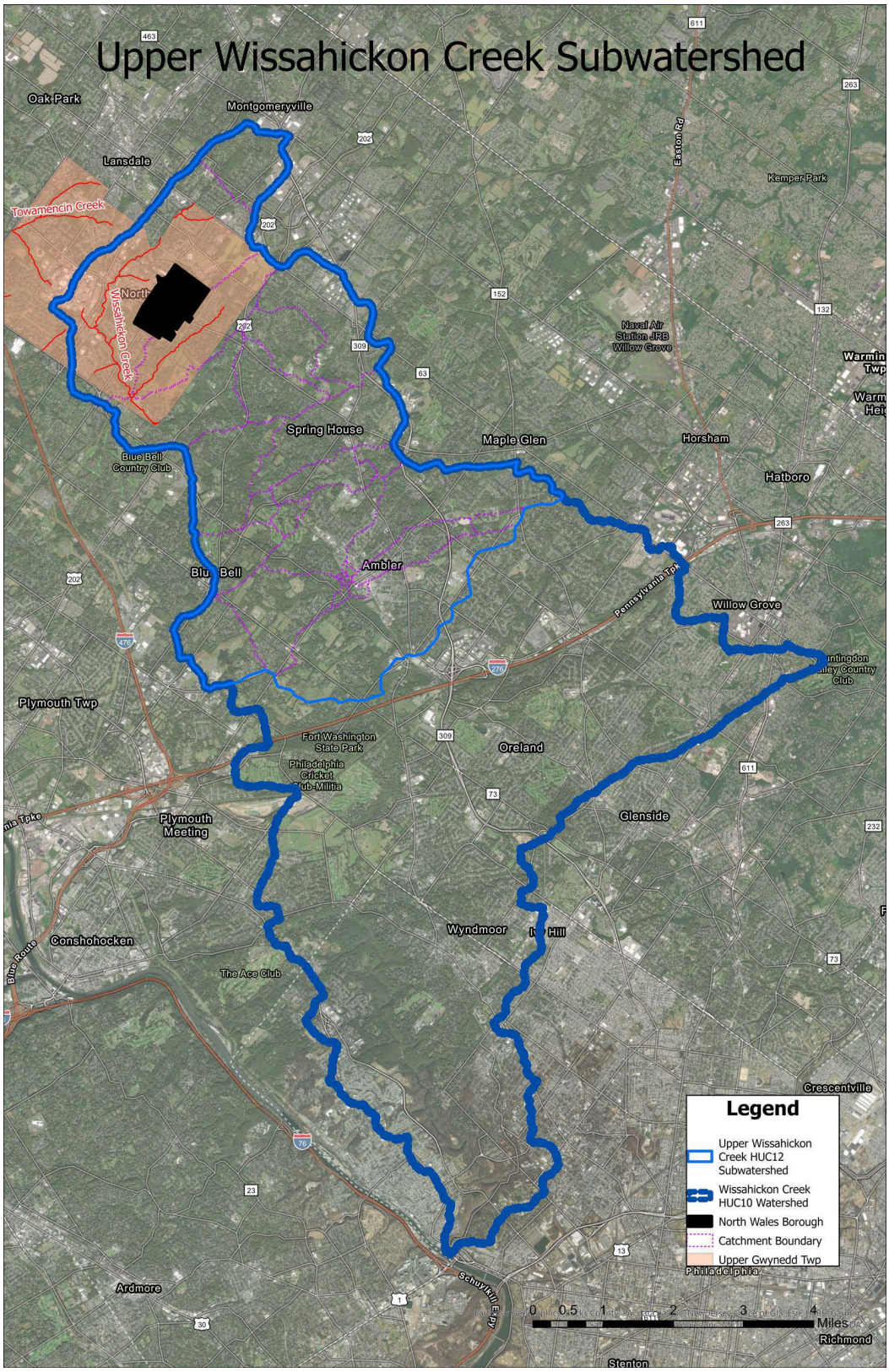
Upper Wissahickon Creek HUC12 Subwatershed. Map B1 in Appendix B identifies the Planning Areas of Dodsworth Run, UNT Wissahickon Creek East, and UNT Wissahickon Creek West. It also includes existing stormwater infrastructure and existing structural best management practices (BMPs) that were included in the calculation of the existing pollutant loads, and the proposed location(s) of structural BMPs that will be implemented to achieve the required pollutant load reductions for the PRP / TMDL during the current permit cycle. Map B2 in Appendix B identifies the land use types throughout the Borough along with the MS4 infrastructure, and the storm sewershed boundaries and parsed areas.

North Wales Borough lies entirely within the Upper Wissahickon Creek HUC12 Subwatershed and therefore, there is no need to divide the existing load into separate subwatersheds. The Borough's MS4 drainage does drain to three separate tributaries to the Wissahickon Creek: 1) Unnamed Tributary to Wissahickon Creek (COMID 25979386), locally known as Dodsworth Run, that receives drainage from the northwest region of the Borough; 2) Unnamed Tributary to Wissahickon Creek (COMID 25979074) that receives drainage from the southwest region of the Borough; and 3) Unnamed Tributary to Wissahickon Creek (COMID 25979090) that receives drainage from the eastern portion of the Borough. Thus, the of Dodsworth Run, UNT Wissahickon Creek East, and UNT Wissahickon Creek West Planning Areas were developed to define drainages within the municipality. As described further below, the proposed BMPs within these different drainage areas will all be used towards the PRP / TMDL reduction goals for the Wissahickon Creek.

All 376.6 acres of North Wales Borough lies within the Urban Area (UA) based on the 2010 U.S. Census Data. Based on the National Land Cover Database (NLCD) 2011 data, the Borough consists of 146.1 acres of low intensity development, 128.0 acres of developed open space, 67.8 acres of medium intensity development, 21.3 acres of high intensity development, 11.6 acres of deciduous forest, and 1.5 acres of mixed forest.

There are four areas within the Borough that were parsed out of the baseline load for the Borough as shown in Map B1: Parsed Area A, Parsed Area B, Parsed Area C, and Parsed Area D. In total, these parsed areas covered 19.27 acres of land. Parsed Area A was removed from the Borough's loading calculations because it is a Pennsylvania Department of Transportation (PENNDOT) roadway. Parsed Areas B – D were removed from the Borough's existing loading calculations because these areas do not receive any MS4 drainage and drain as sheet flow from private properties onto Upper Gwynedd Township land. Parsed Areas B – D do not connect with MS4 infrastructure in Upper Gwynedd Township.

Figure 1. Upper Wissahickon Creek Wissahickon Subwatershed Map



4 Pollutants of Concern

Because North Wales Borough discharges stormwater to a local impaired water, the Borough must reduce pollutant loads associated with those impairments. As shown in Figure 1, all streams within the municipalities are impaired or directly upstream of impaired waters. Therefore, it must reduce pollutant loads associated with those impairments and prepare an impaired waters PRP in accordance with Appendix E in the Individual Permit. As North Wales Borough is located within the Wissahickon Creek watershed, the Borough must also prepare a TMDL Plan to address the TMDL Wasteload Allocations (WLAs) for sediment.

North Wales Borough will select BMPs to reduce the sediment pollutant load by 10 percent, which is assumed to then reduce the TN and TP by 3 percent and 5 percent respectively according to the Pennsylvania Department of Environmental Protection (DEP) "presumptive approach" from the PRP Instructions - 3800-PM-BCW0100k (DEP,2017).

Table 1 shows each of the impaired downstream waters, TMDL information, and the pollutant(s) that are of concern to that area as shown on the DEP MS4 requirements table revised 11/18/2019 (DEP, 2019). All the planning areas within North Wales Borough are subject to the same TMDL and Appendix E requirements specified in Table 1.

In accordance with DEP's PRP Instructions document, this report is required specifically for stormwater discharges of nutrients and sediment to surface waters for the impaired waters (Appendix E) and the TMDL. Separate from the PRP / TMDL, Pollutant Control Measures (PCMs) described in DEP's Individual Permit (3800-PMBCW0200e) are to be implemented for Appendix A, B, and/or C pollutants of concern identified in the MS4 Requirements Table.

Table 1. Impaired Downstream Waters and Requirements

Impaired Downstream Waters / TMDL Plan Name	Requirements
Wissahickon TMDL	TMDL Plan – Siltation, Suspended Solids (4a)
Wissahickon Creek	Appendix B – Pathogens (5), Appendix E – Nutrients (4a)

5 Existing Load for Pollutants of Concern

Per discussions with DEP's Southeast Regional Office, it was determined that a combined PRP / TMDL Plan should be prepared to address the Borough's sediment TMDL requirements and the Appendix E nutrient reduction requirements. The existing load for North Wales Borough was calculated based off the total baseline load for sediment for North Wales Borough as identified in the EPA's TMDL Plan. As noted above, North Wales Borough lies entirely within the Upper Wissahickon Creek HUC12 watershed, therefore, there was no

need to breakout existing load for multiple subwatersheds. Detailed descriptions of how the existing loads were calculated are provided below and in Appendix C.

Wissahickon Creek TMDL

To address sediment and nutrient impairments within the Wissahickon Creek, the EPA developed a TMDL Plan for Wissahickon Creek in 2003 that identified Existing Load and Waste Load Allocations (WLA) for each municipality within the watershed (EPA, 2003). An ArcView Version Generalized Watershed Loading Function (AVGWLF) modeling program was utilized to calculate sediment loads. The Streambank Erosion and Overland Load were calculated to determine a Total Existing Load and WLA in pounds per year as shown in the Figure 2 screenshot of Table 4-12 from the EPA's TMDL Plan:

Figure 2. Table 4-12 Existing Load and Wasteload Allocations from the EPA TMDL Plan

Municipality	Existing Load from Streambank Erosion (lbs/yr)	Streambank Erosion WLA (lbs/yr)	Percent Reduction for Streambank Erosion	Existing Overland Load (lbs/yr)	Overland Load WLA (lbs/yr)	Percent Reduction for Overland Load (lbs/yr)	TOTAL WLA (lbs/yr)
Ambler	17,974.49	9,346.73	0.48	75,008.50	32,843.24	0.56	42,189.97
Cheltenham	1,758.29	1,512.13	0.14	20,549.46	4,449.00	0.78	5,961.13
Horsham	2,611.24	1,267.20	0.51	5,764.44	2,288.51	0.60	3,555.71
Lansdale	10,032.37	5,216.83	0.48	60,295.96	47,115.59	0.22	52,332.43
Lower	168,245.82	87,487.83	0.48	575,510.64	349,872.50	0.39	437,360.30
Montgomery	25,443.78	13,230.77	0.48	135,550.26	97,897.57	0.28	111,128.30
North Wales	8,414.77	4,375.68	0.48	50,070.60	37,955.87	0.24	42,331.55
Philadelphia	133,827.01	115,091.23	0.14	1,413,863.47	265,770.10	0.81	380,861.30
Springfield	51,241.03	38,361.29	0.25	700,517.47	151,803.80	0.78	190,165.00
Upper Dublin	350,903.91	131,125.58	0.63	906,098.66	333,482.10	0.63	464,607.60
Upper	73,016.96	37,968.82	0.48	695,874.85	512,615.60	0.26	550,584.30
Upper	1,108.17	366.85	0.67	1,303.29	494.72	0.62	861.57
Whitemarsh	79,221.96	51,034.76	0.36	479,266.95	188,497.70	0.61	239,532.40
Whitpain	105,137.80	55,148.05	0.48	357,776.46	236,125.20	0.34	291,273.30
Worcester	1,423.06	739.99	0.48	10,644.84	9,610.08	0.10	10,350.07

5.1.1 Short-term and Long-term TMDL Requirements

North Wales Borough must reduce the Total Existing Load by 10% to satisfy the short-term TMDL requirement. The Needed Wasteload Reduction (Total Existing Load minus Total WLA) for North Wales Borough is the amount of reduction needed to satisfy the long-term TMDL requirement.

Per the numbers shown in Figure 2 above, the Total Existing Load for North Wales Borough is:

8,414.77 lbs./yr (Streambank Erosion Load)
+ 50,070.60lbs./yr (Overland Load)
= 58,485.37 lbs./yr (Total Existing Load)

For North Wales Borough, the Needed Wasteload Reduction is shown in the calculation below:

58,485.37 lbs./yr (Total Existing Load)
- 42,331.55 lbs./yr (Total WLA)
= 16,153.82 lbs./yr (Needed Wasteload Reduction).

Load reductions from parsing and existing stormwater BMPs can be subtracted from the Total Existing Load and Needed Wasteload Reduction to determine the sediment reduction needed to satisfy the short-term and long-term TMDL requirements, respectively.

Load reductions from parsing and existing stormwater BMPs were determined based on the Unit Area Loading Rates per land use type as shown in Figure 3 below from Table 4-6 from the EPA's TMDL Plan:

Figure 3. Unit Area Loading Rates for Sediment by Land Use from the EPA TMDL Plan

Table 4-6. Unit area loading rates for sediment by landuse

	Unit Area Loading Rate (lbs/acre/yr)				
	Subwatershed 1	Subwatershed 2	Subwatershed 3	Subwatershed 4	Subwatershed 5
Low-Intensity Residential	124.12	73.20	43.32	42.72	46.22
High-Intensity Residential/Urban	105.12	54.56	21.94	21.47	23.69
Hay/Pasture	51.60	48.02	76.84	42.54	108.17
Row Crops	464.28	301.79	153.30	137.20	256.82
Coniferous Forest	3.13	2.74	4.94	5.74	8.82
Mixed Forest	3.99	3.93	5.67	4.81	9.43
Deiduous Forest	5.43	4.58	7.00	8.69	32.00
Quarry	0.00	0.00	0.00	619.45	0.00
Coal Mines	0.00	0.00	0.00	352.72	0.00
Transitional	0.00	0.00	405.13	356.93	439.68

North Wales Borough is located in Subwatershed 1. This plan will use the Subwatershed 1 loading rates to calculate reductions from parsing, existing stormwater BMPs, and proposed BMPs. Acreage per land use type for each parsed area was analyzed in GIS based on NLCD

land use type data from Map B2 in conjunction with a review of aerial imagery. The NLCD land use types differ from the land use types shown in Figure 3 above. Thus, an "equivalent" land use type from the TMDL Plan was chosen to determine unit area loading. Table 2 below shows the NLCD Land Use Types and Equivalent Land Use Types from the TMDL Plan along with the unit area loading rates used to calculate load reductions from parsing and BMPs:

Table 2. Land Use Equivalents

NLCD Land Use Types for North Wales Borough:	Equivalent Land Use Type from TMDL Plan:	Unit Area Loading Rate Used for Parsing and BMP Calculations (lbs/acre/yr):
Developed, Open Space	Low-Intensity Residential	124.12
Developed, Low Intensity	Low-Intensity Residential	124.12
Developed, Medium Intensity	High-Intensity Residential	105.12
Developed, High Intensity	High-Intensity Residential	105.12
Mixed Forest	Mixed Forest	3.99
Deciduous Forest	Deciduous Forest	5.43

The parsing of Parsed Areas A – D per the descriptions in Section 3 above and as shown on Map B1 resulted in 2,073.56 lbs. of reduction that can be subtracted from the Total Existing Load and Needed Wasteload Reduction. Details on the land use loading rates per land use type for the parsed areas are provided in Appendix C.

There are seven existing stormwater BMPs being maintained within the Borough as shown on Map B1 and listed in Table 3 below. Using the same unit area loading rates from the Table 2 above, load reduction calculations from the following existing BMPs were subtracted from the Total Existing Load and Needed Wasteload Reduction:

Table 3. North Wales Borough Existing BMPs and Sediment Reductions

North Wales Borough Existing BMPs	Sediment Reduction (lbs./yr)
#1 - North Wales Station - 1 Underground Infiltration Basin, 1 Bio-infiltration Basin, 3 Bioretention Basins	106.55
#2 - Shearer Street Retention Basin	21.17
#3 - North Wales Library - 2 Underground Infiltration Basins	27.05
#4 - Hess Park Rain Garden	77.80
#5 - 715 E. Walnut Street - 2 Underground Infiltration Basins	41.52
#6 - North Wales Elementary School - 3 Underground Infiltration Basins	178.24
#7 - Center Street Detention Basin - Retrofit	1,153.39
Total Sediment Reduction from Existing BMPs:	**1,605.73**

Detailed descriptions of the existing BMPs, including latitude and longitude coordinates, permit number (if applicable), date of installation, operations and maintenance (O&M) activities and frequencies, and statement of functionality for these existing BMPs are provided in Appendix C. The load reduction calculations from these BMPs are also provided in Appendix C.

In accordance with DEP's TMDL Plan instructions, a minimum 10% reduction from this remaining Total Existing Load must be met during the current MS4 permit cycle. Therefore, North Wales Borough's short-term reduction goal for the current permit cycle is provided in Table 4 below:

Table 4. North Wales Borough TMDL Short-Term Sediment Reduction Requirements

Sediment Load and Reductions:	**lbs./ yr.**
TMDL Existing Load for North Wales Borough:	58,485.37
Minus Loading from Parsed Area (Using TMDL Loading Rates):	*2,073.56*
Minus Existing BMP Pollutant Load Reduction:	*1,605.73*
Short Term Reduction for TMDL (10%):	**5,480.61**

Based on the presumptive approach, it is assumed that once the Borough meets this 10% reduction requirement for the sediment TMDL, the Borough will then also achieve the Appendix E nutrient reductions for the impaired waters of the Wissahickon Creek.

A summary of the North Wales Borough TMDL Long-Term Sediment Reduction Requirements is provided in Table 5 below:

Table 5. North Wales Borough TMDL Long-Term Sediment Reduction Requirements

Sediment Load and Reductions:	**lbs./ yr.**
TMDL Baseline Load for North Wales Borough:	58,485.37
Total WLA:	42,331.55
Needed Wasteload Reduction:	16,153.82
Minus Loading from Parsed Area (Using TMDL Loading Rates):	*2,073.56*
Minus Existing BMP Pollutant Load Reduction:	*1,605.73*
Long Term Reduction Goal for TMDL:	**12,474.53**

In accordance with DEP's PRP and TMDL requirements, North Wales Borough will focus on the short-term 10% reduction goal of 5,480.61 lbs./yr of sediment during the 5-year permit cycle following DEP's approval of coverage.

6 BMPs Selected to Achieve the Minimum Required Reductions in Pollutant Loading

Background Information and Rationale

Based on the 10% sediment reduction targets established above, North Wales Borough has identified a strategy to meet the minimum load reductions within 5 years following DEP's approval of permit coverage. The nutrient reduction requirements for the impaired waters are assumed to be addressed by the 10 percent sediment reductions.

Summary of Alternatives and Selection of BMPs

North Wales Borough evaluated and ranked each of the BMP alternatives listed in the tables below using the following criteria:

- Sediment reductions
- Cost per pound of pollutant reduction
- Ownership (public versus private land)
- Funding and Workforce availability
- Community benefit (site accessibility, visibility to the public, ability of public to experience benefits)
- Connectivity to other completed or proposed stormwater BMPs
- Timeframe to implement

The purpose of the evaluation was to determine the BMPs that would reduce the most pollutants for the least amount of money while getting closer to the goal of removing streams from the impaired waters list and meeting the long-term TMDL Reduction Goal. The highest priority BMPs evaluated by North Wales Borough are summarized in Table 6 as potential BMPs that could be implemented to satisfy the load reduction requirements. North Wales Borough is not committing to implementing all of the projects listed in this report as that would exceed their required deduction. The final selection of BMPs to be implemented will be based on detailed design criteria and cost.

To meet the pollutant load reduction requirements for the Wissahickon Creek TMDL and impaired waters reductions, North Wales Borough proposes the implementation of select BMPs from the following list of BMPs summarized in Table 6:

Table 6. Summary of Proposed BMPs for North Wales Borough

North Wales Proposed BMPs	Sediment Reduction (lbs./yr.)
#1 - Street Sweeping	519.68
#2 - Inlet Cleaning	445.71
#3 - 9th Street Park Stream Restoration	6,732.00
#4 - 9th Street Park Pervious Paving	13.64
#5 - 9th Street Park Bioretention Area / Wet Meadow	22.85
#6 - 9th Street Park to 10th Street Stream Restoration	10,546.80
#7 - 10th Street Stream Restoration (Only 1 side of stream)	3,366.00
#8 - NWB Treatment Plant Stream Restoration[1]	89,760.00
#9 - Montgomery Avenue Stream Restoration	6,732.00
#10 - 8th Street and Montgomery Avenue Stream Restoration	16,605.60
#11A/11B - S. Center Street / W. Walnut Street Rain Garden and Underground Detention Basin	133.39
#12 - OP08 Regenerative Stormwater Conveyance	515.80
#13 - OP09 Regenerative Stormwater Conveyance[1]	734.16
#14 - Beaver Steet Stream Restoration[1]	13,464.00
Total Proposed BMP Reductions for North Wales Borough	134,744.27
Long term Reduction Requirements for North Wales Borough	12,474.53
Short term Reduction Requirements for North Wales Borough (10% reduction for current permit cycle)	**5,480.61**

[1]Proposed BMP located within the Wissahickon Creek Watershed, but outside of North Wales Borough.

An Agreement with Upper Gwynedd Township will be prepared if this BMP is selected for implementation.
NOTE: The above reductions are based on preliminary design estimates only. Load reduction calculations will be updated during the detailed design phase for the BMPs selected for implementation.

The above reductions are based on preliminary design estimates only. Load reduction calculations will be updated during the detailed design phase for those proposed BMPs selected for implementation. Details on the load reduction calculations for these proposed BMPs are included in Appendix D.

Aside from BMPs #1 and #2 in the table above, the locations of these proposed BMPs are shown on Map B1. The proposed street sweeping and inlet cleaning will be Borough-wide and therefore, the locations of these BMPs are not specifically called out on Map B1.

The Borough plans to implement the selected BMPs (including design, permitting, and construction, as needed) to achieve the 10% reduction requirements within the 5-year permit cycle following DEP's approval of permit coverage. Within the five-year window, specific implementation schedules will be refined as BMPs are selected for implementation. Updates to the Borough's proposed BMP implementation schedule will be provided as part of the Borough's MS4 Annual Report.

BMP Sediment Reduction Calculations

Sediment loading rates were extracted from the TMDL loading rates per land use area as shown in Table 2 above in order to calculate BMP reductions per the methodologies referenced below. Detailed BMP sediment reduction calculations are provided in Appendix D.

Load reductions for street sweeping and inlet cleaning were calculated in accordance with DEP's Effectiveness Values Table, DEP's PRP Instructions, and Recommendations of the Expert Panel to Define Removal Rates from Street and Storm Drain Cleaning Practices (Schueler, et. Al., 2016).

Sediment reductions resulting from proposed urban stormwater BMPs were calculated using DEP's BMP Effectiveness Values Table (3800-PM-BCW0100m) (DEP, 2016).

Sediment reductions resulting for the proposed regenerative stormwater conveyance BMPs were calculated using DEP's MS4 Stream Restoration Crediting Review Checklist – Expert Panel Protocols Appendix D and the Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects (DEP, no date; Schueler, et. Al., 2015).

Reductions resulting from stream restoration projects used the DEP specified rate of 44.88 lbs. /LF of sediment reduction. Until further evaluation of stream restoration reaches is complete, this report assumes that both sides of the stream will be stabilized aside from BMP #7 as noted below. All proposed streambank projects will be submitted to DEP for review as designs move from conceptual to final. North Wales Borough recognizes that streambank restoration is required to achieve sediment reduction and credit under the permit requirements, however restoration designs will need to consider existing utilities and infrastructure in this highly urbanized area.

All BMP information provided in Appendix D is based on preliminary concept design. Implementation of projects will require a more detailed analysis of sites including topography, soils, and underground infrastructure as well as a more detailed analysis of costs estimates.

Preliminary Details on Proposed BMPs

BMP #1: Street Sweeping

The Borough currently conducts street sweeping periodically. The Public Works Director proposes increasing street sweeping to a minimum of 25 times per year. It is assumed that street sweeping would occur on 54.9 acres of North Wales roads 25 times per year. It is anticipated that this will be one of the Borough's preferred BMPs for implementation. It is anticipated that this BMP will be implemented immediately and will be an on-going activity for the Borough throughout the five-year permit cycle. Calculation details are included in Appendix D.

It is anticipated that the Borough will use ticketed dry weights of street sweeping material collected to calculate sediment reductions once the street sweeping program is implemented. Sediment load reductions from the ticked dry weights will be calculated with the appropriate multipliers as described in DEP's PRP Instructions, DEP's Effectiveness Values Table, and the Expert Panel Protocol.

BMP #2: Inlet Cleaning

The Borough currently does occasional inlet cleaning. The Borough anticipates that inlet cleaning will occur quarterly on 25 inlets with an average wet weight of 35 pounds per inlet per cleanout. Inlet locations for this BMP are to be determined based on loading to the individual inlet. It is anticipated that this will be one of the Borough's preferred BMPs for implementation. It is anticipated that this BMP will be implemented immediately and will be an on-going activity for the Borough throughout the five-year permit cycle. Calculation details based on the BMP Effectiveness Values (3800-PM-BCW0100m) and the Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices are included in Appendix D.

BMP #3: 9th Street Park Stream Restoration

The 9th Street Park Stream Restoration is proposed along approximately 150 linear feet (LF) of Dodsworth Run on North Wales Borough Property. Both streambanks will be restored. The actively eroding streambanks are vertical and 2-3 feet high. The restoration project will include the creation of low floodplain benches and gentle grading of stream side slopes established with native riparian buffer vegetation. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines (DEP, 2018). According to the DEP PRP Instructions a 44.88 lbs. /LF of sediment load reduction can be applied to this project. It is anticipated that this will be one of the Borough's preferred BMPs for implementation. Calculation details are included in Appendix D.

BMP #4: 9th Street Park Pervious Paving

North Wales Borough intends to construct a new pervious paving pathway through the park with grant funding. It is anticipated that this will be one of the Borough's preferred BMPs for implementation. Calculations details based on DEP's BMP Effectiveness Values Table are included in Appendix D.

BMP #5: 9th Street Park Bioretention Area / Wet Meadow

The Borough proposes to install a new approximately 0.10-acre bioretention / wet meadow area adjacent to the proposed pervious paving within the park. This BMP will serve as a Stormwater Treatment practice and will also serve as a beautification area in the park. Load reductions for this BMP were calculated based on procedures from DEP's BMP Effectiveness Values Table. This is anticipated to be a back-up BMP for implementation during this current permit cycle. Calculation details are included in Appendix D.

BMP #6: 9th Street Park to 10th Street Stream Restoration

The 9th Street Park to 10th Street Stream Restoration is proposed along approximately 235 linear feet (LF) of Dodsworth Run. This would be an extension of the stream restoration per BMP #3. The majority of this restoration is located on private property. Both streambanks will be restored. The actively eroding streambanks are vertical and 2-3 feet high. The restoration project will include the creation of low floodplain benches and gentle grading of stream side slopes established with native riparian buffer vegetation. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines. According to the DEP PRP Instructions a 44.88 lbs. /LF of sediment load reduction can be applied to this project. Given that this reach will require coordination and establishment of agreements with multiple landowners, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

BMP #7: 10th Street Stream Restoration (Only 1 side of stream)

The 10th Street Stream Restoration is proposed along approximately 150 linear feet (LF) of Dodsworth Run. This would be an extension of the stream restoration per BMP #6. The right side of the stream in this area is a stable floodplain bench grass area, but the left bank has high vertical banks that are actively eroding. The proposed restoration is located on private property. The restoration project will include the creation of low floodplain bench and gentle grading of stream side slope\ established with native riparian buffer vegetation on the one side. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines. As this restoration will only occur on one side, a 22.44 lbs. /LF of sediment load reduction will be applied to this project. This is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

BMP #8: North Wales Borough Treatment Plant Stream Restoration

The North Wales Borough Treatment Plant Stream Restoration is proposed along approximately 2,000 linear feet (LF) of an Unnamed Tributary to Wissahickon Creek. Both streambanks will be restored. The actively eroding streambanks are vertical and 4-5 feet high. The restoration project will include the creation of low floodplain benches and gentle grading of stream side slopes established with native riparian buffer vegetation. The majority of the proposed restoration is located on Borough-owned property within Upper Gwynedd

Township, but it is along a reach of stream that does receive drainage from the Borough's MS4. As the restoration is located outside of the Borough, an inter-municipal agreement would need to be developed with Upper Gwynedd Township. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines. According to the DEP PRP Instructions a 44.88 lbs. /LF of sediment load reduction can be applied to this project. Given that this reach has numerous infrastructure constraints and will require establishment of an intermunicipal agreement, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

NOTE: This proposed BMP is located within the Wissahickon Creek Watershed, but outside of North Wales Borough. An Inter-municipal Agreement with Upper Gwynedd Township will be prepared if this BMP is selected for implementation.

BMP #9: Montgomery Avenue Stream Restoration

The Montgomery Avenue Stream Restoration is proposed along approximately 150 linear feet (LF) of Dodsworth Run. This restoration is located on private property. Both streambanks will be restored. The actively eroding streambanks are vertical and 2+ feet high. The restoration project will include the creation of low floodplain benches and gentle grading of stream side slopes established with native riparian buffer vegetation. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines. According to the DEP PRP Instructions a 44.88 lbs. /LF of sediment load reduction can be applied to this project. Given that this reach will require coordination and establishment of agreements with multiple landowners, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

BMP #10: 8th Street and Montgomery Avenue Stream Restoration

The 8th Street and Montgomery Avenue Stream Restoration is proposed along approximately 370 linear feet (LF) of Dodsworth Run. This restoration is located on private property. Both streambanks will be restored. The actively eroding streambanks are vertical and 2+ feet high. The restoration project will include the creation of low floodplain benches and gentle grading of stream side slopes established with native riparian buffer vegetation. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines. According to the DEP PRP Instructions a 44.88 lbs. /LF of sediment load reduction can be applied to this project. Given that this reach will require coordination and establishment of agreements with multiple landowners, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

BMP #11A/11B: S. Center Street / W. Walnut Street Rain Garden and Underground Detention Basin

North Wales Borough is collaborating with a private company regarding proposed improvements to an existing parking lot and warehouse area. The Borough is recommending the installation of a new underground detention basin to capture runoff from a large parking lot area. This area also receives runoff from the roadways, so, the Borough is also proposing the installation of a new rain garden adjacent to the parking lot with the underground detention basin. Load reductions calculated towards the PRP / TMDL would be above and beyond any development related requirements. Preliminary design characteristics and load reductions for these BMPs were calculated based on procedures from DEP's BMP Effectiveness Values Table. Calculation details are included in Appendix D.

BMP #12 - OP08 Regenerative Stormwater Conveyance

There is an eroded channel on the west side of Elm Street that receives drainage from Observation Point – OP08 that collects drainage from approximately 24.6 acres of the Borough's MS4. This channel conveys stormwater to a wooded area in Upper Gwynedd Township that ultimately drains to a tributary to the Wissahickon Creek during storm events. The Borough proposes stabilizing this channel by creating an approximately 350 ft x 25 ft regenerative stormwater conveyance (RSC) to reduce sediment erosion discharging from the Borough during storm events. A treatment depth of ½ foot has been determined based on the preliminary design for this RSC. This treatment depth was determined based on treatment depth of similarly design past RSC projects. In accordance with DEP's MS4 Stream Restoration Crediting Review Checklist – Expert Panel Protocols (DEP, n.d.), this BMP can be calculated as a dry channel RSC and that load reductions for this BMP should be calculated based on procedures from the Expert Panel for Stormwater Retrofits. Given that this site will require coordination and establishment of agreements with multiple landowners, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

BMP #13 - OP09 Regenerative Stormwater Conveyance

There is an eroded channel on the west side of Elm Street that receives drainage from Observation Point – OP09 that collects drainage from approximately 42.0 acres of the Borough's MS4. This channel conveys stormwater to a wooded area in Upper Gwynedd Township that ultimately drains to a tributary to the Wissahickon Creek during storm events. The Borough proposes stabilizing this channel by creating an approximately 250 ft x 25 ft regenerative stormwater conveyance (RSC) to reduce sediment erosion discharging from the Borough during storm events. A treatment depth of ½ foot has been determined based on the preliminary design for this RSC. This treatment depth was determined based on treatment depth of similarly design past RSC projects. In accordance with DEP's MS4 Stream Restoration Crediting Review Checklist – Expert Panel Protocols, this BMP can be calculated as a dry channel RSC and that load reductions for this BMP should be calculated based on procedures from the Expert Panel for Stormwater Retrofits. The majority of this stormwater BMP would be in Upper Gwynedd Township, and therefore, an intermunicipal agreement would need to be developed. Given that this site will require coordination and

establishment of agreements with multiple landowners and an intermunicipal agreement, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

NOTE: This proposed BMP is located within the Wissahickon Creek Watershed, but outside of North Wales Borough. An Inter-municipal Agreement with Upper Gwynedd Township will be prepared if this BMP is selected for implementation.

BMP #14: Beaver Street Stream Restoration

The Beaver Street Stream Restoration is proposed along approximately 300 linear feet (LF) of Dodsworth Run. This restoration is located on private property within Upper Gwynedd Township; however, it is located directly downstream from North Wales Borough, and it is a reach that receives drainage from the Borough's MS4. Both streambanks will be restored. The actively eroding streambanks are vertical and 2-3 feet high. The restoration project will include the creation of low floodplain benches and gentle grading of stream side slopes established with native riparian buffer vegetation. The proposed stream restoration would be designed in accordance with DEP's MS4 Stream Restoration Guidelines. According to the DEP PRP Instructions a 44.88 lbs. /LF of sediment load reduction can be applied to this project. Given that this reach will require coordination and establishment of agreements with multiple landowners and an inter-municipal agreement, this is anticipated to be a back-up BMP for implementation during this current permit cycle. This BMP may become a priority for implementation in a subsequent permit cycle. Calculation details are included in Appendix D.

NOTE: This proposed BMP is located within the Wissahickon Creek Watershed, but outside of North Wales Borough. An Inter-municipal Agreement with Upper Gwynedd Township will be prepared if this BMP is selected for implementation.

7 Funding Mechanism Identification

In order to install and maintain the BMPs listed in Section 6, North Wales Borough proposes the following sponsors/partners and funding sources:

Table 6. Funding Sources per Proposed BMP

BMP #	Sponsor/Partner/Funding Sources
1	North Wales Borough operational budget funds;
2	North Wales Borough operational budget funds;
3	North Wales Borough budget funds, local business tax; DCNR, DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;

4	North Wales Borough budget funds, local business tax; DCNR, DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
5	North Wales Borough budget funds, local business tax; DCNR, DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
6	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
7	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources are potential grant sources for installation;
8	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
9	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
10	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
11A, 11B	North Wales Borough budget funds, local business tax, private business funds; DEP is potential grant sources for installation;
12	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
13	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;
14	North Wales Borough budget funds, local business tax; DEP, NFWF, PECO Green Region Open Space Program are potential grant sources for installation;

8 Responsible Parties for Operation and Maintenance (O&M) of BMPs

The Operation and Maintenance (O&M) activities for each BMP are included in the table below. If the BMP is located on private land, an access easement and maintenance agreement must be established to allow access for the Borough to complete periodic inspections and maintenance, as needed. This maintenance agreement will identify the specifics of what activities will occur throughout the life of the BMP and who will be responsible for these maintenance activities. Actual O&M activities will be listed in the Annual MS4 Status Report sent to the PADEP under the General Permit. See Table 7 for additional O&M information.

Table 7. BMP O&M Activities

BMP Type	O&M Activities	Frequency for O&M Activities
Street Sweeping / Inlet Cleaning	Inspections, maintain records of dry ticketed weights in accordance with DEP and Expert Panel Guidelines.	Based on frequency of street sweeping and inlet cleaning, and in accordance with DEP and Expert Panel Guidelines.
Regenerative Stormwater Conveyance	Inspect for stability following storm events, plant survival monitoring, mowing and weeding, monitoring for scour and sediment build-up, plant replacement and additional O&M as specified in design details.	Provide biannual inspections for first three years and annual inspections thereafter. Additional inspections following large storm events; additional O&M activities will be detailed in the final design.
Underground Infiltration	Inspect inlet controls, outlet structures and storage areas for trash and sediment accumulation. Remove sediment and debris.	Inspect inlet, outlet and storage areas monthly for the first year to determine ongoing maintenance frequency.
Rain Garden	Inspection, vegetation management and invasive species control, plant replacement	Biannual inspections for first three years and annual inspections thereafter. Additional inspections following large storm events.
Bioretention / Wet Meadow	Inspection, vegetation management and invasive species control, plant replacement	Vegetation management as needed during the growing season. Biannual inspections for first three years and annual inspections thereafter. Additional inspections following large storm events.
Stream Restoration	Inspection for bank stability following storm events, plant survival monitoring, mowing and weeding to ensure plant survival, plant replacement and additional O&M as specified in design details.	Biannual inspections for first three years and annual inspections thereafter. Additional inspections following large storm events; additional O&M activities will be detailed in the final design.
Porous Paving	Inspections, vacuum sweeping	Quarterly inspections of the pervious pavement shall be conducted to verify that it is functioning as intended and no cracking is occurring. The pervious asphalt shall

		be vacuum swept at least once per year.

9 References

Integrated List Non-Attaining 2014_01. Office of Water Management, Bureau of Water Supply & Wastewater Management, Water Quality Assessment and Standards Division.

Pennsylvania Department of Environmental Protection (PADEP). 2016. PRP / TMDL Plans MS4 Workshop. Harrisburg, PA.

PADEP. 2016. National Pollutant Discharge Elimination System (NPDES) Stormwater Discharges from Small Municipal Separate Storm Sewer Systems BMP Effectiveness Values. Document No. 3800-PM-BCW0100m

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PADEP. 2018. Considerations of Stream Restoration Projects in Pennsylvania for Eligibility as an MS4 Best Management Practice.

PADEP. 2019. MS4 Requirements Table (Municipal).

PADEP. No Date. MS4 Stream Restoration Crediting Review Checklist – Expert Panel Protocols.

Schueler, T. et. Al. 2015. Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects. Chesapeake Stormwater Network.

Schueler, T. et. Al. 2016. Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices. Chesapeake Stormwater Network.

United States Environmental Protection Agency (EPA). 2003. Nutrient and Siltation TMDL Development for Wissahickon Creek, Pennsylvania – Final Report.

Appendix A

Public Participation: Item A1) Public Notice; Item A2) Meeting Minutes Excerpts for PRP / TMDL Plan Portion of the April 11, 2023 North Wales Borough Council Public Meeting

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MAR 27 2023 PM2:03

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NORTH WALES, PA 19454
Attention:

STATE OF PENNSYLVANIA,

The undersigned Shelley J. Meenan, being duly sworn the he/she is the principal clerk of The Reporter, The Reporter Digital, published in Montgomery County for the dissemination of local or transmitted news and intelligence of a general character, which are duly qualified newspapers, and the annexed hereto is a copy of certain order, notice, publication or advertisement of:

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03/16/23

Commonwealth of Pennsylvania - Notary Seal
MAUREEN SCHMID, Notary Public
Montgomery County
My Commission Expires March 31, 2025
Commission Number 1248132

Sworn to the subscribed before me this 3/16/23.

Maureen Schmid

Notary Public, State of Pennsylvania
Acting in County of Montgomery

NOTICE OF OPPORTUNITY FOR PUBLIC REVIEW AND COMMENT

PROPOSED WISSAHICKON CREEK TOTAL MAXIMUM DAILY LOAD (TMDL) PLAN /NUTRIENTS POLLUTANT REDUCTION PLAN (PRP) OF THE INDIVIDUAL PERMIT FOR STORM WATER DISCHARGES FROM THE SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

NOTICE IS HEREBY GIVEN that the Council of North Wales Borough (Borough) will receive public comment(s) on the proposed North Wales Borough Wissahickon Creek TMDL Plan / Nutrient Pollutant Reduction Plan (PRP) required by the Individual MS4 Permit. The proposed TMDL Plan / PRP includes:

(1) Identification of North Wales Borough's required reductions from the Waste Load Allocation (WLA) identified within the EPA's Wissahickon Creek TMDL;
(2) Identification and locations of structural Best Management Practices (BMPs) for implementation during the permit period to reduce loadings of nutrients and sediment as required by the Individual MS4 Permit to meet the TMDL / PRP requirements;
(2) Explanation of the methodology used to calculate existing sediment loadings and corresponding reductions from applicable watersheds with regulated MS4; and
(3) Locations of the Borough's MS4 infrastructure and local waterways with nutrients/sediment impairments.

BACKGROUND INFORMATION
The Pennsylvania Department of Environmental Protection (PADEP) adopted and issued the revised Small MS4 Individual Permit (IP). An IP is required for municipalities where a TMDL with an applicable WLA on MS4 discharges have been established. The revised MS4 Permit also includes requirements for the development and implementation of a PRP for local waterways receiving discharges from the regulated MS4 with nutrients and/or sediment impairments, and a CBPRP for municipalities located in the Chesapeake Bay drainage basin. The Borough is not located in the Chesapeake Bay drainage basin, therefore, a CBPRP is not required.

For the PRP, the Borough is required to reduce existing loadings of nutrients for locally impaired waterways from its regulated MS4 during the current 5-year MS4 Permit cycle as follows:
(1) 10% reduction in sediment, and
(2) 5% reduction in Total Phosphorus.

For the TMDL, the Borough is required to reduce existing sediment loadings to local waterways from its regulated MS4 during the current 5-year MS4 Permit cycle as follows:
(1) 10% reduction in sediment

Long-term sediment load reductions are also part of the TMDL requirements for the Borough; however, only a minimum 10% reduction is required during the current permit cycle.

The TMDL Plan / PRP can and are combined into a single document.

DOCUMENT AVAILABILITY
The proposed TMDL Plan/ PRP are available for review at the Borough office located at 300 School Street, North Wales, PA 19454 from 8:00am to 4:00pm Monday-Friday during the period of March 16 to April 17, 2023.

The proposed TMDL Plan / PRP are available to view or download at northwalesborough.org<News&Alerts.

SUBMISSION OF COMMENTS
The Borough shall accept written comments for a minimum of 30 days from the date of the first public notice. Interested parties may submit written comments electronically, by mail, or hand delivery. Written comments must be received by 12:00 noon on April 17 and addressed to:

CHRISTINE HART
BOROUGH MANAGER
NORTH WALES BOROUGH
300 SCHOOL STREET
NORTH WALES, PA 19454

Comments may be submitted electronically, in PDF text format (if less than 25 megabytes in total size), to Christine Hart via email at chart@northwalesborough. Please also indicate in the subject line, "Comments--North Wales Borough TMDL Plan / PRP."

The Borough Council will also provide an opportunity for interested parties to provide comments during the regularly scheduled meeting to be held on April 11, 2023 at 7:00pm at the North Wales Borough Administration Building, 300 School Street, North Wales, PA 19454.

CONTACT INFORMATION
Questions about this notice may be directed to Christine Hart.

LAN: Mar. 16. a-1

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NOTICE OF OPPORTUNITY FOR PUBLIC REVIEW AND COMMENT

PROPOSED WISSAHICKON CREEK TOTAL MAXIMUM DAILY LOAD (TMDL) PLAN /NUTRIENTS POLLUTANT REDUCTION PLAN (PRP) OF THE INDIVIDUAL PERMIT FOR STORM WATER DISCHARGES FROM THE SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

NOTICE IS HEREBY GIVEN that the Council of North Wales Borough (Borough) will receive public comment(s) on the proposed North Wales Borough Wissahickon Creek TMDL Plan / Nutrient Pollutant Reduction Plan (PRP) required by the Individual MS4 Permit. The proposed TMDL Plan / PRP includes:

(1) Identification of North Wales Borough's required reductions from the Waste Load Allocation (WLA) identified within the EPA's Wissahickon Creek TMDL;
(2) Identification and locations of structural Best Management Practices (BMPs) for implementation during the permit period to reduce loadings of nutrients and sediment as required by the Individual MS4 Permit to meet the TMDL / PRP requirements;
(2) Explanation of the methodology used to calculate existing sediment loadings and corresponding reductions from applicable watersheds with regulated MS4; and
(3) Locations of the Borough's MS4 infrastructure and local waterways with nutrients/sediment impairments.

BACKGROUND INFORMATION
The Pennsylvania Department of Environmental Protection (PADEP) adopted and issued the revised Small MS4 Individual Permit (IP). An IP is required for municipalities where a TMDL with an applicable WLA on MS4 discharges have been established. The revised MS4 Permit also includes requirements for the development and implementation of a PRP for local waterways receiving discharges from the regulated MS4 with nutrients and/or sediment impairments, and a CBPRP for municipalities located in the Chesapeake Bay drainage basin. The Borough is not located in the Chesapeake Bay drainage basin, therefore, a CBPRP is not required.

For the PRP, the Borough is required to reduce existing loadings of nutrients for locally impaired waterways from its regulated MS4 during the current 5-year MS4 Permit cycle as follows:
(1) 10% reduction in sediment, and
(2) 5% reduction in Total Phosphorus.

For the TMDL, the Borough is required to reduce existing sediment loadings to local waterways from its regulated MS4 during the current 5-year MS4 Permit cycle as follows:
(1) 10% reduction in sediment

Long-term sediment load reductions are also part of the TMDL requirements for the Borough; however, only a minimum 10% reduction is required during the current permit cycle.

The TMDL Plan / PRP can and are combined into a single document.

DOCUMENT AVAILABILITY
The proposed TMDL Plan/ PRP are available for review at the Borough office located at 300 School Street, North Wales, PA 19454 from 8:00am to 4:00pm Monday-Friday during the period of March 16 to April 17, 2023.

The proposed TMDL Plan / PRP are available to view or download at northwalesborough.org<News&Alerts.

SUBMISSION OF COMMENTS
The Borough shall accept written comments for a minimum of 30 days from the date of the first public notice. Interested parties may submit written comments electronically, by mail, or hand delivery. Written comments must be received by 12:00 noon on April 17 and addressed to:

CHRISTINE HART
BOROUGH MANAGER
NORTH WALES BOROUGH
300 SCHOOL STREET
NORTH WALES, PA 19454

Comments may be submitted electronically, in PDF text format (if less than 25 megabytes in total size), to Christine Hart via email at chart@northwalesborough. Please also indicate in the subject line, "Comments--North Wales Borough TMDL Plan / PRP."

The Borough Council will also provide an opportunity for interested parties to provide comments during the regularly scheduled meeting to be held on April 11, 2023 at 7:00pm at the North Wales Borough Administration Building, 300 School Street, North Wales, PA 19454.

CONTACT INFORMATION
Questions about this notice may be directed to Christine Hart.

LAN: Mar. 16. a-1

Meeting Minutes Excerpts for PRP / TMDL Portion of the North Wales Borough Council Public Meeting

April 11, 2023:

BOROUGH OF NORTH WALES
300 SCHOOL STREET
NORTH WALES, PENNSYLVANIA

MEETING: April 11, 2023, 7:07 P.M., EST

CALL TO ORDER made by President Amato.

ROLL CALL:	Salvatore Amato	Present
	Sherwin Collins	Absent
	Anji Fazio	Present
	Alexander Groce	Present
	Brittany Kohler	Present
	Wendy McClure	Present
	Sally Neiderhiser	Absent
	Mark Tarlecki	Present
	Sarah Whelan	Present
	Mayor Neil McDevitt	Present

Also, in attendance were Gregory Gifford, Borough Solicitor and David Erenius, Chief of Police.

Solicitor Gifford made an announcement that Council held an executive session prior to the meeting regarding a matter of potential litigation. No action is being taken.

President Amato led the Pledge of Allegiance.

Presentation: Public Review Process; North Wales Borough -Wissahickon Creek Total Maximum Daily Load (TMDL) Strategy and Pollutant Reduction Plan (PRP)

Katie Samus from Land Studies reviewed the TMDL Strategy and PRP Plans, she explained the plans' purpose and educated those in attendance on how and why these plans are important to our MS4 requirements and stormwater requirements. President Amato asked questions about BMP's (Best Management Practices), Katie reviewed the 14 recommended BMP's and updated Council about the BMP we are currently practicing and those that are most practical and why. She explained why education is so important and gave suggestions as to how staff and elected officials can assist in educating our residents. Member McClure asked specific questions about the Wissahickon Creek's flow and asked Katie how we can report and or effectively tract BMP's when the creek is dry or not flowing at the same rate daily. Katie indicated that is managed through a larger scope through the MS4 Program. Member McClure reminded everyone to be cognizant of pesticide, lawn chemicals, and dog waste, as all these are considered pollutants.

Katie also reviewed the table in the plan and explained how the BMP's how impacted our numbers and explained how existing BMP's being practiced help meet our TMDL and PRP requirements. Albert Tenney, 801 E. Walnut Street, asked about potential locations for stream bank restoration. Manager Hart confirmed the property is in Upper Gwynedd Township, but the Borough is the owner (599 Elm Ave, old sewer plant). Manager Hart stated that the location is identified as a potential stream bank restoration project only if more credit is needed to meet our requirements and if a funding opportunity becomes available. Mr. Tenney also mentioned that there are pollutants other than sediment that impair the levels of nutrients in the stream, Katie agreed and mentioned that the BMP's are aimed at treating a minimum of 10% of the sediment load, and in doing so will help the nitrogen and phosphorus levels.

Appendix B

B1) North Wales Borough MS4 PRP / TMDL Map;
B2) North Wales Borough Land Use Types

Map B1. North Wales Borough
PRP / TMDL Plan Map

Parsed Area A - PENNDOT Roadway (Walnut Street) - 5.17 acres

Parsed Area B - Receives no MS4 infrastructure drainage, private sheet flow to forested area outside of the Borough, does not connect to MS4 infrastructure in Upper Gwynedd Twp - 5.94 acres

Parsed Area C - Receives no MS4 infrastructure drainage, private sheet flow to forested area outside of the Borough, does not connect to MS4 infrastructure in Upper Gwynedd Twp - 2.06 acres

Parsed Area D - Receives no MS4 infrastructure drainage, private sheet flow to low density area outside of the Borough, does not connect to MS4 infrastructure in Upper Gwynedd Twp - 6.11 acres

Date: 11-15-22

Legend

- NWB Proposed BMP
- NWB Existing BMPs
- NWB MS4 Observation Point
- Outfall
- NWB MS4 Inlet / Structure
- NWB MS4 Manhole
- Non-NHD Stream
- NWB MS4 Pipe
- MS4 Sewershed Delineation
- 2' Contours
- Unnamed Tributary to Wissahickon Creek (PA DEP 303d List)
- Parsed Area

NWB Planning Areas

Name

- Dodsworth Run
- UNT Wissahickon Creek East
- UNT Wissahickon Creek West
- Upper Wissahickon Creek HUC12 Subwatershed
- North Wales Borough
- Upper Gwynedd Twp
- Catchment Boundary

0 275 550 1,100 1,650 2,200 Feet

Map B2. North Wales Borough Land Use Types

Date: 11-15-22

Legend

- NWB MS4 Observation Point
- Outfall
- NWB MS4 Inlet / Structure
- NWB MS4 Manhole
- Non-NHD Stream
- Unnamed Tributary to Wissahickon Creek (PA DEP 303d List)
- STRM STRUCTURE 2
- NWB MS4 Pipe
- MS4 Sewershed Delineation
- 2' Contours
- Parsed Area

2011 NLCD Land Use Data

Land Use Type

- Deciduous Forest
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, Open Space
- Mixed Forest
- <all other values>
- North Wales Borough
- Catchment Boundary
- Upper Wissahickon Creek HUC12 Subwatershed

0 312.5 625 1,250 1,875 2,500 Feet

N

Appendix C

Existing Load Reductions: Parsing and Existing BMPs

PARSING:

Loading Rate Calculations for Parsed Areas per Planning Area

	Parsed Area A			Parsed Area B			Parsed Area C			Parsed Area D		
Land Use Type[1]	Acreage[2]	Unit Loading Rate[3]	**Total Load**	Acreage[2]	Unit Loading Rate[3]	**Total Load**	Acreage[2]	Unit Loading Rate[3]	**Total Load**	Acreage[2]	Unit Loading Rate[3]	**Total Load**
Deciduous Forest		5.43		0.49	5.43	**2.65**		5.43		0.30	5.43	**1.65**
Developed, High Intensity	5.17	105.12	**543.47**	2.95	105.12	**309.73**	1.54	105.12	**161.47**		105.12	
Developed, Low Intensity		124.12		2.51	124.12	**311.13**	0.52	124.12	**64.53**	5.46	124.12	**677.56**
Mixed Forest		3.99			3.99			3.99		0.35	3.99	**1.38**
	Parsed Area A Sediment Reductions		**543.47**	Parsed Area B Sediment Reductions		**623.51**	Parsed Area C Sediment Reductions		**226.00**	Parsed Area D Sediment Reductions		**680.58**
Total Parsed Area Reductions for TMDL Using TMDL Loading Rates									**2,073.56**			

1. Per Land Use Types from Table 4-6 of the Nutrient and Siltation TMDL Development for Wissahickon Creek, PA and the National Land Cover Database from 2011
2. Acreage calculation of parsed areas per Map B-1
3. Unit Loading Rate from Table 4-6 of the Nutrient and Siltation TMDL Development for Wissahickon Creek, PA

Existing BMPs:
Background Information on Existing BMPs

North Wales Borough Exsiting BMPs	BMP Description	Latitude and Longitude Coordinates	Permit Number	Date of Installation	O&M Activities and Frequency	Current Status
#1 - North Wales Station - 1 Underground Infiltration Basin, 1 Bioinfiltration Basin, 3 Bioretention Basins	1 Underground Infiltration Basin, 1 Bioinfiltration Basin, 3 Bioretention Basins all totaling ~10,000 SF as part of the SEPTA Station North Wales Parking Lot Expansion project that did require a Chapter 102 NPDES Permit for construction since the footprint was greater than 1 acre. Plan details available upon request.	40.216041N, 075.277177W	PAG2004614090	2015	**U/G Infiltration Basin: Quarterly inspection to assess for standing water or clogging of the filter surface and to verify connections are structurally sound; Remove trash, debris, sediment build-up as needed; Filter media may need to be scraped, aerated, removed, or replaced if facility is not draining properly; **Bioinfiltration Basin: Semiannual inspection and cleanout, and after runoff events; the basin should drain within 72 hours after runoff events; inspect for accumultation of sediment, damage to outlet structures, signs of erosion, spills; monitor and maintain vegetation and any bare spots should be revegetated as soon as possible; Remove accumultated sediment as required; Vehicles should not be parked within the basin footprint; **Bioretention basins: Semiannual inspection to assess sediment buildup, erosion, vegetation conditions; Mowing, prunning, and invasive species management during the growing season; Ensure that vegetation cover is maintained as designed; Watering of vegetation may be necessary during drought conditions.	These BMPs continue to function as designed.
#2 - Shearer Street Retention Basin	1 Stormwater Management Basin totaling ~1,000 SF (basin bottom) installed as part of a small (less than 1 acre) land development subdivision project at 432 Shearer Street. Plan details available upon request.	40.206008N, 075.281315W	N/A	2015	Quarterly inspections of the basin with additional inspections following storm events to ensure that runoff drains in 72 hours; Inspect for clogging and sediment accumultation; Basin should be cleaned out at least quarterly and after storm events greater than 1"; Vegetated areas should be inspected annually and invasive species must be managed. Vegetative cover should be maintained at a minimum 95% and if reduced by 10%, vegetation should be reestablished; Vehicles should not be parked within the basin footprint.	BMP continues to function as designed.
#3 - North Wales Library - 2 Underground Infiltration Basins	2 underground infiltration basins totaling ~1,250 SF, installed as part of parking lot expansion at the library between S. Pennsylvania Avenue and Swartley Street. Plan details available upon request.	40.208125N, 075.275741W	N/A	2008, 2019	U/G Infiltration Basin: Quarterly inspection to assess for standing water or clogging of the filter surface and to verify connections are structurally sound; Remove trash, debris, sediment build-up as needed; Filter media may need to be scraped, aerated, removed, or replaced if facility is not draining properly;	BMP continues to function as designed.

#4 - Hess Park Rain Garden	Rain Garden totaling ~ 1,100 SF installed as part of DCNR funded park improvements. Plan details available upon request.	40.216049N, 075.274617W	N/A	2009	Semiannual inspection to assess sediment buildup, erosion, vegetation conditions; Mowing, pruning, and invasive species management during the growing season; Ensure that vegetation cover is maintained as designed; Watering of vegetation may be necessary during drought conditions.	BMP continues to function as designed.
#5 - 715 E. Walnut Street - 2 Underground Infiltration Basins	2 underground infiltration basins totaling ~480 SF, installed as part of a small (less than 1 acre) land development subdivision project at 715 E. Walnut Street. Plan details available upon request.	40.216615N, 075.275306W	N/A	2015	Quarterly inspection to assess for standing water or clogging of the filter surface and to verify connections are structurally sound; Remove trash, debris, sediment build-up as needed; Filter media may need to be scraped, aerated, removed, or replaced if facility is not draining properly;	These two BMPs continue to function as designed.
#6 - North Wales Elementary School - 3 Underground Infiltration Basins	3 Underground Infiltration Basins totaling ~16,700 SF installed as part of school / parking lot expansion that did require a Chapter 102 NPDES Permit for construction since the footprint was greater than 1 acre. Plan details available upon request.	40.209926N, 075.271422W	PAG2004608133	2008	Quarterly inspection to assess for standing water or clogging of the filter surface and to verify connections are structurally sound; Remove trash, debris, sediment build-up as needed; Filter media may need to be scraped, aerated, removed, or replaced if facility is not draining properly;	These three BMPs continue to function as designed.
#7 - Center Street Detention Basin - Retrofit	1 dry extended detention basin totaling ~5,500 SF that was retrofitted as part of a small land development subdivision project (less than 1 acre). Plan details are available upon request.	40.205056N, 075.276635W	N/A	2011	Semiannual inspections of the basin with additional inspections following storm events to ensure that runoff drains in 72 hours to inspect for clogging and sediment accumulation; Basin should be cleaned out at least semiannually; Inlets should be inspected for signs of erosion; Vegetated areas should be inspected 1-2 times per year and invasive species must be managed. Do not mow less than the 12" recommended height and do not mow around trees and shrubs. Vegetative cover should be maintained and if reduced by 20%, trees, shrubs, and vegetation should be reestablished; Monitor for deer damage during establishment years and use repellant as needed; Watering of vegetation may be necessary during drought conditions.	BMP continues to function as designed.

Load Reduction Calculations for Existing BMPs

Loading Rates from 2003 EPA TMDL Plan - Table 4-6 - High Intensity Urban Residential Loading Rate	
	Sediment (lb/ac/yr)
High-Intensity Urban - Residential	105.12
Low-Intensity Residential	124.12
Deciduous Forest	5.43

BMP 1		
BMP #1 - North Wales Station - 1 Underground Infiltration Basin, 1 Bioinfiltration Basin, 3 Bioretention	Acres	Loading Rate - Sediment
Pre-Development - 79% High Intensity Per TMDL Land Use Types	0.96	100.92
Pre-Development - 21% Low Intensity Per TMDL Land Use Types	0.26	32.27
	TOTAL Pre-Development Sediment Load:	133.19
Post-Development - 79% High Intensity Per TMDL Land Use Types	0.96	100.92
Post-Development - 21% Low Intensity Per TMDL Land Use Types	0.26	32.27
	TOTAL Post-Development Sediment Load w/out BMPs:	133.19
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMPs:	26.64
Filtering Practices - 40% TN reduction, 60% TP reduction, 80% Sed reduction*	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**106.55**
*Conservatively, assume 80% sediment reduction for the infiltration and bioretention facilities.		

BMP 2		
BMP #2 - Shearer Street Retention Basin	Acres	Loading Rate - Sediment
Pre-Development - 0% High Intensity Per TMDL Land Use Types	0.00	
Pre-Development - 100% Low Intensity Per TMDL Land Use Types	0.27	33.51
	TOTAL Pre-Development Sediment Load:	33.51
Post-Development - 52% High Intensity Per TMDL Land Use Types	0.14	14.76
Post-Development - 48% Low Intensity Per TMDL Land Use Types	0.13	16.09
	TOTAL Post-Development Sediment Load w/out BMP:	30.84
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMP:	12.34
Dry Extended Detetion - 20% TN reduction, 20% TP reduction, 60% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMP):**	**21.17**

BMP 3		
BMP #3 - North Wales Library - 2 Underground Infiltration Basins	Acres	Loading Rate - Sediment
Pre-Development - 52% High Intensity Per TMDL Land Use Types	0.18	18.92
Pre-Development - 48% Low Intensity Per TMDL Land Use Types	0.12	14.89
	TOTAL Pre-Development Sediment Load:	33.82
Post-Development - 52% High Intensity Per TMDL Land Use Types	0.18	18.92
Post-Development - 48% Low Intensity Per TMDL Land Use Types	0.12	14.89
	TOTAL Post-Development Sediment Load w/out BMPs:	33.82
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMPs:	6.76
Filtering Practices - 40% TN reduction, 60% TP reduction, 80% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**27.05**

BMP 4		
BMP #4 - Hess Park Rain Garden	Acres	Loading Rate - Sediment
Pre-Development - 0% High Intensity Per TMDL Land Use Types	0.00	0.00
Pre-Development - 100% Low Intensity Per TMDL Land Use Types	1.07	132.81
	TOTAL Pre-Development Sediment Load:	132.81
Post-Development - 52% High Intensity Per TMDL Land Use Types	0.56	58.49
Post-Development - 48% Low Intensity Per TMDL Land Use Types	0.51	63.75
	TOTAL Post-Development Sediment Load w/out BMP:	122.24
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMP:	55.01
Bioretention - Raingarden - C/D soils w/ underdrain - 25% TN reduction, 45% TP reduction, 55% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMP):**	**77.80**

BMP 5		
BMP #5 - 715 E. Walnut Street - 2 Underground Infiltration Basins	Acres	Loading Rate - Sediment
Pre-Development -0% High Intensity Per TMDL Land Use Types	0.00	0.00
Pre-Development - 100% Low Intensity Per TMDL Land Use Types	0.41	50.89
	TOTAL Pre-Development Sediment Load:	50.89
Post-Development - 52% High Intensity Per TMDL Land Use Types	0.21	22.41
Post-Development - 48% Low Intensity Per TMDL Land Use Types	0.20	24.43
	TOTAL Post-Development Sediment Load w/out BMPs:	46.84
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMPs:	9.37
Filtering Practices - 40% TN reduction, 60% TP reduction, 80% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**41.52**

BMP 6		
BMP #6 - North Wales Elementary School - 3 Underground Infiltration Basins	Acres	Loading Rate - Sediment
Pre-Development - 0% High Intensity Per TMDL Land Use Types	0.00	
Pre-Development - 100% Low Intensity Per TMDL Land Use Types	1.76	218.45
	TOTAL Pre-Development Sediment Load:	218.45
Post-Development - 52% High Intensity Per TMDL Land Use Types	0.92	96.21
Post-Development - 48% Low Intensity Per TMDL Land Use Types	0.84	104.86
	TOTAL Post-Development Sediment Load w/out BMP:	201.06
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMP:	40.21
Filtering Practices - 40% TN reduction, 60% TP reduction, 80% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMP):**	**178.24**

BMP 7		
BMP #7 - Center Street Detention Basin - Retrofit	Acres	Loading Rate - Sediment
Pre-Development - 0% High Intensity Per TMDL Land Use Types	0.00	0.00
Pre-Development - 100% Low Intensity Per TMDL Land Use Types	14.70	1,824.56
	TOTAL Pre-Development Sediment Load:	1,824.56
Post-Development - 52% High Intensity Per TMDL Land Use Types	7.72	811.26
Post-Development - 48% Low Intensity Per TMDL Land Use Types	6.98	866.67
	TOTAL Post-Development Sediment Load w/out BMP:	1,677.93
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Post-Development Sediment Load w/ BMP:	671.17
Dry Extended Detention Basin - 20% TN reduction, 20% TP reduction, 60% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMP):**	**1,153.39**

NOTE: Acreages per land use type for the drainage areas for each BMP are determined based on the NLCD Land Use Types shown in Map B-2, plus assessment of aerial imagery (as needed) for verification of pre- and post-development land use changes.

Appendix D

Proposed BMP Project List and Load Reduction Calculations

North Wales Proposed BMPs	Sediment Reduction (lbs./yr.)
#1 - Street Sweeping	519.68
#2 - Inlet Cleaning	445.71
#3 - 9th Street Park Stream Restoration	6,732.00
#4 - 9th Street Park Pervious Paving	13.64
#5 - 9th Street Park Bioretention Area / Wet Meadow	22.85
#6 - 9th Street Park to 10th Street Stream Restoration	10,546.80
#7 - 10th Street Stream Restoration (Only 1 side of stream)	3,366.00
#8 - NWB Treatment Plant Stream Restoration[1]	89,760.00
#9 - Motgomery Avenue Stream Restoration	6,732.00
#10 - 8th Street and Montgomery Avenue Stream Restoration	16,605.60
#11A/11B - S. Center Street / W. Walnut Street Rain Garden and Underground Detention Basin	133.39
#12 - OP08 Regenerative Stormwater Conveyance	515.80
#13 - OP09 Regenerative Stormwater Conveyance[1]	734.16
#14 - Beaver Steet Stream Restoration[1]	13,464.00
Total Proposed BMP Reductions for North Wales Borough	134,744.27
Long term Reduction Requirements for North Wales Borough	12,474.53
Short term Reduction Requirements for North Wales Borough (10% reduction for current permit cycle)	**5,480.61**

[1]Proposed BMP located within the Wissahickon Creek Watershed, but outside of North Wales Borough.

An Agreement with Upper Gwynedd Township will be prepared if this BMP is selected for implementation.
NOTE: The above reductions are based on preliminary design estimates only. Load reduction calculations will be updated during the detailed design phase

#1 – Street Sweeping Calculations

Proposed BMP: Street Sweeping in North Wales Borough - Sediment Reduction Calculations*			
Municipality	Acres of Street Swept[1]	Sediment Load (lbs)**	Sediment Removal (lbs)
North Wales Borough MBT	54.93	5,774.24	519.68
*Sediment Load Reductions Calculated based on 9% Sediment Reduction from PADEP's BMP Effectiveness Values Table			
**Loading Rates from 2003 EPA TMDL Plan - Table 4-6 - High Intensity Urban Residential Loading Rate			
			TSS
Land Use Loading[2] - TMDL High Intensity Urban Residential (lb/ac/yr)=			105.12

[1] North Wales Borough has 11.33 miles of road for street sweeping with widths averaging 40 feet wide. This equates to 54.93 acres of streets swept.

[2] Land Use Type for Roadways assumed to be the equivalent of the High Intensity Urban Residential Land Use from the TMDL.

#2 – Inlet Cleaning Calculations

North Wales Borough will expand the routine cleanout of stormwater inlets as a BMP to address the sediment reduction requirements in this plan. The Borough anticipates that 25 inlets will be cleaned out on a quarterly basis. It is estimated that the average weight of the material collected from one inlet box is approximately 35 pounds. Therefore, a total of 3,500 pounds (35lbs. x 25 inlets x 4 times per year) of materials is anticipated to be collected from all of the cleaned inlets over the course of the year. Note that the Borough will keep track of the actual weight of material collected as this BMP is implemented.

The estimated 3,500 pounds of material collected through inlet cleaning is a mix of wet sediment and leaf debris. The wet mass is converted to dry weight using a conversion factor of 0.45 (average of the 0.7 conversion factor for wet sediments and 0.2 conversion factor for wet organic matter) in accordance with the DEP's BMP Effectiveness Guidance Table for Storm Sewer System Solids Removal, DEP's PRP Instructions, and the Street and Storm Drain Cleaning Expert Panel Protocol. Of the remaining wet material, it is estimated at 55% will be inorganic sediment and 45% will be organic. In order to find the total annual sediment reduction that can be used toward meeting PRP reduction requirements, the fraction of TN (.0027 and .0111) and TP (.0006 and .0012) in the dry weight of sediment need to be excluded. Once the above multipliers are used to determine the dry weight of sediment and the fractions of TN and TP are subtracted out, the value must be multiplied by a 0.3 TSS side adjustment factor in accordance with the Expert Panel Protocol to obtain the total weight of sediment reduction as shown in the calculations below.

3,500 lbs. total weight measured (estimate) x 10% refuse = 350 lbs.

3,500-350 = 3,150 lbs. of wet weight

3,150 lbs. x 0.55 x 0.7 = 1,212.75 lbs.
3,150 lbs. x 0.45 x 0.2 = 283.5 lbs.

1,212.75 lbs. x 0.0027 = 3.27 lbs./yr TN
283.5 lbs. x 0.0111 = 3.14 lbs./yr TN

1,212.75 lbs. x 0.0006 = .073 lbs./yr TP
283.5 lbs. x 0.012 = 3.40 lbs./yr TP

1,212.75 lbs.
+283.50 lbs.
1,496.25 lbs.
-(3.27+3.14+0.73+3.40)
1,485.69 lbs. x 0.3 = **445.71 lbs. of sediment reduction**

Stream Restoration Calculations

	Stream BMPs - Sediment and Nutrient Reduction Calculations*		
BMP #	**Site**	**Length (ft)**	**Sediment Removal (lbs)**
3	Ninth Street Park	*150*	*6,732*
6	Ninth Street Park to 10th Street	*235*	*10,547*
7	10th Street (Only 1 side of stream)	*150*	*3,366*
8	NWB Treatment Plant	*2,000*	*89,760*
9	Montgomery Ave	*150*	*6,732*
10	8th Street and Montgomery Ave	*370*	*16,606*
14	Beaver Street	*300*	*13,464*

*Sediment Load Reductions for Stream Stabilization Calculated at 44.88 lbs./LF Based on PADEP's PRP Instructions. For the stream restoration only on one side, a rate of 22.44 lbs/LF is utilized.

Urban Stormwater BMPs with DEP's BMP Effectiveness Values Table

Sediment reductions resulting from the proposed new urban stormwater BMPs #4, #5, #11a and #11b were calculated using DEP's BMP Effectiveness Guidance Table as shown in the calculations below:

Loading Rates from 2003 EPA TMDL Plan - Table 4-6 - High Intensity Urban Residential Loading Rate	
	Sediment (lb/ac/yr)
High-Intensity Urban - Residential	105.12
Low-Intensity Residential	124.12
Deciduous Forest	5.43

BMP #4 - 9th Street Park Pervious Paving		
BMP #4 - 9th Street Park Pervious Paving	Acres	Loading Rate - Sediment
Drainage Area Treated- 15% High Intensity Per TMDL Land Use Types	0.02	2.10
Drainage Area Treated - 85% Low Intensity Per TMDL Land Use Types	0.14	17.38
	TOTAL Drainage Area Sediment Load:	19.48
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Sediment Load w/ BMP:	5.84
Permeable Pavemetn w/ Sand or Veg. (A/B Soils w/ Underdrain) - 50% TN reduction, 50% TP reduction, 70% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**13.64**

BMP #5 - 9th Street Park Bioretention Area		
BMP #5 - 9th Street Park Bioretention Area	Acres	Loading Rate - Sediment
Drainage Area Treated- 52% High Intensity Per TMDL Land Use Types	0.13	13.67
Drainage Area Treated - 48% Low Intensity Per TMDL Land Use Types	0.12	14.89
	TOTAL Drainage Area Sediment Load:	28.56
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Sediment Load w/ BMP:	5.71
Bioretention / Raingarden (A/B Soils w/ Underdrain) - 70% TN reduction, 75% TP reduction, 80% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**22.85**

BMP #11a - S. Center Street / W. Walnut Street Rain Garden		
BMP #11a - S. Center Street / W. Walnut Street Rain Garden	Acres	Loading Rate - Sediment
Drainage Area Treated- 87% High Intensity Per TMDL Land Use Types	0.48	50.46
Drainage Area Treated - 13% Low Intensity Per TMDL Land Use Types	0.07	8.69
	TOTAL Drainage Area Sediment Load:	59.15
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Sediment Load w/ BMP:	11.83
Bioretention / Raingarden (A/B Soils w/ Underdrain) - 70% TN reduction, 75% TP reduction, 80% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**47.32**

BMP #11b - S. Center Street / W. Walnut Street Underground Detention Basin		
BMP #11a - S. Center Street / W. Walnut Street Underground Detention Basin	Acres	Loading Rate - Sediment
Drainage Area Treated- 87% High Intensity Per TMDL Land Use Types	0.87	91.45
Drainage Area Treated - 13% Low Intensity Per TMDL Land Use Types	0.13	16.14
	TOTAL Drainage Area Sediment Load:	107.59
Per DEP's BMP Effectiveness Values Table - Assumes Maximum Efficiency per Drainage Area	Total Sediment Load w/ BMP:	21.52
Filtering Practices- 40% TN reduction, 60% TP reduction, 80% Sed reduction	**Total Sediment Reduction (Pre minus Post w/BMPs):**	**86.07**

NOTE: Acreages per land use type for the drainage areas for each BMP are determined based on the NLCD Land Use Types shown in Map B-2, plus assessment of aerial imagery (as needed) for verification of current land use types.

Urban Stormwater Retrofit Calculations

As a first step, DEP's MS4 Stream Restoration Crediting Review Checklist was completed and based on the type of Dry Channel Regenerative Stormwater Conveyance (RSC) that is proposed, it was determined that both RSC BMPs (#12 and #13) should be calculated per Expert Panel Protocol 4. A copy of the MS4 Stream Restoration Checklist is provided below. For Protocol 4, pollutant load reduction calculations are to be calculated using the Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects (2015). The Expert Panel Protocol estimates a treatment efficiency based on the BMP size and drainage area size and composition. The percentage of impervious surface within the drainage area is typically used to determine loading rates to the drainage area being treated by the BMP based off of an impervious area land use loading rate. As there is not a specified "Impervious" land use loading rate from the TMDL Plan, the High Intensity Land Use loading rate will be used as the "Impervious" land use loading rate and the Low Intensity Land Use loading rate will be used as the "Pervious" land use loading rate.

Storage Volume Calculations (COMPLETE FIRST)

Site	BMP	Land Use	Footprint (Ac)	Depth (ft)	RS (ac-ft)
12	OP08 Regenerative Stormwater Conveyance - Protocol 4		0.2009	0.5	0.1004
13	OP09 Regenerative Stormwater Conveyance - Protocol 4		0.1435	0.5	0.0717

Treatment Calculations

Site	BMP	Code	Land Use	Drainage Area (Ac)	RS (Ac-ft)	% Impervious Cover	Pervious Area	Impervious Area	RS*12/IA (in)
12	OP08 Regenerative Stormwater Conveyance - Protocol 4	BR	0	24.60	0.10	42%	14.27	10.33	**0.116650616**
13	OP09 Regenerative Stormwater Conveyance - Protocol 4	BR	0	42.00	0.07	22%	32.76	9.24	**0.093168998**

NOTE: Acreages per land use type for the drainage areas for each BMP are determined based on the NLCD Land Use Types shown in Map B-2, plus assessment of aerial imagery (as needed) for verification of current land use types.

Code	Curve
FPR	RR
SS	RR
BR	RR
BSW	ST
RG	RR
B	RR
PA	RR

North Wales Borough PRP-TMDL Plan
Sediment and Nutrient Reduction Calculations*
DATE:

Site	BMP	RR or ST	Runoff Storage (RS) (ac ft)	Impervious Area (IA) (ac)	(RS)(12) /IA	Pervious Area (ac)	Sediment Removal %**	Sediment Load (lb)	Sediment Removal (lb)	Sediment Removal (T)
12	OP08 Regenerative Stormwater Conveyance - Protoc	RR	0.1004	10.33	0.1167	14.27	18%	2857.04	515.80	0.26
13	OP09 Regenerative Stormwater Conveyance - Protoc	RR	0.0717	9.24	0.0932	32.76	15%	5037.48	734.16	0.37

Loading Table from Table 4-6 of the EPA's Nutrient and Siltation TMDL Development for Wissahickon Creek, PA

	N	P	TSS
Pervious Surface Loading (Low Intensity Residential Land Use) (lb/ac/yr) =			124.12
Impervious Surface Loading (High Intensity Residential / Urban Land Use) (lb/ac/yr)=			105.12

* Based on Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects. Chesapeake Stormwater Network. January 20, 2015
** From Retrofit Adjustor Curves, p 14, 15

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

MS4 STREAM RESTORATION
CREDITING REVIEW CHECKLIST – EXPERT PANEL PROTOCOLS

Permittee Name: North Wales Borough Project Name.: PRP BMPs #12 and #13

I. CREDITING EVALUATION – EXPERT PANEL REPORT PROTOCOLS		
A. Creditable Restoration Length Crediting adjustment from Consensus Recommendations for Improving the Application of the Prevented Sediment Protocol (2020)	**Yes**	**No**
1. Does the restoration project design include "non-creditable" armoring practices? *If Yes, non-creditable lengths must be excluded from load reduction calculations.*	☐	☐
2. Does the restoration project design include "creditable w/ limits" armoring practices? *If Yes, complete 2A (as applicable). If no, skip to Section B.*	☐	☐
2A. "Creditable w/ Limits" Armoring Load Reduction Credit Adjustment *(if applicable)* *Creditable w/ limits armoring practices are allowable (with full credit) on up to 30% of the restored banks.* **Percent of banks stabilized using "creditable w/ limits" armoring practices _____ (%)** *If the "creditable w/ limits" armoring exceeds the allowable limit, a proportional adjustment must be made to the final load reduction credit.* **Percent of banks with "creditable w/ limits" armoring – 30% = Credit adjustment _____ (%)**		
B. Calculation Methodology - Expert Panel Protocols	**Yes**	**No**
3. Is the restoration load calculation calculated using the Stream Restoration Protocols from the Chesapeake Bay Expert Panel Reports? *If Yes, indicate below which Expert Panel Protocol(s) were used to calculate the pollutant load reduction.*	☒	☐
Protocol 1: Credit for Prevented Sediment during Storm Flow *(complete Appendix A)*	☐	☐
Protocol 2: Credit for Instream and Riparian Nutrient Processing *(complete Appendix B)*	☐	☐
Protocol 3: Credit for Floodplain Reconnection Volume *(complete Appendix C)*	☐	☐
Protocol 4: Credit for Dry Channel RSC as an Upland Stormwater Retrofit *(complete Appendix D)*	☒	☐

Comments:

Recommendation:

☐ Crediting is acceptable ☐ Revisions are required ☐ Insufficient Information provided by permittee

Reviewer Name: _____ Date: _____

APPENDIX D
CREDITING REVIEW CHECKLIST – EXPERT PANEL PROTOCOL 4

EXPERT PANEL PROTOCOL 4: Credit for Dry Channel Regenerative Stormwater Conveyance (RSC) as an Upland Stormwater Retrofit		
A. Protocol 4: Eligibility Evaluation Eligibility from Expert Panel to Define Removal Rates for Individual Stream Restoration Projects (2014)	**Yes**	**No**
1. Is the project Dry Channel RSC? *If Yes, skip to Section B.* • *Dry channel RSC restoration of ephemeral streams or eroding gullies uses a combination of step pools, sand seepage wetlands, and native plants. These applications are often located at the end of storm drain outfalls or channels. The receiving channels are dry in that they are located above the water table and carry water only during and immediately after a storm event.*	☒	☐
2. Is the project Wet Channel RSC? • *Wet channel RSC can be located in intermittent streams but are more typically located farther down the perennial stream network and use instream weirs to spread storm flows across the floodplain at minor increases in the stream stage for events much smaller than the 1.5-year storm event. Wet channel RSC may also include sand seepage wetlands or other wetland types in the floodplain to increase floodplain connection, reconnection, or interactions with the stream.* Wet channel RSC systems are a type of stream restoration practice and their pollutant removal can be calculated using the default stream restoration rate or protocols. *Compete Appendices A - C (as applicable), or complete Default Rate Crediting Review Checklist.*	☐	☒
B. Pollutant Load Reduction Calculations *For pollutant load reduction calculation purposes, Dry Channel RSC is classified as a stormwater retrofit practice rather than as stream restoration.*	**Yes**	**No**
3. Is documentation provided to shows the entire RSC drainage area? *If Yes, complete 3A.*	☒	☐
3A. Does the drainage area to the RSC list the impervious and pervious portions of the drainage area?	☒	☐
4. Is the runoff volume to be treated by the RSC calculated using the retrofit equation from the Stormwater Retrofit Expert Panel Report? $Runoff\ Volume\ (in) = \frac{(RS)(12)}{IA}$ *Where:* $RS = Runoff\ Storage\ Volume\ (acre\text{-}feet)$ $IA = Impervious\ Area\ (acres)$	☒	☐
5. Were the appropriate Removal Adjustor Curves from the Stormwater Retrofit Expert Panel Report used to determine the pollutant removal efficiencies? • *RSC is a "Runoff Reduction (RR)" practice (Table 2: Classification of BMPs based on Runoff Reduction Capability)*	☒	☐
6. Are the pollutant removal efficiencies determined for the RSC consistent with the calculated runoff depth captured per impervious acre? **Sediment removal efficiency:** _____ **(%)** **Nitrogen removal efficiency *(if applicable)*:** _____ **(%)** **Phosphorus removal efficiency *(if applicable):*** _____ **(%)** See RSC Calcs: 18% for BMP 12, 15% for BMP 13	☒	☐
7. Is the pollutant load reduction credit calculated for the RSC based on only the portion of the drainage area that is within the permittee's planning area?	☒	☐

NORTH WALES BOROUGH POLICE DEPARTMENT

300 School Street, North Wales, Pa. 19454
Phone: 215-699-9279 Fax: 215-699-3765
E-Mail: NWPD@northwalesborough.org

May 3, 2023

Here are the happenings in April for the North Wales Borough Police Department:

- Officers completed 641 Incident Reports.
- Officers conducted 209 traffic stops.
- 13 Permit parking stickers were issued. We have issued 167 to date.
- Officer Greco attended the Coffee with a Cop event held at Parkside Place, Upper Gwynedd Township.
- Officers completed their monthly Chris Boyle Legal Updates training.
- Four officers and one staff member completed CPR/AED/First Aid recertification.
- Officer Johnstonbaugh recertified the officers in handcuffing. This is part of our yearly mandated training.
- Officers continue to stop by North Wales Elementary School to visit the staff and students.
- Officers delivered Welcome Packets to new residents.

Respectfully,

Tara Claffey
Administrative Assistant to Chief Erenius

NORTH WALES BOROUGH PARKS AND REC

Community Garden Spring Planting!

Join us for a fun morning of hands on work in our community garden!

May 20, 2023 • 9 AM - 11:30 AM

4th Street Park (Bryant Memorial Garden)

We will have gardening tips and demonstrations by a master gardener. Bring your children for a seed planting activity to take home! Don't forget your gloves!

Internationally Acclaimed Pianist

Alexei Tartakovsky

North Wales Arts and Cultural Center

formerly St Luke's United Church of Christ

· 125 N. Main Street (Sumneytown Pike) · North Wales, PA 19454 ·

· (215) 368-2884 ·

$10 donation at the door

Program includes works by

Beethoven, Schumann, Rachmaninoff

NORTH WALES BOROUGH

Summer Kickoff

Food Trucks! Live Music! Beer Garden! Kids Games!

June 3
5-9 PM

WEINGARTNER PARK
254 Summit Street, North Wales, PA

Bring a chair and a friend!!

Ten7 Brewing
McAllister's Brewing
Stone & Key Cellars
The Spirit Express

TUCKEDito
Babalouie BBQ
Farmstead Foods
Hoser's Central Kitchen
Slurp Philly
Lunchboxx
Philly Funnel Cake
Maria's Babycakes
Tex Mex Connection
Empanadas Lab
Little's Water Ice
Boy Scout Troop 84

Kids Games by:
My Place Club

Face Painting by:
North Penn Arts Alliance

Bike Helmet Giveaway!

The Partnership TMA of Montgomery County
TRANSPORTATION MATTERS

Live Music by:

NORTH WALES COMMUNITY DAY

SATURDAY SEPT 30TH

FREE
KID ZONE
11AM - 3PM

LIVE MUSIC
FOOD TRUCKS
BEER GARDEN
VENDORS

11:00AM - 5:00PM

DOWNTOWN NORTH WALES

FACEBOOK.COM/NORTHWALESCOMMUNITYDAY