

Stormwater Pollution Prevention Plan

Township of Harmony

County of Warren

Permit Number - NJG0153061

Date: December 13, 2023

Revised: December 18, 2023

Stormwater Program Coordinator: Michael S. Finelli, P.E.

Table of Contents

Form 1 – Team Members	3
Form 2 – Revision History	4
Form 3 – Public Announcements.....	5
Form 4 – Post-Construction Stormwater Management in New Development and Redevelopment ...	6
Form 5 – Ordinances	7
Form 6 – Street Sweeping.....	8
Form 7 – MS4 Infrastructure	9
Form 8 – Community-wide Measures	12
Form 9 – Municipal Maintenance Yards & Other Ancillary Operations	13
Form 10 – Training.....	16
Form 11 – MS4 Mapping	18
Form 12 – Watershed Improvement Plan	20

Appendix A – BMP Inventory List

Appendix B – Outfall Location Map (map available at m3.mappler.net/harmonytwp)

Appendix C – Street Sweeping Map (Reserved)

Form 1 – Team Members

Stormwater Program Coordinator (SPC)			
Name and Title		<i>Michael S. Finelli, P.E., Township Engineer</i>	
Phone	<i>908-835-9500</i>	Email	<i>mikef@finellicon.com</i>
Individual(s) Responsible for Major Development Project Stormwater Management Review			
Name and Title		<i>Michael S. Finelli, P.E.</i>	
Phone	<i>908-835-9500</i>	Email	<i>mikef@finellicon.com</i>
Name and Title		<i>Joseph Modzelewski, P.E.</i>	
Phone	<i>908-835-9500</i>	Email	<i>josephm@finellicon.com</i>
Name and Title		<i>Bryce Good, P.E.</i>	
Phone	<i>908-835-9500</i>	Email	<i>bryceg@finellicon.com</i>
Other Municipal Stormwater Team Members			
Name and Title		<i>Kelley Smith, Administrator/Clerk</i>	
Phone	<i>908-213-1600</i>	Email	<i>clerk@harmonytwp-nj.gov</i>
Name and Title		<i>Randy Hoffman, DPW Director</i>	
Phone	<i>908-859-2591</i>	Email	<i>Road1@harmonytwp-nj.gov</i>
Name and Title			
Phone		Email	
Shared/Contracted Service Providers			
Provider Name	Service Provided	Term of Service	
<i>Musconetcong Watershed Association</i>	<i>Education Credits</i>	<i>Yearly</i>	
<i>ABE Paving and Sweeping</i>	<i>Street Sweeping</i>	<i>Yearly</i>	
<i>Blaney Contracting</i>	<i>Spraying guiderails</i>	<i>Yearly</i>	
<i>D and J Truck Repair</i>	<i>Vehicle Maintenance</i>	<i>Yearly</i>	

Form 3 – Public Announcements

Part IV.B. and C.

1. Provide the link to the dedicated stormwater webpage for your municipality.
<i>harmonytwp-nj.gov/departments/stormwater-management</i>
2. List the name and title of person(s) responsible for stormwater webpage postings/updates.
<i>Kelley Smith, Administrator/Clerk</i>
3. List the newspapers, social media outlets, websites, direct mailings (Email or postal), and other communication approaches typically used to inform/educate the public on stormwater program information and related events/activities.
<i>Express Times & Star Ledger – official newspapers Township website Direct mail</i>

Form 4 – Post-Construction Stormwater Management in New Development and Redevelopment

Part IV.E.

1. How does the municipality define “major development”? If it is different from the definition in N.J.A.C. 7:8, explain the difference.
<i>Major development means an individual “development,” as well as multiple developments that individually or collectively result in the disturbance of one or more acres of land since February 2, 2004. Major development includes all developments that are part of a common plan of development or sale (for example, phased residential development) that collectively or individually result in the disturbance of one or more acres of land since February 2, 2004. Projects undertaken by any government agency that otherwise meet the definition of “major development” but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., are also considered “major development.”</i>
2. Is the municipality’s stormwater control ordinance (SCO) the same as or more stringent than NJDEP’s model SCO? If more stringent, explain the difference.
<i>The adopted SCO contains additional provisions as required by the NJ Highlands Council for lands within the Preservation Area.</i>
3. Describe the process for reviewing major development project applications for compliance with the SCO and Residential Site Improvement Standards (RSIS).
<i>Review is completed by the Township Engineer/Land Use Board Engineer in accordance with the SCO, 7:8 and RSIS.</i>
4. Does your municipality have a mitigation plan included in your Municipal Stormwater Management Plan and Stormwater Control Ordinance? Indicate the location of records of all variances granted.
<i>Yes. Records of any granted variances are located within LU Board Engineer’s technical review reports and LU Board approval resolutions.</i>
5. Indicate the dates of each iteration of the township’s Stormwater Control Ordinance, starting with the initial adoption and including revisions.
<i>The SCO was initially adopted on March 2, 2021. No subsequent revisions.</i>
6. Indicate the dates of each iteration of the township’s Municipal Stormwater Management Plan, starting with the initial adoption and including revisions.
<i>The SWMP was initially adopted in September 2005. Most recent revision is January 2022.</i>

Form 5 – Ordinances

Part IV.F.1.

Ordinance	Date Adopted	Was the DEP model adopted without change? If not, explain how the municipality's is more stringent.	Entity Responsible for Enforcement	Fees & Fines
1. Pet Waste		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
2. Wildlife Feeding		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
3. Litter Control		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
4. Improper Disposal of Waste		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
5. Yard Waste		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
6. Private Storm Drain Inlet Retrofitting		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
7. Illicit Connections		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
8. Privately-Owned Salt Storage		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
9. Tree Removal-Replacement		<i>Ordinance to be adopted prior to January 1, 2024</i>	<i>Code Enforcement</i>	\$__
List any additional stormwater-related ordinances the municipality has adopted that address issues beyond the scope of the MS4 permit. Include adoption date, entity responsible for enforcement, and related fees and fines.				
<i>None.</i>				
Indicate the location of records associated with ordinances and related violations and enforcement actions below.				
<i>Records are located in the Clerk's office.</i>				

Form 6 – Street Sweeping

Part IV.F.2.a.i. and ii.

1. Provide a written description and/or attach a map outlining the sweeping schedule for the following:

- Segments of municipal roads with storm drain inlets that discharge to surface water (required at least 3 times each year)
- Segments of municipal roads that do not have storm drain inlets but do discharge to surface water (required at least 1 times each year)

Note: Only asphalt and concrete roads need to be swept. Roads that do not have storm drain inlets and do not discharge to surface water do not need to be swept.

*See attached street sweeping map. **FCE WILL PREAPRE A MAP***

Municipally owned roads that have storm drain inlets will be swept 3x a year, and municipally owned roads that do not have storm drain inlets, but DO discharge to surface water will be swept 1x a year.

2. Indicate if sweeping work is outsourced and if so, describe the arrangement.

ABE Paving and Sweeping sweeps Harmony Townships roads.

Form 7 – MS4 Infrastructure

Part IV.F.2-4. and Part IV.G.2-3.

1. Municipal Storm Drain Inlets

- a. Describe how you ensure that municipal inlets without permanent wording cast into the design have been properly labelled.
- b. Describe how you ensure that municipal and private storm drain inlets have been retrofitted.
- c. Describe how you ensure that newly installed storm drain inlets include corresponding catch basins or other BMPs to collect solids.
- d. Describe when and how you conduct inspections of storm drain inlets and the criteria used to determine when they need to be cleaned.

- a. *“Discharges to Waterway” labels have been installed on all inlets. The DPW checks the labels annually and replaces them when necessary.*
- b. *The Township is in the process of preparing a stormwater infrastructure map which will identify all inlets. A schedule will be prepared to retrofit all inlets for solids collection by December 1, 2028.*
- c. *All newly installed inlets shall be equipped with grates and curb openings that comply with the Appendix B standards for collection of solids.*
- d. *The DPW inspects all Township owned inlet grates on an annual basis and any debris is removed.*

2. Municipal Catch Basins

- a. Describe when and how you conduct inspections of catch basins.
- b. Describe the criteria used to determine when catch basins need to be cleaned.

- a. *The DPW inspects all Township owned inlet boxes (catch basins) over a 5-year period with a minimum of 20% of the catch basins inspected annually.*
- b. *Catch basins are cleaned when there is debris within the basin or sediment deposits which extend above the invert of the discharge pipe.*

3. Municipal Conveyance System

Describe when and how inspections of MS4 conveyance systems are conducted, and the criteria used to determine when they need to be cleaned. Include a description of the equipment and techniques used.

The DPW inspects conveyance systems, mainly ditches and swales, during their annual inspection of inlet grates. These facilities will be scheduled for cleaning if there is trash or debris restricting flows. Conveyance systems which are downstream of areas exhibiting flooding and which include pipes are inspected with a sewer camera. Maintenance is scheduled if required.

4. Municipal Outfall Inspections – Stream Scouring

Describe the program in place to detect, investigate, and control localized stream scouring from stormwater outfalls. Include a description of the equipment and techniques used.

The DPW inspects all Township owned stormwater outfalls for scour over a 5-year period with a minimum of 20% of the outfalls inspected annually. The inspections are to identify scouring of the stream bank or stream bottom caused by the outfall. The source or cause of the scour shall be determined and corrected, and the scour shall be scheduled for repair. Repairs shall conform with the Standards for Soil Erosion and Sediment Control in New Jersey and the NJDEP Flood Hazard Area Control Act Rules.

5. Municipal Outfall Inspections – Illicit Discharge Detection and Elimination

Describe the program in place for conducting visual dry weather inspections of municipally owned or operated outfalls. Include a description of the equipment and techniques used. Record cases of illicit discharges using the DEP’s Illicit Connection Inspection Report Form from the Department’s main stormwater webpage.

The DPW inspects all outfalls for illicit discharges during its inspections for scour. Any identified illicit connections will be reported, and measures taken to identify the source of the connections and eliminate it.

6. Other Municipal Infrastructure

List the types of MS4 infrastructure in your town that require inspection but are not noted above in items 1-5. Describe when and how you conduct inspections of this infrastructure and the criteria used to determine when they need to be maintained and/or cleaned.

The Township owns or is responsible for the operation of one (1) stormwater detention basin. The DPW inspects these facilities at least 4 times per year and after significant rainfall events. An inventory of the basins is kept along with logs of inspection and maintenance activities. Inspection and maintenance is conducted in accordance with the approved Operations and Maintenance Plan, if one exists, otherwise the NJDEP Field Manual for detention basins is used. Maintenance activities include the removal of sediment, trash and debris, mowing, pruning of vegetation, restoration of any eroded areas, elimination of any mosquito breeding areas and repair or replacement of any damaged structural components.

7. Stormwater Facilities Not Owned or Operated by the Municipality

Describe your program for ensuring adequate long-term cleaning, operation, and maintenance of stormwater facilities not owned or operated by the municipality. This should include your plan for ensuring annual inspections are being done on these private properties and describe how you record the locations and logs associated with private infrastructure.

There are three (3) privately owned SWM BMP’s within the Township. The Township sends a letter to the owners annually to ensure that they are being operated and maintained in accordance with the Operations and Maintenance Plans approved by the Township. A log of the inspections is requested and the owner is notified in writing if maintenance or repairs are required. If maintenance is not performed the Township may perform the work and bill the owner.

8. Infrastructure Records

Indicate the location of records related to stormwater infrastructure inspection, cleaning, maintenance, and repair activities.

Inventory logs of stormwater facilities and logs documenting inspections, cleaning and repairs are kept by the DPW Director.

Form 8 – Community-wide Measures

Part IV.F.2.

1. Herbicide Application Management Describe your program for preventing herbicides from being washed into the waters of the State and to prevent erosion caused by de-vegetation.
<i>The DPW does not apply herbicides. Unwanted vegetation is controlled by mowing.</i> <i>Harmony Township outsources spraying of guardrails one or two times per year to Blaney Contracting.</i>
2. Excess Deicing Material Management Describe your program for ensuring that excess salt piles are removed in a timely manner after storm events.
<i>The DPW removes any significant accumulation of salt on the roads within 72-hours of a storm event. The material is collected by hand with shovels, placed in a container and returned to the Township's salt storage building.</i>
3. Roadside Vegetative Waste Describe your program for ensuring proper pickup, handling, storage, and disposal of wood waste and yard trimmings generated by the permittee along municipal roads or on municipal properties (trimming trees, mowing, etc.).
<i>Roadside Mowing is completed 3x/ year. Vegetative waste is mulched and composted in place, the mower has guards to contain all vegetation underneath the mower to completely chop the vegetative waste.</i>
4. Roadside Erosion Control Describe your program to detect and repair erosion along municipal roadways.
<i>The DPW checks for erosion along the roadways during its travels and during its annual inspection of inlet grates. Maintenance is scheduled as required. Stabilization is conducted in accordance with the Standards for Erosion and Sediment Control in New Jersey.</i>

Form 9 – Municipal Maintenance Yards & Other Ancillary Operations

Part IV.F.5.

Please complete a separate Form 9 for each yard or site. Indicate the number of yards/sites the municipality owns or operates:

1. Site Name and Address	
<i>Harmony Township DPW 800 Harmony Station Road Phillipsburg, NJ. 08865</i>	
2. Monthly Site Inspections	
Describe the nature of inspections conducted at this site and the location of inspection logs.	
<i>Site inspection of the maintenance yard is conducted in the course of daily operations to ensure that any materials or machinery stored outdoors have a minimal exposure to stormwater and are situated on impervious surfaces and covered. Any bulk liquid storage is checked to make sure that it is protected by secondary containment and refuse containers are checked to make sure they are covered. Confirmation is made that a spill kit is available in the event of some type of spillage. Inspection logs are kept by the DPW Director.</i>	
3. Inventory List	
List all materials and machinery that are potentially exposed to stormwater.	
Materials	Machinery/Equipment
Rip rap	
D.G.A stone	<i>All equipment is stored inside</i>
Asphalt millings	
Playground Mulch	
Road Salt (Sodium Chloride)	
Gasoline	
Diesel Fuel	
4. Discharge of Stormwater from Secondary Containment	
Describe the process in place for discharging stormwater from secondary containment areas where outdoor containers are stored.	
<i>There are no secondary containment areas on this site.</i>	
5. Fueling Operations	
Does fueling occur on site? If so, describe the BMPs in place to minimize contamination of stormwater from fueling activities. If not, explain where fueling takes place.	
<i>Fuel nozzles are equipped with automatic shutoff valves to prevent overfilling. Drip pans are used during bulk fuel transfers. The following signs are posted: (1) Topping off of vehicles, mobile fuel tanks or storage tanks is prohibited, (2) Stay in view of fuel nozzle during dispensing, and (3) Contact information for the person responsible for spill</i>	

<p><i>response. A spill kit with absorbent spill clean-up materials is available in the event of a spill. Spills are cleaned with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and swept and the material is properly disposed of.</i></p>
<p>6. Vehicle/Equipment Maintenance and Repair Do you perform maintenance and repair on site? Is this conducted indoors or outdoors? If outdoors, describe the BMPs in place to minimize contamination of stormwater from maintenance and repair activities.</p>
<p><i>Some vehicle maintenance is outsourced to D and J Truck repair in Glen Gardner, NJ. Vehicle maintenance on site is conducted indoors with drip plans available to collect contaminants.</i></p>
<p>7. Wash Wastewater Containment Do you wash vehicles on site? If so, describe the BMPs in place to minimize contamination of stormwater from these activities. Note that on site containment structures require annual inspections by a NJ licensed professional engineer. If not, explain where vehicle washing takes place.</p>
<p><i>The township does not wash vehicles on site, washing takes place at approved facilities such as car/truck washes.</i></p>
<p>8. Salt and Other Granular De-icing Materials Do you store salt and other granular deicing materials on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater from these materials. If not, explain where these materials are stored.</p>
<p><i>De-icing material is stored within an enclosed building on the site with an impervious floor. No de-icing materials or sand is stored outside. Care is taken to minimize the spillage of materials during loading and unloading. Any spills are immediately cleaned with the material being placed on the truck or within the building. The loading/unloading area is swept as necessary to prevent contamination from stormwater runoff or tracking onto the street.</i></p>
<p>9. Aggregate Material, Wood Chips, and Finished Leaf Compost Do you store these materials on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater from these materials. If not, explain where these materials are stored.</p>
<p><i>Concrete blocks are being installed to make bins to follow the BMPs to contain these materials.</i></p>
<p>10. Cold Patch Asphalt Do you store these materials on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater from these materials. If not, explain where these materials are stored.</p>
<p><i>Cold Patch Asphalt is stored inside</i></p>

<p>11. Street Sweepings and Storm Sewer Cleanout Materials Do you store these materials on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater from these materials. If not, explain where these materials are stored.</p>
<p><i>Street sweeping materials are disposed of at the Warren County PCFA</i></p>
<p>12. Construction and Demolition Waste, Wood Waste, and Yard Trimmings Do you store these materials on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater from these materials. If not, explain where these materials are stored.</p>
<p><i>These materials are not stored on site. We do not collect yard waste. Any construction debris are disposed of at the Warren County PCFA</i></p>
<p>13. Scrap Tires Do you store these materials on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater from these materials. If not, explain where these materials are stored.</p>
<p><i>N/A- not stored on site</i></p>
<p>14. Inoperable Vehicles and Equipment Do you store inoperable vehicles or equipment on site? If so, describe how they are stored and the BMPs in place to minimize contamination of stormwater. If not, explain where they are stored.</p>
<p><i>N/A- not stored on site</i></p>

Form 10 – Training

Part IV.F.6-10.

Stormwater Program Coordinators
Describe the training provided for the municipal Stormwater Program Coordinator.
<i>The SPC (Township Engineer) attends all NJDEP required training as provided during every permit cycle. Training includes the responsibilities of the SPC, understanding of MS4 permit conditions, required annual reporting and required submissions and documentation.</i>

Topic	Municipal Employees Examples: in-person or virtual group sessions, e-Learning, field trainings, and videos
Describe the training provided for municipal staff.	
SPPP	<i>The Township Engineer conducts ongoing training of staff including the Clerk and DPW Director whose duties support the stormwater program. Training includes applicable specific requirements of the SPPP including record keeping.</i>
Construction Site Stormwater Runoff	<i>Construction inspectors are trained by the Township Engineer to understand and administer Soil Erosion and Sediment Control Plans for developments exceeding 5,000 square feet of disturbance as approved by the Soil Conservation District.</i>
Post-Construction Stormwater Management in New and Redevelopment	<i>Staff responsible for review of post-construction SWM plans are trained by the Township Engineer. Training includes the definition of major development, when SWM plans are required, understanding of the SWM Rules at NJAC 7:8, the Township’s SCO, the NJDEP BMP Manual & guidance documents, and recording keeping requirements.</i>
Community-wide Ordinances	<i>Staff including the Clerk, Police, and Zoning Officer receive updates on the need to enforce community wide ordinances regulating Pet Waste, Wildlife Feeding, Litter Control, Improper Disposal of Waste, Yard Waste, Illicit Connections, and Refuse Containers.</i>
Community-wide Measures	<i>The Township DPW has implemented and receives training on the following SWM measures: Street sweeping, inlet labeling noting that inlets discharge to waterways, retrofitting of existing inlets to trap solids, management of excess de-icing materials, vegetative waste management, and roadside erosion controls.</i>
Stormwater Facilities Maintenance	<i>The DPW is trained on the MS4 requirements to inspect, clean, maintain and repair inlets, catch basins, pipe systems, and BMP’s (primarily detention basins) owned by the Township and to keep a log of the inspection and maintenance activities. Inspection frequencies are per the MS4 permit. Inspections of privately owned BMP’s are conducted annually to ensure that private owners are maintaining their facilities. Owners are notified if the facilities are not being properly maintained.</i>

Municipal Maintenance Yards and Other Ancillary Operations	<i>The DPW staff responsible for compliance with SWM requirements at the maintenance yard receive annual training to understand MS4 Permit requirements, best management practices (BMP's), safety equipment & procedures, and record keeping.</i>
MS4 Mapping	<i>The Township Engineer has reviewed and understands the MS4 Permit requirements for infrastructure mapping and has scheduled the production of an electronic map which meets the completion deadline in the permit.</i>
Outfall Stream Scouring	<i>The DPW staff is trained to inspect outfalls for potential scour at least once every five (5) years. If scour is identified a plan is prepared and implemented for repairs. Repairs shall be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey.</i>
Illicit Discharge Detection and Elimination	<i>The DPW staff is trained to inspect outfalls for potential illicit connections to the storm drainage system at least once every five (5) years during their inspections for scour. If a potential illicit connection is suspected the source of the discharge shall be investigated and corrected as necessary.</i>

Stormwater Management Design Reviewers
Describe the training provided for individuals responsible for reviews and approvals of stormwater management designs.
<i>The individuals identified within this plan who are responsible for review of SWM plans have completed the mandatory training required by NJDEP and described within the MS4 Permit. The training course covers the Township's stormwater control ordinance (SCO) and NJDEP rule requirements, calculation methodologies, and how to review a major development. The training must be completed at least once every five (5) years.</i>

Municipal Board and Governing Body Members
Describe the training provided for members of the planning/zoning board and municipal council.
<i>Land Use Board and Committee members must complete the "Asking the Right Questions in Stormwater Review Training Tool" posted at www.njstormwater.org/training.htm. This training must be completed by current Land Use Board and Committee members and once per term of service thereafter. In addition, Land Use Board and Committee members must review at least one of the other training tools offered under Post-Construction Stormwater Management found at the website above.</i>

Training Records

Indicate the location of training records for the above required training.
--

<i>Logs of training records including the type of training, date of training and attendees are kept either in the Clerk's office or in the DPW Director's office where the training involves DPW staff.</i>

Form 11 – MS4 Mapping

Part IV.G.1.

1. Provide a link to the most current MS4 outfall/infrastructure map.	
www.greenwichtownship.org/stormwater-management/	
2. Indicate the total of each type of MS4 infrastructure listed below (due 01 Jan 2026).	
a. MS4 outfalls	<i>Undetermined</i>
b. MS4 ground water discharge points (basins or overland flow infiltration areas)	<i>0</i>
c. MS4 interconnections	<i>0</i>
d. MS4 storm drain inlets	<i>Undetermined</i>
e. MS4 manholes	<i>Undetermined</i>
f. Length of conveyance (channels, pipes, ditches, etc.)	<i>Undetermined</i>
g. MS4 pump stations	<i>0</i>
h. MS4 stormwater facilities (any that are not listed above)	<i>4</i>
i. Maintenance yard(s) and other ancillary operations	<i>1</i>
3. Describe how the municipality’s outfall/infrastructure map is reviewed and updated to reflect any new or newly identified MS4 infrastructure (e.g., an outfall is closed, a new basin is constructed, ownership of an outfall has changed, etc.).	
<p style="text-align: center;"><i>The Township Engineer at the end of each year will prepare a list of private developments and municipal projects which have been constructed during the year. The final development plans or as-built plans for those projects will be collected and all new stormwater infrastructure will be added to the MS4 Infrastructure Map.</i></p>	
4. Describe how the municipality will create and update its MS4 Infrastructure Map.	
<p style="text-align: center;"><i>The Infrastructure Map will be developed by the Township Engineer as required by the 2023 MS4 Permit. The map will be prepared utilizing development plans and roadway improvement plans which are available within the files of the Township. Field surveys will be performed by the Township Engineer’s survey staff to locate infrastructure which is not available within the existing mapping.</i></p>	

Form 12 – Watershed Improvement Plan

Part IV.H.

1. Describe how your municipality is developing its Watershed Improvement Plan.
<i>The Township Engineer is in the process of preparing the Watershed Inventory Report. The Township's existing outfall map will be updated to include the new information required for the Watershed Inventory Report.</i>
2. Describe any regional projects or collaboration efforts with other municipalities.
<i>The Township is not aware of any regional SWM projects and the Township does not anticipate any collaboration with adjoining municipalities.</i>
3. Indicate the location of records related to all public information sessions and meetings for discussions of the Watershed Improvement Plan.
<i>Records of any public information sessions and other meetings regarding the Watershed Improvement Plan will be filed in the Township Clerk's office.</i>

APPENDIX A

BMP INVENTORY LIST

BMP INSPECTION LOG

BMP MAINTENANCE LOG

ILLCIT CONNECTION

MAJOR DEVELOPMENT

OUTFALL INSPECTION

STREAM SCOUR INSPECTION

Illicit Connection Inspection Report Form

For additional information regarding illicit discharge investigations, refer to Chapter 3.6 of the [Tier A Guidance Document](#).

If a dry weather flow or other evidence of an intermittent illicit discharge is observed, this form shall be used to document the illicit discharge investigation in accordance with the current MS4 NJPDES Permit. This completed form shall be uploaded with the permittee's Annual Report and Certification and be kept with the permittee's SPPP as per the recordkeeping requirements of the permit. Initial illicit connection inspections must be performed during dry weather, which is at least 72 hours after the end of the previous precipitation or snowmelt event.

It is required to attach photos of the investigation to this form.

Illicit discharges must be reported immediately to the NJDEP Hotline at 1-877-WARNDEP (1-877-927-6337).

SECTION 1: PERMITTEE INFORMATION

MS4 Permittee: _____ NJPDES #: NJG0_____

SECTION 2: OUTFALL SUMMARY INFORMATION

If this outfall is newly identified, be sure to add it to your electronic outfall pipe map.

Outfall ID: _____ Outfall Location Description: _____

Municipality: _____ County: _____

Receiving Waterbody: _____

Describe the type of conveyance(s) that delivers the stormwater to the receiving waterbody (concrete or corrugated pipe, concrete channel, etc.): _____

If the ultimate discharge into the receiving water **is from an enclosed pipe**, is the end of the pipe fully or partially submerged? NEVER SOMETIMES* ALWAYS*

*If 'Sometimes' or 'Always,' describe submerged condition at time of inspection:

If the ultimate discharge into the receiving water **is not from an enclosed pipe**, what is the approximate distance between the end of the last enclosed stormwater conveyance pipe to the receiving waterbody (ft.): _____

Do any other NJPDES permittees discharge through this MS4 outfall? YES* NO UNKNOWN

*If 'YES', list Permittee Name(s), NJPDES #(s), and Location of Connection:

If 'YES', please contact your MS4 Case Manager.

SECTION 3: OUTFALL INSPECTION

Date of current inspection: ____/____/____

Latest precipitation/snowmelt event: ____/____/____ Amount of Precipitation (in.): _____

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: ____/____/____

List the date(s) of previous inspection(s) and describe the actions taken, if applicable: _____

_____**SECTION 4: PHYSICAL OBSERVATIONS***If the outfall is either partially or fully submerged, dry weather flow observations must be made at the next upstream point (e.g. manhole) above the influence of the receiving surface waterbody.***If applicable:** Manhole ID: _____ Approximate distance upstream from outfall (ft.): _____

The permittee shall use the table below to describe 1) the observed dry weather flow and/or 2) when there are indications of intermittent illicit discharges present.

(Potential illicit discharge sources are listed in parentheses.)

Odor	<input type="checkbox"/> None <input type="checkbox"/> Sewage (stale/septic sanitary wastewater) <input type="checkbox"/> Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) <input type="checkbox"/> Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) <input type="checkbox"/> Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) <input type="checkbox"/> Other: _____
Color	<input type="checkbox"/> Clear <input type="checkbox"/> Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) <input type="checkbox"/> Gray (dairies, sewage) <input type="checkbox"/> Yellow (chemical plants, textile and tanning plants) <input type="checkbox"/> Red (meat packers) <input type="checkbox"/> Other: _____
Turbidity	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) <input type="checkbox"/> Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	<i>Floatables of industrial origin may include animal fats, spoiled foods, solvents, sawdust, foams, packing materials, or fuel. Floatables in sanitary wastewater include fecal matter, toilet paper, sanitary napkins, and condoms.</i> <input type="checkbox"/> None <input type="checkbox"/> Sewage (toilet paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other: _____

Deposits and Stains within outfall	<i>Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge</i> <input type="checkbox"/> None <input type="checkbox"/> Grayish-Black (leather tanneries) <input type="checkbox"/> White crystalline powder (Nitrogenous fertilizers) <input type="checkbox"/> Excessive sediments (construction sites) <input type="checkbox"/> Oily residues (petroleum refineries, storage facilities, vehicle service areas) <input type="checkbox"/> Other: _____
Vegetation	<i>As compared to surrounding Riparian bank and/or stream vegetation</i> <input type="checkbox"/> Normal <input type="checkbox"/> Excessive growth and/or algal presence (Food processing plants) <input type="checkbox"/> Inhibited Growth (Industrial operation effluent, CAFOs)

**If the Physical Observations have been conducted and it was determined there was no odor, no discoloration of the water or no deposits and stains left on the outfall, turbidity was clear, no floatable matter, and the vegetation surrounding outfall appears normal, then the dry weather discharge is likely from a groundwater source, but the "Field Monitoring" section below must still be completed for verification.*

*Prior to conducting the analyses in Sections 5 & 6, the source may be traced back upstream in the storm sewer to a more definitive location by various methods, such as opening manholes, using a camera and/or performing dye tests or smoke tests.**

SECTION 5: FIELD MONITORING

Field calibrate instruments in accordance with manufacturer's instructions prior to testing.

Estimated Dry Weather Flow Rate	The Tier A guidance document recommends taking the estimate flow rate during the physical observations. _____ GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: _____ mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: _____ °F

****Proceed to Section 6 in accordance with the Guidance Document recommendations.****

SECTION 6: DRY WEATHER FLOW ANALYSIS - WATER QUALITY

** Based on the potential discharge types determined in the 'Physical Observation' and 'Field Monitoring' sections, further testing must be conducted using the appropriate subset of parameters below. The following parameters are recommended by the EPA for specific types of discharges as noted in the table below. For more information, refer to Chapter 12 of the EPA's Illicit Discharge Detection and Elimination guidance document (https://www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf).*

Indicate the location of your measurements (e.g. outfall, manhole number, etc.): _____

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	mg/L
Potassium	Sewage, industrial or commercial liquid waste	mg/L
Boron	>0.35 mg/L likely indicates sewage or washwater	mg/L
Chlorine	Industrial or commercial liquid waste	mg/L
Conductivity	Sewage, washwater, and industrial or commercial liquid waste	S/m
E. coli (FW & PL waters)**	>12,000 Count/100 mL is likely Sanitary Wastewater	Count/100 mL
Enterococci (SC & SE1 waters)**	>5,000 Count/100 mL is likely Sanitary Wastewater	Count/100 mL
Fecal Coliform (SE2 & SE3 waters)**	Sewage	Count/100 mL
Fluoride	Distinguishes potable water from natural or irrigation water	mg/L
pH of Dry Weather Discharge	Washwater	SU

**The abbreviations FW, PL, SC, SE 1, SE2, and SE3 refer to the surface water quality classification of the receiving surface waterbody where the outfall discharges, as defined in N.J.A.C. 7:9B. FW=Freshwater, PL=Pinelands, SC=Saline Coastal, SE=Saline Estuary. Map coverage of these classifications is available on NJ-GeoWeb (<https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=02251e521d97454aabadfd8cf168e44d>) using the layer under 'Water' of 'Surface Water Quality Classification.'

SECTION 7: ILLICIT DISCHARGE INVESTIGATION

The investigation is not complete until the source of the dry weather flow is found, and any illicit discharge is eliminated.

Based on the latest results from the investigation, including the results in Sections 4, 5 and 6, is/was this dry weather flow from an illicit connection? YES NO INVESTIGATION IS ONGOING

If the investigation has been completed, what was the source of the dry weather flow or illicit connection?

Comments: _____

BMP Specifications (answer all that apply) – Attach more pages if necessary

1. BMP Name: _____	Type of BMP: _____
Location (mark one): Surface Subsurface	Is forebay part of the design? Yes No
2. Owner (mark one): Public Private	
If private, Owner's Name: _____	Owner's Telephone No.: _____
3. BMP Completion Date (MM/DD/YYYY): _____	
4. Does the BMP have an underdrain? Yes No	
5. What is the Water Quality Design Storm Drain Down Time (hours)? _____	
What is the Design Soil Permeability (inches/hour): _____	
6. What is the Seasonal High Water Table Depth from the BMP bottom (feet)? _____ Month Obtained: _____	
7. Groundwater Recharge Methodology (mark one): 2-Year Difference NJGRS Other N/A	
8. Was Groundwater Mounding analyzed? Yes No If yes, Methodology: _____	
9. Was a Maintenance Plan submitted? Yes No Is the BMP deed restricted? Yes No	

BMP Specifications (answer all that apply) - Attach more pages if necessary

1. BMP Name: _____	Type of BMP: _____
Location (mark one): Surface Subsurface	Is forebay part of the design? Yes No
2. Owner (mark one): Public Private	
If private, Owner's Name: _____	Owner's Telephone No.: _____
3. BMP Completion Date (MM/DD/YYYY): _____	
4. Does the BMP have an underdrain? Yes No	
5. What is the Water Quality Design Storm Drain Down Time (hours)? _____	
What is the Design Soil Permeability (inches/hour): _____	
6. What is the Seasonal High Water Table Depth from the BMP bottom (feet)? _____ Month Obtained: _____	
7. Groundwater Recharge Methodology (mark one): 2-Year Difference NJGRS Other N/A	
8. Was Groundwater Mounding analyzed? Yes No If yes, Methodology: _____	
9. Was a Maintenance Plan submitted? Yes No Is the BMP deed restricted? Yes No	

BMP Specifications (answer all that apply) - Attach more pages if necessary

1. BMP Name: _____	Type of BMP: _____
Location (mark one): Surface Subsurface	Is forebay part of the design? Yes No
2. Owner (mark one): Public Private	
If private, Owner's Name: _____	Owner's Telephone No.: _____
3. BMP Completion Date (MM/DD/YYYY): _____	
4. Does the BMP have an underdrain? Yes No	
5. What is the Water Quality Design Storm Drain Down Time (hours)? _____	
What is the Design Soil Permeability (inches/hour): _____	
6. What is the Seasonal High Water Table Depth from the BMP bottom (feet)? _____ Month Obtained: _____	
7. Groundwater Recharge Methodology (mark one): 2-Year Difference NJGRS Other N/A	
8. Was Groundwater Mounding analyzed? Yes No If yes, Methodology: _____	
9. Was a Maintenance Plan submitted? Yes No Is the BMP deed restricted? Yes No	

Name of Person Completing This Form: _____

Signature: _____

Title: _____

Date: _____

Outfall Inspection Form

This form is provided to assist MS4 permittees with appropriate recordkeeping for their routine outfall inspections as required by the current MS4 NJPDES permit. Initial illicit connection inspections must be performed during dry weather, which is at least 72 hours after the previous precipitation or snowmelt event.

It is recommended to attach photo(s) of the inspection of the outfall to this form.

Upon discovery of stream scouring, you may use "Stream Scouring Investigation Record Keeping Form" for required documentation.

Upon discovery of any possible illicit connections, you MUST use "Illicit Connection Inspection Report Form."

SECTION 1: PERMITTEE INFORMATION

MS4 Permittee: _____ NJPDES #: NJG0 _____

SECTION 2: OUTFALL SUMMARY INFORMATION

If this outfall is newly identified, be sure to add it to your electronic outfall pipe map.

Outfall ID: _____ Outfall Location Description: _____

Municipality: _____ County: _____

Receiving Waterbody: _____

Describe the type of conveyance(s) that delivers the stormwater to the receiving waterbody (concrete or corrugated pipe, concrete channel, etc.): _____

If the ultimate discharge into the receiving water **is from an enclosed pipe**, is any part of the end of the pipe fully or partially submerged? NEVER SOMETIMES* ALWAYS*

*If 'Sometimes' or 'Always,' describe submerged conditions and condition at time of inspection:

If the ultimate discharge into the receiving water **is not from an enclosed pipe**, what is the approximate distance between the end of the last enclosed stormwater conveyance pipe to the receiving waterbody (ft): _____

Do any other NJPDES permittees discharge through this MS4 outfall? YES* NO UNKNOWN

*If 'YES', list Permittee Name(s) or NJPDES #(s): _____

If 'YES', please contact your MS4 Case Manager.

SECTION 3: INSPECTION CONDITIONS

Date of current inspection: ___/___/___ Date of previous inspection: ___/___/___

Latest precipitation/snowmelt event: ___/___/___ Amount of Precipitation (in.): _____

Outfall condition: PROPER CONDITION NEEDS MAINTENANCE NEEDS REPAIR

If applicable, describe the type of maintenance or repair needed: _____

Bank Stability around outfall: GOOD FAIR NEEDS STABILIZATION

If applicable, describe problem and the work needed to stabilize the outfall: _____

Is there a dry weather flow present at the outfall or other evidence that a previous illicit discharge may have occurred? *(If the outfall is partially or fully submerged, dry weather flow observations must be made at the next upstream point (e.g. manhole) above the influence of the receiving surface waterbody.)*

PRESENT EVIDENCE NEITHER

If applicable: Manhole ID: _____ Approximate distance upstream from outfall (ft.): _____

If a dry weather flow is present at the outfall or there is other evidence that a previous illicit discharge may have occurred, the permittee must document the illicit discharge investigation on the **"Illicit Connection Inspection Report Form"** at the link above.

SECTION 4: STREAM SCOURING

Is stream scouring present? YES* NO

*If 'YES', describe the scouring, including where the scouring is occurring relative to the outfall:

If you answered 'YES,' you must document sources of stormwater that contribute to the outfall. The Department has created the **"Stream Scouring Investigation Record Keeping Form" for your use at the link above.**

SECTION 5: INSPECTOR INFORMATION

Inspector's Name: _____

Title: _____ Affiliation: _____

Signature: _____ Date: _____

Stream Scouring Investigation Recordkeeping Form

This form is provided to assist MS4 permittees with appropriate recordkeeping throughout the investigation process of outfall stream scouring. This form is to be kept with the permittee's SPPP, as per the recordkeeping requirements of the MS4 NJPDES permit. It is recommended to attach photo(s) of the outfall and scouring to this form.

SECTION 1: PERMITTEE INFORMATION

MS4 Permittee: _____ NJPDES #: NJG0 _____

SECTION 2: OUTFALL SUMMARY INFORMATION

If this outfall is newly identified, be sure to add it to your electronic outfall pipe map.

Outfall ID: _____ Outfall Location Description: _____

Municipality: _____ County: _____

Receiving Waterbody: _____

Describe the type of conveyance(s) that delivers the stormwater to the receiving waterbody (concrete or corrugated pipe, concrete channel, etc.): _____

If the ultimate discharge into the receiving water **is from an enclosed pipe**, is the end of the pipe fully or partially submerged? NEVER SOMETIMES* ALWAYS*

*If 'Sometimes' or 'Always,' describe submerged conditions and condition at time of inspection:

If the ultimate discharge into the receiving water **is not from an enclosed pipe**, what is the approximate distance between the end of the last enclosed stormwater conveyance pipe to the receiving waterbody (ft.): _____

Do any other NJPDES permittees discharge through this MS4 outfall? YES* NO UNKNOWN

*If 'YES', list Permittee Name(s) or NJPDES #(s): _____

If 'YES', please contact your MS4 Case Manager.

SECTION 3: INSPECTION CONDITIONS

When was the stream scouring first identified? ____/____/____

Date of current inspection: ____/____/____ Date of previous inspection: ____/____/____

Latest precipitation/snowmelt event: ____/____/____ Amount of Precipitation (in.): _____

Provide a description of the stream scouring and outfall condition: _____

Describe investigation and findings, including suspected sources and action(s) being taken to reduce the volume or rate of flow from the sources contributing stormwater to the outfall, including dates of actions taken: _____

Was stream scouring identified during the previous inspection? YES* NO

*If 'YES', describe previous actions taken: _____

Since the date of last inspection, has the stream scouring worsened? YES* NO

*If 'YES', describe any potential causes, including new source(s) contributing stormwater to the MS4 discharging at this outfall since previous inspection (e.g. new housing developments, commercial plazas, etc.):

SECTION 4: SCHEDULING OF STREAM REMEDIATION

Description of the remediation project: _____

List milestones and dates of remediation (i.e. applied for permit, advertised for bid, awarded bid for project, completed project, etc.): _____

SECTION 5: PERMITS OBTAINED (Flood Hazard, Freshwater Wetlands, Soil Conservation District, etc.)

<u>Permit Type</u>	<u>Permit Authorization #</u>	<u>Application date</u>	<u>Authorization date</u>
_____	_____	___/___/___	___/___/___
_____	_____	___/___/___	___/___/___
_____	_____	___/___/___	___/___/___
_____	_____	___/___/___	___/___/___
_____	_____	___/___/___	___/___/___

SECTION 6: INSPECTOR INFORMATION

Inspector's Name: _____

Title: _____ Affiliation: _____

Signature: _____ Date: _____

APPENDIX B

OUTFALL LOCATION MAP (m3.mappler.net/harmonytwp)

APPENDIX C

STREET SWEEPING MAP (RESERED)