

MS4 Infrastructure Inspection and Maintenance Program

Union Township, Hunterdon County
NJG0152978 / PI ID #: 167069



Calendar Year 2023

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1 – 2023 Summary

Instructions: Complete at the end of the calendar year and submit to the Township Engineer for documentation supporting the annual MS4 Certification.

All inlets have been inspected at least once. <i>(number TBD)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Part IV.F.3.a.i</i>
At least 20% of catch basins have been inspected. <i>(number TBD)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Part IV.F.3.a.iii</i>
All swales and roadside ditches have been inspected at least once.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Part IV.F.3.a.v</i>
Stormwater pipes have been inspected and/or cleaned as necessary.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Part IV.F.3.a.v</i>
Number of outfalls inspected this year: TBD <i>(each outfall must be inspected at least once every 5 years)</i>	Click or tap here to enter text.	<i>Part IV.G.2.b.i</i>
Number of illicit connections investigated this year:	Click or tap here to enter text.	<i>Part IV.G.3.b.i</i>
All Township-owned detention basins have been inspected once per season and after each rainstorm exceeding 1 inch of rainfall. Detention basins have been adequately maintained throughout the year.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Part IV.F.3.a.vi</i>
All Township-owned bioretention systems (rain gardens) have been inspected and maintained throughout the year.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Part IV.F.3.a.vi</i>

Explain any “No” answers in the space below:

2 – Inlets

*Instructions: Use the guidelines below for **Inlet Inspection and Maintenance**. Complete the form on the following page when maintenance is performed.*

<u>Inspection and Maintenance Program</u>	
Number	TBD
Inspection Details	
<i>Frequency</i>	All inlets once annually (minimum)
<i>Type</i>	Drive-by visual
<i>Equipment</i>	Shovel, container to collect debris
<i>Timeframe</i>	Ongoing throughout the year
<i>Activities</i>	<ul style="list-style-type: none"> • Inspect inlet for signs of debris, clogs, or poor drainage • Clear debris and material from inlet and adjacent curb/pavement • Inspect “drains to waterway” medallions and replace if necessary
Follow-up	<ul style="list-style-type: none"> • Inspect inlets with frequent clogs/backups more frequently • Respond to and investigate reports of clogs/backups
Form(s) to Complete	Inlet Inspection Report – Complete when maintenance is performed

3 – Catch Basins

*Instructions: Use the guidelines below for **Catch Basin Inspection and Maintenance**. Complete the form on the following page when maintenance is performed.*

<u>Inspection and Maintenance Program</u>	
Number	TBD
Inspection Details	
<i>Frequency</i>	<ul style="list-style-type: none"> • 20% of all catch basins annually • Each catch basin at least once every five (5) years – more frequently if possible
<i>Type</i>	In-field visual
<i>Equipment</i>	Flashlight, measuring pole, tool to remove inlet grate, shovel, container to collect debris
<i>Timeframe</i>	Ongoing throughout the year
<i>Activities</i>	<ul style="list-style-type: none"> • Measure accumulated sediment/debris in catch basin • If accumulation is impeding stormwater flow, clear debris from catch basin.
Follow-up	<ul style="list-style-type: none"> • Inspect catch basins with frequent clogs/backups more frequently.
Form(s) to Complete	Catch Basin Inspection Report – Complete when maintenance is performed

Catch Basin Inspection Report

Maintenance and Cleaning Log

1. The maintenance crew should fill out the log below when performing each maintenance task.
2. Keep this log with other MS₄ maintenance and inspection records.

Inspection Date	Catch Basin I.D. and/or Location	Notes (quantity of debris removed, maintenance performed, etc.)

Continue the table when necessary.

Inspector Name: _____

4 – Conveyance System – Swales and Roadside Ditches

*Instructions: Use the guidelines below for **Swale Inspection and Maintenance**. Complete the form on the following page when maintenance is performed.*

<u>Inspection and Maintenance Program</u>	
Number	TBD (in total feet)
Inspection Details	
<i>Frequency</i>	Once annually (minimum)
<i>Type</i>	Drive-by visual
<i>Equipment</i>	Shovel, rake, container to collect debris
<i>Timeframe</i>	Ongoing throughout the year
<i>Activities</i>	<ul style="list-style-type: none"> • Clear trash and debris. • Inspect for ponding in excess of 72 hours after a rain event. • Grass Swales: Mow grass outside swale at least once per month during growing season. Maintain grass within the swale at 3-6 inch height.
Follow-up	<ul style="list-style-type: none"> • Inspect areas with frequent clogs/backups more frequently • Respond to and investigate reports of clogs/backups
Form(s) to Complete	Swales and Roadside Ditches Inspection Report – Complete when maintenance is performed

Swales and Roadside Ditches Inspection Report

Maintenance and Cleaning Log

1. The maintenance crew should fill out the log below when performing each maintenance task.
2. Keep this log with other MS4 maintenance and inspection records.

Inspection Date	Swale/Ditch I.D. and/or Location	Notes (quantity of debris removed, maintenance performed, etc.)

Continue the table when necessary.

Inspector Name: _____

5 – Conveyance System – Stormwater Pipes

*Instructions: Use the guidelines below for **Pipe Inspection and Maintenance**. Complete the form on the following page when maintenance is performed.*

<u>Inspection and Maintenance Program</u>	
Number	TBD (in total feet)
Inspection Details	
<i>Frequency</i>	As needed: <ul style="list-style-type: none"> • If clog or backup is reported or noted at an upstream inlet • During adjacent construction activities.
<i>Type</i>	In-field visual
<i>Equipment</i>	Shovel, container to collect debris, flashlight, remote camera TBD
<i>Timeframe</i>	As needed
<i>Activities</i>	<ul style="list-style-type: none"> • Clear clogs by hand if possible. • Hire vacuum truck if necessary. • Clear clogs within three weeks.
Follow-up	<ul style="list-style-type: none"> • Inspect areas with frequent clogs/backups more frequently • Respond to and investigate reports of clogs/backups
Form(s) to Complete	Stormwater Pipe Inspection Report – Complete when maintenance is performed

Stormwater Pipe Inspection Report

Maintenance and Cleaning Log

- 1. The maintenance crew should fill out the log below when performing each maintenance task.
- 2. Keep this log with other MS4 maintenance and inspection records.

Inspection Date	Pipe I.D. and/or Location	Pipe Length (feet)	Notes (quantity of debris removed, maintenance performed, etc.)

6 – Detention Basins

Instructions: Use the guidelines below for **Detention Basin Inspection and Maintenance**. Complete the form on the following page quarterly and after rain events exceeding 1 inch.

Inspection and Maintenance Program	
Number	4
Inspection Details	
<i>Frequency</i>	Inspection: Four (4) times per year Maintenance: As required during growing season
<i>Type</i>	In-field visual
<i>Equipment</i>	Mower, container to collect debris
<i>Timeframe</i>	Inspection: Once per season; 72 hours after rain event Maintenance: Spring/Summer/Fall
<i>Activities</i>	<ul style="list-style-type: none"> • Mow grass • Clear trash and accumulated sediment and debris from outlet control structures and low flow channels • Remove invasive vegetation • Inspect outlets for scouring • Confirm basin drains no later than 72 hours following rain event
Follow-up	<ul style="list-style-type: none"> • Submit copies of inspection form(s) to Township Engineer.
Form(s) to Complete	<ul style="list-style-type: none"> • Detention Basin Inspection Form – Complete quarterly and after rain events exceeding 1 inch

Locations:

Basin Location	Easting	Northing	Coordinates
Scotch Willie Lane (subsurface in cul-de-sac)	353614.6446	650205.2925	40.61791 -74.999905

Detention Basin Inspection Report

Maintenance and Cleaning Log

Basin Name:	
Inspection Date:	Inspector Name:
Reason	<input type="checkbox"/> Quarterly <input type="checkbox"/> Post-Rain
Date of most recent rain event	Click or tap here to enter text.
Type of rain	<input type="checkbox"/> Drizzle <input type="checkbox"/> Shower <input type="checkbox"/> Downpour <input type="checkbox"/> Other
Current ground condition	<input type="checkbox"/> Dry <input type="checkbox"/> Damp <input type="checkbox"/> Ponding <input type="checkbox"/> Submerged <input type="checkbox"/> Snow
Basin Bed	
Is standing water present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does basin drain within 72 hours following a rain event	<input type="checkbox"/> Yes <input type="checkbox"/> No
The observed drain time is approx. _____ hours	
Excessive sediment, silt, or trash in basin bed	<input type="checkbox"/> Yes <input type="checkbox"/> No
Areas of erosion or channelization noted	<input type="checkbox"/> Yes <input type="checkbox"/> No
Animal burrows/rodents are present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Erosion, soil slide, wet spots or loss of vegetation on side slopes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Emergency spillway overgrown	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Low Flow Channels	
Excessive sediment and/or silt in low flow channels	<input type="checkbox"/> Yes <input type="checkbox"/> No
Damaged low flow channel or scouring under the channels	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vegetation	
Large areas of bare soil present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Overgrown or invasive vegetation present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Tree growth in basin	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vegetation has been mowed or removed	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Structural Components (Outlet Control Structure, Flared End Sections, Headwalls, Rip Rap)	
Trash or debris accumulation	<input type="checkbox"/> Yes <input type="checkbox"/> No
Damaged or rusted trash rack	<input type="checkbox"/> Yes <input type="checkbox"/> No
Spalling or misalignment	<input type="checkbox"/> Yes <input type="checkbox"/> No
Scouring or erosion present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Standing water present more than 72 hours after rain event	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No

7 – Small-Scale Bioretention Systems

*Instructions: Use the guidelines below for **Bioretention System (Rain Garden) Inspection and Maintenance**. Complete the form on the following page quarterly and after rain events exceeding 1 inch.*

Number	TBD
Inspection Details	
<i>Frequency</i>	Inspection: Four (4) times per year Maintenance: As required during growing seasons
<i>Type</i>	In-field visual
<i>Equipment</i>	Landscape equipment, container to collect debris
<i>Timeframe</i>	Inspection: Once per season; 72 hours after rain event Maintenance: Spring/Summer/Fall
<i>Activities</i>	<ul style="list-style-type: none"> • Clear trash and accumulated sediment / debris • Prune or trim plantings as required • Remove invasive vegetation • Inspect outlets for scouring • Confirm system drains no later than 72 hours following rain event
Follow-up	<ul style="list-style-type: none"> • Submit copies of inspection form(s) to Township Engineer.
Form(s) to Complete	<ul style="list-style-type: none"> • Small-Scale Bioretention System Inspection Form – Complete quarterly and after rain events exceeding 1 inch

Locations:

Basin Location	Easting	Northing	Coordinates

Small-Scale Bioretention System Inspection Report

Maintenance and Cleaning Log

Facility Name:	
Inspection Date:	Inspector Name:
Reason	<input type="checkbox"/> Quarterly <input type="checkbox"/> Post-Rain
Date of most recent rain event	Click or tap here to enter text.
Type of rain	<input type="checkbox"/> Drizzle <input type="checkbox"/> Shower <input type="checkbox"/> Downpour <input type="checkbox"/> Other
Current ground condition	<input type="checkbox"/> Dry <input type="checkbox"/> Damp <input type="checkbox"/> Ponding <input type="checkbox"/> Submerged <input type="checkbox"/> Snow
Basin Bed	
Is standing water present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does basin drain within 72 hours following a rain event	<input type="checkbox"/> Yes <input type="checkbox"/> No
The observed drain time is approx. _____ hours	
Excessive sediment, silt, or trash in basin bed	<input type="checkbox"/> Yes <input type="checkbox"/> No
Areas of erosion or channelization noted	<input type="checkbox"/> Yes <input type="checkbox"/> No
Animal burrows/rodents are present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Erosion, soil slide, wet spots or loss of vegetation on side slopes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Uneven bed	
Evidence of sinkholes or subsidence	
Emergency spillway overgrown	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vegetation	
Large areas of bare soil present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Overgrown or invasive vegetation present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Tree growth in basin	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vegetation has been mowed or removed	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Structural Components (Outlet Control Structure, Flared End Sections, Headwalls, Rip Rap)	
Trash or debris accumulation	<input type="checkbox"/> Yes <input type="checkbox"/> No
Damaged or rusted trash rack	<input type="checkbox"/> Yes <input type="checkbox"/> No
Spalling or misalignment	<input type="checkbox"/> Yes <input type="checkbox"/> No
Scouring or erosion present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Standing water present more than 72 hours after rain event	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance or Repairs Required: <i>(If yes, explain below and note when repairs were made)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No

8 – Outfalls

*Instructions: Use the guidelines below for **Outfall Inspection and Maintenance**. Complete the NJDEP Outfall Inspection Form on the following page for each outfall inspected. Complete the NJDEP Stream Scouring and Illicit Connection forms as needed.*

Inspection and Maintenance Program	
Number	TBD
Inspection Details	
<i>Frequency</i>	Each outfall at least once every five (5) years – more frequently if possible
<i>Type</i>	In-field visual
<i>Equipment</i>	Phone or camera to take pictures
<i>Timeframe</i>	Conduct inspection during dry weather period (72 hours after rain event)
<i>Activities</i>	<ul style="list-style-type: none"> • Evaluate surrounding bank for stabilization issues • Evaluate scouring • Take note of any dry weather flow
Follow-up	<ul style="list-style-type: none"> • Notify Township Engineer of documented bank stabilization or scouring • Further investigate possible cause of dry weather flow, if noted. Determine source. Determine if caused by an illicit connection to the stormwater system. • Notify Township Engineer if illicit connection is identified. • Submit copies of inspection form(s) to Township Engineer.
Form(s) to Complete	<ul style="list-style-type: none"> • Outfall Inspection Form – Complete for each outfall inspected. • Stream Scouring Investigation Recordkeeping Form (if applicable) • Illicit Connection Inspection Report Form (if applicable)

NJDEP MS4 Inspection Forms

Click on PDF below:



NJDEP MS4
inspection forms.pdf

Also available at the following links:

- Outfall inspection <https://dep.nj.gov/wp-content/uploads/njpdcs-stormwater/outfall-inspection-form-editable.pdf>
- Illicit connection report <https://dep.nj.gov/wp-content/uploads/njpdcs-stormwater/illicit-connection-combined-with-closeout-editable.pdf>
- Stream scouring investigation <https://dep.nj.gov/wp-content/uploads/njpdcs-stormwater/stream-scouring-remediation-form-editable.pdf>