



State of New Jersey

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JUL 1 1 2022

CHESTERFIELD TOWNSHIP

PHILIP D. MURPHY  
*Governor*

SHEILA Y. OLIVER  
*Lt. Governor*

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
MAIL CODE 501-02A  
DIVISION OF WATERSHED PROTECTION AND RESTORATION  
BUREAU OF NJPDES STORMWATER PERMITTING & WATER QUALITY MANAGEMENT  
P.O. BOX 420, 501 EAST STATE STREET  
TRENTON, NJ 08625-0420  
PHONE (609) 633-7021  
[https://www.state.nj.us/dep/dwq/bnpc\\_home.htm](https://www.state.nj.us/dep/dwq/bnpc_home.htm)

SHAWN M. LATOURETTE  
*Commissioner*

July 1, 2022

**SENT VIA REGULAR MAIL &  
CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

Honorable Lido Panfili  
Chesterfield Township  
295 Bordentown-Chesterfield Road  
Chesterfield, NJ 08515

Re: Notification of Reassignment from a Tier B to Tier A municipality under the  
Municipal Separate Storm Sewer System (MS4) NJPDES Permit Program  
NJPDES: NJG0153559 / PI ID#: 171646  
Chesterfield Township, Burlington County

Dear Mayor Panfili:

It has become increasingly apparent in recent years that stormwater management is critical to the protection of public health, safety, and the environment. Stormwater discharges transport pollutants to our waterways, which degrade the overall quality of those waters and may limit the ability of our residents to recreate in those waters, can result in beach closures, increase the costs of drinking water treatment, and negatively impact aquatic life. Further, those impacts on aquatic life, such as fish and shellfish, may render certain areas unsuitable for harvesting or consumption. Approximately 90% of all waters in the State are impaired for at least one pollutant and it is estimated that up to 60% of the State's existing water quality pollution is attributable to stormwater<sup>1</sup>. Moreover, inadequate or poorly managed stormwater infrastructure can exacerbate the flooding resulting from intense storm events. The significance of this issue, and the imminent threat it presents, was most recently reinforced by the remnants of Tropical Storm Ida, which struck New Jersey on September 1, 2021, causing widespread devastation to communities, homes, infrastructure, public buildings and private businesses, with much of this flooding without

<sup>1</sup> Clean Stormwater and Flood Reduction Act - <https://pub.nileg.state.nj.us/Bills/2018/PL19/42 .PDF>

proximity to waterbodies and directly attributable to poor stormwater management. Tragically, this resulted in the loss of thirty lives.

The Department appreciates and thanks you for your efforts in establishing and managing your current stormwater management program. These efforts have been important in minimizing the adverse impacts of stormwater runoff and have undoubtedly reduced flooding and water quality impacts. However, given the significant stormwater related adverse impacts occurring in our State, the Department must work to strengthen its requirements related to stormwater, flooding, and development in flood plains.

Accordingly, and for the reasons set forth herein, the Department has determined that your municipality must be reassigned from Tier B to Tier A under the New Jersey Pollutant Discharge Elimination System ("NJPDDES") Municipal Separate Storm Sewer System ("MS4") stormwater permitting program. This reassignment is being made in accordance with the NJPDDES regulations at N.J.A.C. 7:14A-25.3(a)1v because the Department has determined that your municipality no longer qualifies for the previously-granted 2004 waiver (N.J.A.C. 7:14A-25.3(a)1v) (N.J.A.C. 7:14A-25.2(e)2 and (e)3ii), the stormwater runoff from your municipality discharges pollutant(s) into a watercourse that is impaired or has a Total Maximum Daily Load (TMDL) for those pollutant(s) (N.J.A.C. 7:14A-25.3(a)1v), your stormwater discharges into high quality classification surface waters, which mandate a higher level of protection (N.J.A.C. 7:14A-25.3(a)1v), and the population in the urbanized area of your municipality has exceeded the threshold of 1000 for assignment under the Tier A permit (N.J.A.C. 7:14A-25.3(a)1i).

A more detailed justification for your municipality's reassignment is provided in the Reassignment Justification section of this letter below, along with information regarding the surface waters that lie within or border your municipality, their classification, the subwatershed (aka Hydrologic Unit Code -14 or HUC 14) that the surface waters belong to, and the pollutant that is subject to the TMDL for the subwatershed, or HUC 14. Map layouts depicting the borders of the municipality, the borders of the HUC 14, as well as the TMDL information for the HUC 14 is attached to this letter, along with a detailed discussion of the subject pollutant, as well as other common stormwater pollutants, and how they are related to municipal stormwater. The pollutants are listed in alphabetical order in the attachment<sup>2</sup>.

The Department recognizes the economic burden this can place on municipalities and intends to make grant money available to your municipality to aid in the transition. Upon release of information regarding this funding opportunity, the Department will contact you directly with information about how you can access the funding.

### **Regulatory Background**

The United States Environmental Protection Agency (USEPA) promulgated its Phase II stormwater rules in 1999. 40 C.F.R. 122.32(a) establishes which small MS4s must be regulated pursuant to federal law and includes MS4s that are located in urbanized areas as determined by the Census, 40 C.F.R. 122.32(a)(1), unless a waiver has been received from the permitting authority.

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<sup>2</sup> Except for Enterococcus, E. Coli, Fecal Coliform and Total Coliform which grouped together under the heading "Pathogens" in the attachment.

40 C.F.R. 122.32(c) and (d) and 123.35(d)(1) allow the permitting authority in certain circumstances to waive the permit requirement for small MS4s in jurisdictions with a population under 1,000 within the urbanized area. Other MS4s which must be regulated pursuant to the 40 C.F.R. 122.32(a)(2) are those that are designated by the permitting authority due the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts, 40 C.F.R. 123.35(b)(3), or where the MS4 contributes substantially to the pollutant loadings of physically interconnected MS4, 40 C.F.R. 123.35 (b)(4), or as a result of a petition, 40 C.F.R. 122.26(f).

In response to the Phase II stormwater rules, the New Jersey Department of Environmental Protection (the Department) established an MS4 permitting program consistent with the federal requirements criteria at 40 C.F.R. 122 and 123. On February 2, 2004, the Department issued final municipal regulation program rules, N.J.A.C. 7:14A-25 and two types of NJPDES general permits authorizing municipal stormwater discharges: Tier A and Tier B. See New Jersey Register, 36 N.J.R. 813(a). Generally speaking, the Tier A permits cover entities which must be regulated pursuant to federal rules as well as some additional categories identified by the State, while Tier B permits are purely a creation of State law and covers all other municipalities that are not designated as Tier A, including certain municipalities which have been granted a waiver from federally-required regulation. N.J.A.C. 7:14A-25.3.

More specifically, in 2004, the Department determined that Tier A municipalities would include those that had a population of at least 1000 in their urbanized areas. N.J.A.C. 7:14A-25.3(a)(1)(i). As permitted by the federal rules, the Department granted a "waiver" from regulation as a Tier A, to every municipality whose population in their urbanized area was between 1 and 1000 and assigned such municipalities as Tier B. N.J.A.C. 7:14A-25.3(a)(1)(i) and (a)(2); N.J.A.C. 7:14A-25.2(d). The remaining municipalities not designated as Tier A were also designated as Tier B, pursuant to N.J.A.C. 7:14A-25.3(a)(2). This included municipalities that had no population in their urbanized areas.

Pursuant to N.J.A.C. 7:14A 25.2(d) and 25.3, because your municipality was located in an urbanized area, but the population was between 1 and 1000, you were granted a waiver and assigned to Tier B and have authorized by the Tier B MS4 general permit to discharge stormwater to waters of the state since 2004.

The federal rules at 40 C.F.R. 123.35(b), require the Department to regularly evaluate MS4 designations. During recent discussions with the USEPA, the Department was instructed to review whether permit reassignments were necessary in this permit renewal. Since the Department is currently working on the Tier A permit renewal, it was necessary to re-evaluate all Tier B permittees across the State in order to determine whether that designation remained appropriate. As discussed further below, this letter serves as notification that the Department is changing the designation of your municipality from Tier B to Tier A.

The Tier A permit is currently issued to 456 municipalities across the state and contains more permit conditions than the Tier B permit. These additional conditions are intended to mitigate flooding events caused by stormwater runoff, better control the discharge of pollutants, and to

provide a continued, iterative process towards improving water quality. A summary of the additional permit conditions in the Tier A permit are as follows:

- Creation and implementation of a Stormwater Pollution Prevention Plan (SPPP);
- Creation of a dedicated stormwater page on the municipal website to house all of the stormwater-related documents that are required to be posted;
- Adoption of community-wide ordinances;
- Implementation of community-wide pollution prevention measures such as street sweeping, storm drain inlet and catch basin cleaning, and roadside vegetative waste management;
- Implementation of best management practices (BMPs) at all municipal maintenance yards and other ancillary operations;
- Stormwater training for municipal employees, stormwater design review training for municipal engineers, and training for municipal board and governing body members;
- Electronic mapping of stormwater infrastructure; and
- Stream scouring and illicit discharge detection and elimination.

The Department has and will continue to assist permittees in meeting the conditions of the Tier A permit to meet the goals of decreasing stormwater related flood damage and improving water quality. The Department can provide your municipality guidance materials, fillable forms, electronic mapping and inventory tools, and outreach and training. Additionally, the Department intends to make grant funding available to Tier B municipalities reassigned to Tier A to help them meet the Tier A permit conditions.

### **Reassignment Justification**

Both the federal rules and the state rules provide that if a waiver is issued, the entity may subsequently lose the waiver. 40 C.F.R. 122.32(c); 40 C.F.R. 123.35(d)(6); N.J.A.C. 7:14A-25.2(e). N.J.A.C. 7:14A-25.2(e) states that the Department shall require a municipality to which the waiver applies to apply for a Tier A MS4 permit under certain circumstances. See N.J.A.C. 7:14A-25.2(e)1-3. Specifically, your municipality no longer qualifies for the waiver, because your stormwater discharge has been identified under special designations (further explained below), and the stormwater discharge from your municipality contains a pollutant(s) for which stormwater controls have been established as part of a USEPA approved or established TMDL that addresses the pollutant(s) of concern. N.J.A.C. 7:14A-25.2(e)2 and 3ii.

N.J.A.C. 7:14A-25.3(a)1 outlines the bases for assignment to Tier A. In particular it provides that a municipality should be assigned to Tier A if it: "Operates a stormwater discharge(s) identified under N.J.A.C. 7:14A-25.2(a)4 (special designations), provided that the Department determines that such identification warrants assignment of the municipality to Tier A." See N.J.A.C. 7:14A-25.3(a)1v. N.J.A.C. 7:14A-25.2(a)4 outlines five circumstances where a stormwater discharge from a MS4 would be identified under a special designation. N.J.A.C. 7:14A-25.2(a)4ii, which is applicable here, requires identification under special designations for: "[A]ll stormwater discharges that are from municipal separate storm sewers, and that are designated under N.J.A.C. 7:14A-24.2(a)7 or 9." N.J.A.C. 7:14A-25.2(a)4ii. The 'special designations' that are applicable for purposes of this reassignment are those regarding TMDLs



and/or surface water quality impairments for the surface waters (listed as HUC 14s) that lie within or border your municipality, and are further supported by the existence of environmentally sensitive waters. Specifically, N.J.A.C. 7:14A-24.2(a)7 applies to the discharge from your municipality:

“Stormwater DSW from point or nonpoint sources (other than activities identified under N.J.A.C. 7:14A-2.5(a)4 or 5) for which either the Department or the USEPA Regional Administrator determines (also see N.J.A.C. 7:14A-24.7(a) and (c), 25.2(a)4, and 25.5) that:

- i. Stormwater controls are needed for the point source discharge based on total maximum daily loads (TMDLs) that address the pollutant(s) of concern; or
- ii. The point or nonpoint source discharge, or category of discharges within a geographic area, contributes to a violation of a surface water quality standard, or is a significant contributor of pollutants to surface water;”  
[N.J.A.C. 7:14A-24.2(a)7]

Also, as noted above, since it is estimated that up to 60% of the State’s existing water quality pollution is attributable to stormwater, the Department reviewed various sources of information from the USEPA, USGS, NJDEP, and other technical sources to determine which pollutants are most often/typically found in municipal stormwater runoff. Based on this review, the Department has determined that the discharge of stormwater runoff from your municipality contributes one or more pollutants for which the receiving water(s) (listed as HUC 14s) is impaired and stormwater controls have been established as part of a USEPA approved or established TMDL. The Department reviewed numerous sources of information, including various related EPA webpages, such as <https://www.epa.gov/tmdl/impaired-waters-and-stormwater>, which discusses briefly the connection between impaired waters and stormwater runoff and includes many other sources of associated information, in making this determination. The Department also reviewed USGS information<sup>3</sup> which discusses the relevance of street sweeping to reduce nutrient pollution from being carried by stormwater into receiving waters. Also, many of the TMDL Reports found on the Department’s webpage<sup>4</sup> and the Department’s Integrated Reports<sup>5</sup> further discuss the relationship between pollution sources and municipal stormwater runoff. An additional discussion of these typical stormwater pollutants is attached to this letter, entitled “Pollutants of Concern.”

In accordance with N.J.A.C. 7:14A-25.3(a)(1)(v), which requires an evaluation of the discharge, its pollutants, and the nature of the receiving water, including a determination as to whether stormwater discharges into "high quality classification surface waters which mandate a higher level of protection," the Department considered the following in making the determination of whether to assign a particular municipality to Tier A under this special designation:

1. Location or size of the discharge - A portion of the municipality is located within a subwatershed (HUC 14) that has a TMDL or impairment. Please see the section below entitled “TMDL(s) and Impairment(s) Summary” and the attached maps for more

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<sup>3</sup> <https://www.usgs.gov/centers/upper-midwest-water-science-center/science/using-leaf-collection-and-street-cleaning-reduce>

<sup>4</sup> <https://www.state.nj.us/dep/wms/bears/tmdls-table.html>

<sup>5</sup> <https://www.state.nj.us/dep/wms/bears/assessment.htm>

information. As noted above, a link to the TMDL webpage is available in the foot note on the page above.

2. Quantity and nature of pollutants reaching the water of the State – The discharge from the municipality contains the pollutant identified in the TMDL or for which the water is impaired. Please see the attachment entitled “Pollutants of Concern” for a description of typical stormwater pollutants, their potential effects, and information why they are present in your municipal stormwater discharges.
3. Quality of the receiving waters – The HUC 14 to which the municipality discharges is impaired, and the discharge of pollutant associated with the impairment is contributing to a violation of the surface water quality standards. Further, the Department has determined that stormwater controls are needed based on the applicable TMDL or impairment. Please see the section below entitled “TMDL(s) and Impairment(s) Summary,” the attached maps, and the attachment entitled “Pollutants of Concern” for more information.
4. Other relevant factors – The Department also considered the presence of high quality and/or sensitive waters (Freshwater 1 (FW1), Pinelands (PL), Category 1 (C1), Trout Maintenance (TM), and Trout Production (TP) waters) in the subwatershed(s) where the municipality’s stormwater is discharged. The classification of your receiving waters is included under the subwatershed (HUC 14) description below and can also be found at N.J.A.C. 7:9B 1.15, of which a courtesy copy is available on the Department’s website at [https://www.nj.gov/dep/rules/rules/njac7\\_9b.pdf](https://www.nj.gov/dep/rules/rules/njac7_9b.pdf).<sup>6</sup>

Note: The reasoning for reassignment to Tier A discussed in this section are in addition to the population-based reasoning outlined at the beginning of the letter which explains that the population in the urbanized area of your municipality has exceeded the threshold of 1000 for assignment under the Tier A permit (N.J.A.C. 7:14A-25.3(a)1i).

Your municipal stormwater discharge has been identified as contributing the following pollutant(s) of concern via stormwater runoff to surface waters of the State which is subject to the following TMDL(s) and/or impairments.

### **TMDL(s) and Impairment(s) Summary**

Chesterfield Township  
Burlington County

#### **Subwatersheds (aka HUC 14s) completely or partially within the municipal boundary (see attached map):**

1. 02040201040060: North Run (above Wrightstown bypass)
2. 02040201050050: Crosswicks Ck(Ellisdale trib - Walnford)
3. 02040201050060: Ellisdale trib (Crosswicks Creek)

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<sup>6</sup> Additionally, information regarding the potential occurrence of HABs in your receiving waters can be found on the Department’s HAB Interactive Mapping and Communication System webpage at <https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=561a697f0b594258a4b2e7f2d23e30b7>

4. 02040201050070: Crosswicks Ck(Doctors Ck-Ellisdale trib)
5. 02040201070020: Crosswicks Ck(below Doctors Creek)
6. 02040201080010: Blacks Creek (above 40d06m10s)
7. 02040201080020: Blacks Creek (Bacons Run to 40d06m10s)
8. 02040201080030: Blacks Creek (below Bacons Run)
9. 02040201090010: Crafts Creek (above Rt 206)
10. 02040201100010: Assiscunk Creek (above Rt 206)

**Total Maximum Daily Load (TMDL) and Impairment Information:**

1. **Applicable TMDL(s) and Impairments for HUC 02040201040060: North Run (above Wrightstown bypass) - Stream Classification(s) = FW2-NT, FW2-NTC1, PL**

**TMDL(s)**

- Streamshed TMDL(s)
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- Total Phosphorus

2. **Applicable TMDL(s) and Impairments for HUC 02040201050050: Crosswicks Ck(Ellisdale trib - Walnford) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)
  - Fecal Coliform - Total Maximum Daily Loads for Fecal Coliform to Address 27 Streams in the Lower Delaware Water Region
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- Lead
- Total Phosphorus

3. **Applicable TMDL(s) and Impairments for HUC 02040201050060: Ellisdale trib (Crosswicks Creek) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)
  - Fecal Coliform - Total Maximum Daily Loads for Fecal Coliform to Address 27 Streams in the Lower Delaware Water Region
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- None

**4. Applicable TMDL(s) and Impairments for HUC 02040201050070: Crosswicks Ck(Doctors Ck-Ellisdale trib) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)
  - Fecal Coliform - Total Maximum Daily Loads for Fecal Coliform to Address 27 Streams in the Lower Delaware Water Region
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- PCBs in Fish Tissue
- Total Phosphorus
- Turbidity

**5. Applicable TMDL(s) and Impairments for HUC 02040201070020: Crosswicks Ck(below Doctors Creek) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**



- Escherichia Coli (E. Coli)
- PCBs in Fish Tissue
- Total Phosphorus
- Total Suspended Solids (TSS)

**6. Applicable TMDL(s) and Impairments for HUC 02040201080010: Blacks Creek (above 40d06m10s) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Total Phosphorus - Total Maximum Daily Loads for Phosphorus to Address 5 Stream Segments in the Lower Delaware Water Region
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- None

**7. Applicable TMDL(s) and Impairments for HUC 02040201080020: Blacks Creek (Bacons Run to 40d06m10s) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)
  - Fecal Coliform - Total Maximum Daily Loads for Fecal Coliform to Address 27 Streams in the Lower Delaware Water Region
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Total Phosphorus - Total Maximum Daily Loads for Phosphorus to Address 5 Stream Segments in the Lower Delaware Water Region
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- None

**8. Applicable TMDL(s) and Impairments for HUC 02040201080030: Blacks Creek (below Bacons Run) - Stream Classification(s) = FW2-NT**

**TMDL(s)**

- Streamshed TMDL(s)

- Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
- Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- Escherichia Coli (E. Coli)
- PCBs in Fish Tissue
- Total Phosphorus
- Total Suspended Solids (TSS)

**9. Applicable TMDL(s) and Impairments for HUC 02040201090010: Crafts Creek (above Rt 206) - Stream Classification(s) = FW2-NT, FW2-NTC1**

**TMDL(s)**

- Streamshed TMDL(s)
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- Escherichia Coli (E. Coli)
- Total Phosphorus

**10. Applicable TMDL(s) and Impairments for HUC 02040201100010: Assiscunk Creek (above Rt 206) - Stream Classification(s) = FW2-NTC1**

**TMDL(s)**

- Streamshed TMDL(s)
  - Fecal Coliform - Total Maximum Daily Loads for Fecal Coliform to Address 27 Streams in the Lower Delaware Water Region
  - Polychlorinated Biphenyls (PCBs) - Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River
  - Total Phosphorus - Total Maximum Daily Loads for Phosphorus to Address 5 Stream Segments in the Lower Delaware Water Region
  - Volatile Organic Compounds (VOCs) - Amendment to Tri-County and Lower Delaware Water Quality Management Plans to Establish Total Maximum Daily Loads for Volatile Organic Compounds in the Delaware River

**Impairment(s)**

- Total Suspended Solids (TSS)

Please refer to the attached map layouts for information regarding the HUC 14 subwatershed associated with your municipality as well as the TMDL associated with the HUC 14 subwatershed.

As such, your municipality discharges stormwater that contains the pollutant of concern into the receiving waters, as discussed in the "Reassignment Justification" section above and the attachment entitled "Pollutants of Concern." Therefore, in accordance with 40 C.F.R. 123.35(b)(1) and N.J.A.C. 7:14A-25.3(a)1, the Department hereby reassigns your municipality from a Tier B to a Tier A municipality.

A Tier A application must be submitted within 180 days of receipt of this letter (pursuant to N.J.A.C. 7:14A-25.4) by submitting a Checklist and Request for MS4 Stormwater Permits found at [https://www.nj.gov/dep/dwq/forms\\_storm.htm](https://www.nj.gov/dep/dwq/forms_storm.htm) and checking the "NJPDES permit NJ0141852 (Tier A Municipal Stormwater General Permit)" box under Section 2.

Alternatively, you may apply for an Individual Permit by submitting a Checklist and Request for MS4 Stormwater Permits found at [https://www.nj.gov/dep/dwq/forms\\_storm.htm](https://www.nj.gov/dep/dwq/forms_storm.htm) and checking the "NJPDES Individual Municipal Separate Storm Sewer System Permit" box under Section 2.

Any requests for an adjudicatory hearing on this reassignment shall be submitted in writing by certified mail, or by other means which provide verification of the date of delivery to the Department, within 30 days of receipt of this Notice of Reassignment Letter, as described in accordance with N.J.A.C. 7:14A-17.2. The adjudicatory hearing request must be accompanied by a completed Adjudicatory Hearing Request Form, which can be found on the Department's website at [https://www.state.nj.us/dep/dwq/pdf/forms\\_adjhearreq\\_tier\\_b\\_form.pdf](https://www.state.nj.us/dep/dwq/pdf/forms_adjhearreq_tier_b_form.pdf).

If you have any questions regarding this reassignment, please email them to the Bureau at [dwq\\_bnpc@dep.nj.gov](mailto:dwq_bnpc@dep.nj.gov) and a case manager will respond promptly.

Sincerely,



Gabriel Mahon, Bureau Chief  
Bureau of NJPDES Stormwater Permitting and Water Quality Management  
Division of Watershed Protection and Restoration  
New Jersey Department of Environmental Protection

CC: Greg Lebak, Stormwater Program Coordinator, [Greg@Chesterfieldtwp.com](mailto:Greg@Chesterfieldtwp.com)

## **Pollutants of Concern**

### **Benzo(a)pyrene**

Benzo(a)pyrene is a member of a group of chemicals known as polycyclic aromatic hydrocarbons (PAHs) and which is a known hazardous substance that can cause cancer and other adverse health effects in humans. It is released into the air via both natural sources (such as forest fires) and anthropogenic sources including stoves and furnaces burning fossil fuels (especially wood and coal), crude oils, shale oils, coal tars, motor vehicle exhaust, cigarettes, and various industrial combustion processes (HSDB, 2012) (ATSDR, 1995).

Several studies have reported that stormwater runoff into receiving waters from asphalt treated with coats of coal-tar emulsion seal could account for a large proportion of PAHs in many watersheds (Rowe and O'Connor, 2011; Van Metre and Mahler, 2010; Mahler et al., 2005). The major sources of nonoccupational exposure are ingestion of contaminated food and water, as well as tobacco products, and inhalation of polluted air.

#### **MS4 permit conditions that regulate this parameter:**

- Improper Disposal of Waste Ordinance
- Street Sweeping Program
- Roadside Erosion Control
- BMPs at Municipal Maintenance Yards
- Inspection and Maintenance of Stormwater Facilities
- Illicit Discharge Detection and Elimination Program

### **Cadmium**

Cadmium is an elemental metal with small amounts naturally occurring in the environment, while manmade sources include automobile parts and fluids, as well as industrial discharges and mining wastes. Cadmium is one of the more dangerous toxic metals because it is readily taken up by plants and can cause chronic pain and other diseases in humans or animals that ingest those plants. Cadmium also affects the aquatic ecosystem by harming aquatic plants and animals and changing the macroinvertebrate profile of a waterbody.

Cadmium is transported into the receiving waters from various ground surfaces including roadways and parking lots when stormwater comes into contact with fluids or total suspended solids (TSS) particulates containing cadmium.

#### **MS4 permit conditions that regulate this parameter:**

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance

Chromium tends to latch onto soil and is transported into the receiving waters from various ground surfaces including roadways and parking lots when stormwater comes into contact with fluids or TSS particulates containing chromium.

**MS4 permit conditions that regulate this parameter:**

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Storm Drain Inlet Retrofitting
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Illicit Discharge Detention and Elimination Program

**Copper**

Copper is a naturally occurring elemental metal that is necessary in low amounts in the diets of humans and animals but can become toxic to the health of humans and animals in higher doses, and extremely toxic to fish and other aquatic organisms.

Copper is involved in the manufacturing of many products, such as plumbing, wiring, roofing materials, and pesticides, and can end up in stormwater from many sources, such as roadways from automobile parts and fluids, runoff from building structures where copper was used in roofing materials, gutters, or other architectural features. Copper can also enter waterways from domestic waste from illicit connections. Copper can dissolve easily in water and can attach strongly to soil particles which are then discharged via stormwater runoff into the receiving waters.

**MS4 permit conditions that regulate this parameter:**

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Storm Drain Inlet Retrofitting
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Illicit Discharge Detention and Elimination Program



Lead enters the environment through the manufacture and use of consumer products and by contamination of soils and water. Any lead occurring in soils can be mobilized into waterbodies through stream scouring and erosion. Lead in these forms makes its way into waterbodies, including those used for drinking water sources, through stormwater runoff. The Tier A MS4 permit prohibits the improper disposal of waste, such as paint, as well as a program to detect and eliminate illicit discharges.

**MS4 permit conditions that regulate this parameter:**

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Storm Drain Inlet Retrofitting
- Roadside Erosion Control
- BMPs at Municipal Maintenance Yards
- Stream Scouring Program
- Illicit Discharge Detention and Elimination Program

**Nickel**

Nickel is an abundant natural elemental metal and is necessary in many organism's diets but can become carcinogenic and toxic to health in high doses. Nickel is used in manufacturing, in combination with other metals, such as iron, copper, chromium, and zinc, to form many alloys used to make products such as stainless steel, vehicle brakes, fertilizers, ceramic paint, jewelry, kitchen ware, batteries, textiles, and coins. Nickel is transported into the receiving waters from various ground surfaces, including roadways and parking lots, when stormwater dissolves nickel from products. Stormwater also comes into contact with TSS containing particulates from these products, as well as through air deposition on the ground surface by vehicle exhaust, power plants, metal factories and waste incinerators, which is then transported to the receiving waters in the stormwater runoff. Stormwater runoff that travels through metal pipes may also pick up nickel along the way to surface water bodies.

High levels of nickel can cause harm to organisms, such as mammals, algae, fish, birds, and plants, impact drinking water, cause adverse effects on the overall quality of surface water, and can also pose a threat to soil health by stunting root growth resulting in ground erosion.

**MS4 permit conditions that regulate this parameter:**

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Storm Drain Inlet Retrofitting
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Inspection and Maintenance of Stormwater Facilities

## **Pathogens (Enterococcus, E. Coli, Fecal Coliform, Total Coliform)**

Pathogens, including enterococcus, E. Coli, fecal coliform, and total coliform, enter the receiving waters when stormwater comes into contact with sources of these pathogens, such as pet waste, animal waste from geese and other wildlife, some farming activities, illicit discharges, failing sewage conveyance systems and septic systems, combined sewage overflows, and sanitary sewer overflows (SSOs). While sewage treatment plants contribute a steady input of treated sewage to their receiving waters, stormwater runoff is the primary contributor to pathogen loads in the surface waters of the state.

Many of these pathogens affect the designated uses of the receiving waters and are harmful to human or animal health when ingested causing intestinal disease. Pathogens can attack the immune system and cause infections that may result in abdominal issues, respiratory problems, fever, headache, skin rashes, etc. ([Water Quality Topics: Pathogens | US EPA](#)).

When receiving surface waters include shellfish harvesting as a designated use, pathogens also pose additional concerns. Proximity to potential sources such as marinas, development served by septic systems and concentrated stormwater outfall locations warrant precautionary closures of shellfish waters on a seasonal or full-time basis. The National Shellfish Sanitation Program has established criteria for pathogens that are used to determine support of the shell fishing use.

### **MS4 permit conditions that regulate this parameter:**

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

## **pH**

pH (scientifically referred to as the Potential of Hydrogen) measures the concentration of hydrogen ions in a solution and is the indicator of the acidity or alkalinity of a substance, representing its ability to donate or accept hydrogen ions. pH values can range from 0 to 14, with 0 representing the most acidic and 14 representing the most basic. Fluctuations in pH and pH levels outside of the typical levels for a waterbody can negatively impact aquatic life, including reduced biodiversity if those values exceed critical thresholds. These impacts happen when the receiving waters experience even slight changes in pH

Additionally, high levels of phosphorus can also lead to HABs, that produce toxins which can be harmful to human and animal health. The presence of excessive plant biomass can also interfere with other designated uses, such as swimming or boating. When algae are present in large amounts, drinking water purveyors must also increase the use of disinfectants and oxidants to treat the algae, which can lead to an increase in disinfection byproducts such as trihalomethanes, listed as likely carcinogens by EPA.

**MS4 permit conditions that regulate this parameter:**

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

**Polychlorinated Biphenyls (PCBs)**

The term 'PCBs' (Polychlorinated Biphenyls) represents a broad class of toxic industrial chemicals first discovered and synthesized in the late 19th century. Their novel chemical properties led to widespread industrial production and usage peaking between the 1930's and late-1960's. Some products may continue to contain PCBs, including electrical equipment, motor and hydraulic oils, oil-based paint, and some plastics. The recognition of PCB associated health hazards were first noted in the 1960's and their production finally banned in 1979. PCBs can accumulate in the leaves and above-ground parts of plants and food crops. They are also taken up into the bodies of small organisms and fish. As a result, people who ingest fish may be exposed to PCBs that have bioaccumulated in the fish they are ingesting. Their oily nature allows them to accumulate in fatty animal tissues and bioaccumulate up the global food chain where they contribute to organ damage and carcinogenesis in higher-tiered species.

PCBs are easily carried away as TSS by stormwater runoff from products containing the compounds which are exposed to stormwater and known and unknown contaminated areas. PCBs have a moderate level of volatility, which means that their vapors are also readily carried aloft by the wind. They are then deposited on exposed surfaces via air deposition.

**MS4 permit conditions that regulate this parameter:**

- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance

### **Total Dissolved Solids (TDS)**

Total Dissolved Solids (TDS) is the measure of the concentration of dissolved inorganic substances, such as calcium, chlorides nitrate, phosphorus, iron, sulfur, and other ion particles, in water that can pass through a filter with pores of approximately 0.002 cm. TDS differs from TSS in that TSS particles will not pass through the same filter. TDS affects aquatic and human health by altering the water balance in the cells of organisms. For instance, when an aquatic organism is placed in water with very low TDS, such as distilled water, it will swell up because water will tend to move into its cells, which have a higher concentration of solids. Conversely, an organism placed in water with high TDS will shrink somewhat because the water in its cells will tend to move out. This will in turn affect the organism's ability to maintain the proper cell density, making it difficult to keep its position in the water column by causing it to float up or sink down to depths to which it is not adapted, and it might not survive. High concentrations of TDS may also cause adverse health effects due to the chemicals making up the TDS, make drinking water unpalatable and cause additional adverse health effects on people who are not used to drinking such water. Levels of TDS that are too high or too low can also adversely affect industrial processes that use raw water.

TDS is discharged into the receiving waters via stormwater as the runoff picks up various substances on the ground surface, such as salts and brine solutions used for de-icing of motor vehicle surfaces and walkways, fertilizers, motor vehicle parts and fluids, illicit connections, and soil particles through erosion.

#### **MS4 permit conditions that regulate this parameter:**

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

### **Total Suspended Solids (TSS)**

Stormwater runoff can pick up particulates, also known as Total Suspended Solids (TSS), from the land surface and carry the particulates into the receiving waterbodies. TSS is one of the most common pollutants found in stormwater runoff. TSS originates from many sources including areas such as roadways, parking lots and developments, erosion of pervious surfaces such as construction sites and dust, litter and other particles deposited on

food processing. Municipal stormwater runoff can create turbid conditions in water when it picks up particulate debris from hard surfaces and transports it to water bodies. Turbidity in stormwater runoff is usually made up of rock and soil fragments, dirt and debris from roads and vehicles, and other materials as noted under TSS.

**MS4 permit conditions that regulate this parameter:**

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

**Volatile Organic Compound (VOCs)**

Volatile Organic Compounds (VOCs) is the name given to a large group of chemical compounds that vaporize into the air and can dissolve into the water from certain solids or liquids at varying rates. VOCs are released or “off-gassed” into the air by many products that are used to build and maintain motor vehicles and houses, such as paints, glues, caulk, solvents, fuels and other vehicle fluids, cleansers and disinfectants, aerosol sprays, pesticides, and wood preservatives. Common examples of VOCs are benzene, ethylene glycol, formaldehyde, methylene chloride, tetrachloroethylene, toluene, xylene, and 1,3-butadiene. While many VOCs can cause adverse effects on aquatic life, there are also several adverse human health risks associated with encountering VOCs, including worsening asthma symptoms, cancer, liver and kidney damage, and central nervous system damage.

Stormwater can come in contact with VOCs from vehicle surfaces, roads, parking lots, driveways, and litter or other wastes. Once these improperly disposed materials containing VOCs encounter stormwater runoff they are discharged to the surface and ground waters of the state which are in turn used for drinking water supplies and the protection and propagation of aquatic life.

Surface water quality criteria serve to protect water quality for designated uses such as supporting the survival, growth, and reproduction of aquatic life, protecting the quality of drinking water sources, maintaining good water quality for primary and secondary contact recreational uses, and keeping fish safe for human consumption.