RUTGERS
New Jersey Agricultural Experiment Station

Hamilton Township (Mercer County)

ILLICIT DISCHARGE INVESTIGATION 2023

Developed by the Rutgers Cooperative Extension Water Resources Program
Funded by Hamilton Township, Mercer County, New Jersey

October 30, 2023

Acknowledgements

The Hamilton Township (Mercer County) Illicit Discharge Investigation 2023 has been produced by the **Rutgers Cooperative Extension (RCE) Water Resources Program**.

Funding for this project was generously provided by the **Township of Hamilton, Mercer County, New Jersey** and in part by the **New Jersey Agricultural Experiment Station** through the United States Department of Agriculture.

Contents

Introduction

The Rutgers Cooperative Extension (RCE) Water Resources Program collected samples from eight outfall sites in Hamilton Township, Mercer County, New Jersey in August 2023 that exhibited dry weather flow. These eight outfall sites were part of a larger group of eleven outfalls that were identified as being potential illicit discharges based on visual inspections conducted during the regular outfall inspections of Region 2 (Pond Run North) during the summer of 2023 (Figure 1) as well as two outfalls of Region 4 (Back Creek, Crosswicks Creek, and Doctors Creek) which were identified as being potential illicit discharges during the summer of 2019 (Figure 2). These outfalls all had dry weather flow or other potential signs of illicit discharges. Data from the initial inspections are provided in Attachment 1.

Sampling

The thirteen outfalls were revisited and reinspected for evidence of illicit discharge on August 22, 2023. Eight of these outfalls were observed to be flowing, and the remaining five were no longer flowing. These five outfalls showed no other evidence of illicit discharge. Thus, it was assumed these outfalls were originally flowing due to groundwater sources, but special attention should be given to these outfalls at their next inspection. The standard forms required by the New Jersey Department of Environmental Protection (NJDEP) have been completed for all thirteen outfalls (See Attachment 2).

For the eight outfalls found to be flowing on August 22, grab samples were collected by the RCE Water Resources Program staff and delivered to Pace Analytical Labs in Ewing, NJ for analysis of methylene blue active substances (MBAS, surfactants), ammonia as N, potassium, and fluoride to determine if the sites were characteristic of an illicit discharge. The temperature and approximate flow rate of the water directly leaving the outfall was also measured. The results of these analyses as well as the calculated ammonia to potassium ratio, can be found in Table 1. The following analytical methods were used by the lab: MBAS (SM 5540 C-11), ammonia as N (EPA 350.1), potassium (EPA 300.0 Rev. 2.1), and fluoride (EPA 200.7 Rev 4.4).

During initial outfall inspections, two new outfalls were identified and labeled as PN121 and PN127 for sampling. All outfalls are undergoing a renumbering as the database is audited

during each new round of inspections. For outfalls 26 and 29, they have not yet been assigned a new outfall ID, so their Sample ID will remain as their old outfall ID until they are reassigned during the inspections for Region 4.

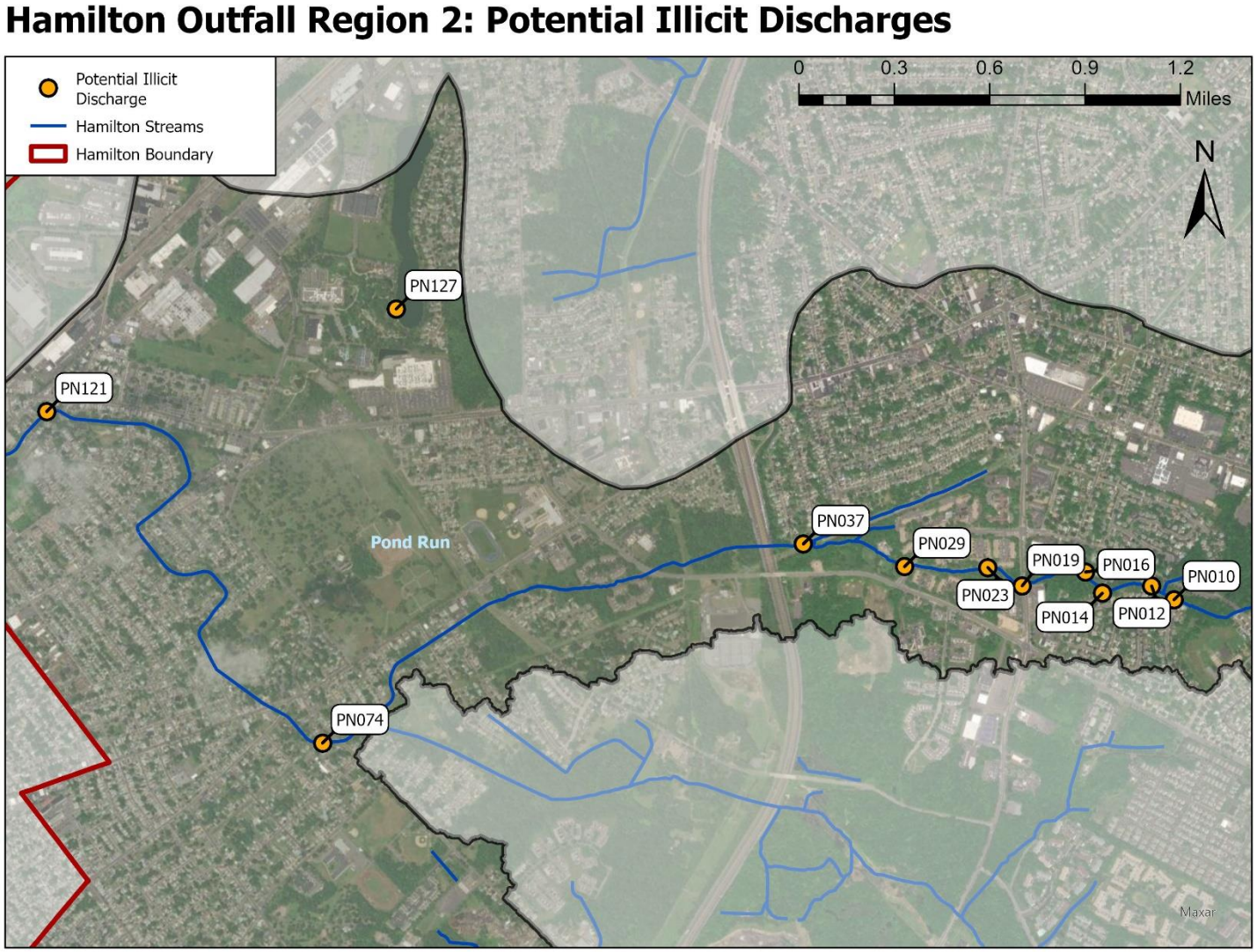

Figure 1: Hamilton Township outfall sampling sites Region 2, August 2023

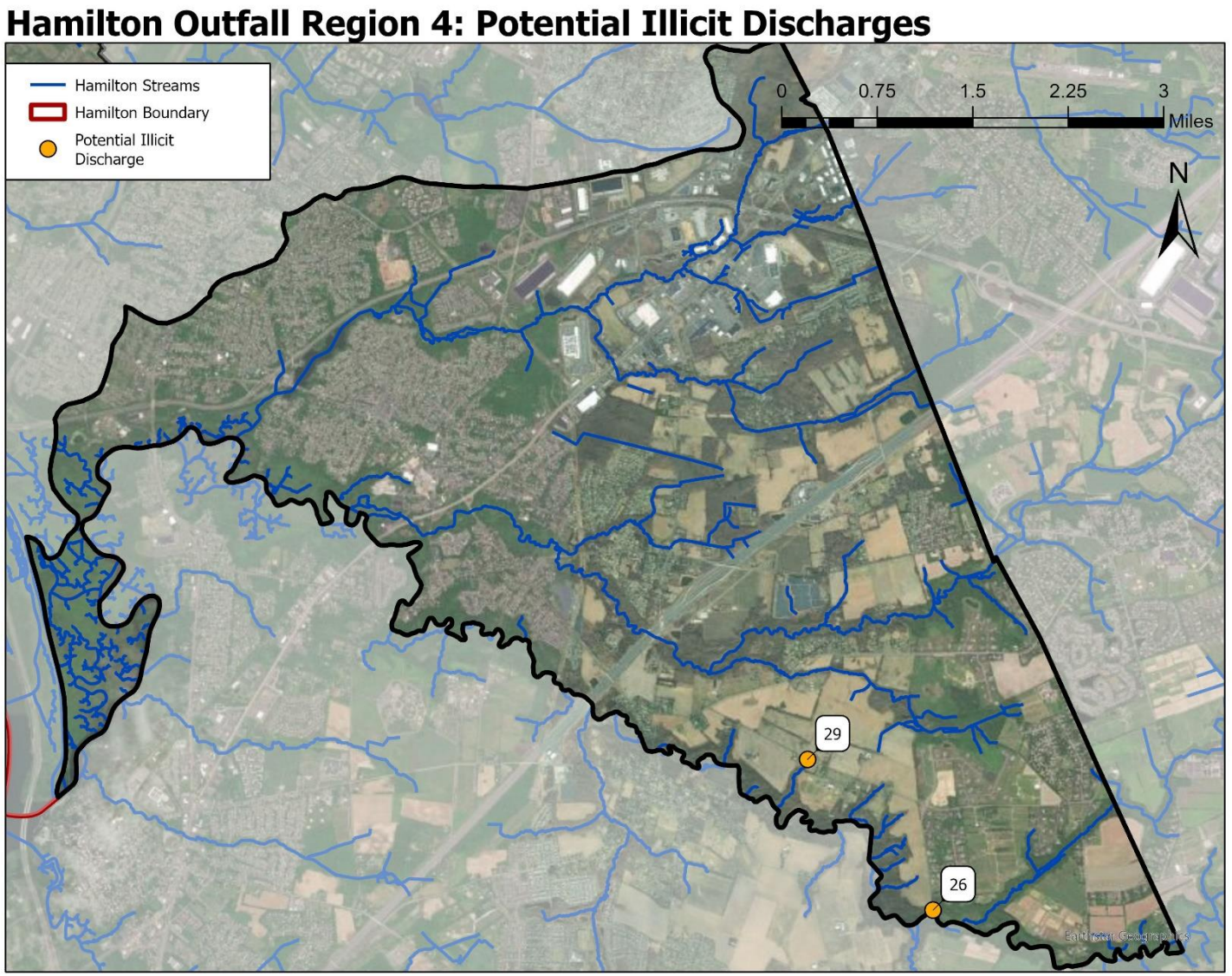

Figure 2: Hamilton Township outfall sampling sites Region 4, August 2023

Table 1: Results from outfall sampling

New Outfall ID	Old Outfall ID	Sample Date	Time Sampled	Temperature (°F)	Surfactants (MBAS) (mg/L)	Ammonia as N (mg/L)	Potassium (mg/L)	Ratio NH_3:K	Fluoride	Estimated Flow Rate (GPM)	Illicit Discharge (Y/N)
PN074	F0305	8/22/2023	10:00 AM	78.2	ND	ND	1.50	0.00	0.23	15	Y
PN121	N/A	8/22/2023	10:27 AM	71.9	ND	ND	5.47	0.00	0.53	30	N
PN037	D0301	8/22/2023	11:00 AM	83.1	ND	ND	1.62	0.00	0.23	2.6	Y
PN014	D0319	8/22/2023	12:25 PM	67.2	ND	ND	3.99	0.00	ND	0.3	N
PN019	D0311	8/22/2023	1:40 PM	74.6	0.100	0.822	9.47	0.09	0.33	0.1	Y
PN029	D0321	8/22/2023	2:10 PM	71.4	ND	ND	4.91	0.00	0.41	0.3	N
TBD	29	8/22/2023	2:55 PM	71.1	0.107	ND	2.31	0.00	ND	2.5	Y
TBD	26	8/22/2023	3:10 PM	70.1	ND	ND	3.06	0.00	ND	1	N
PN010	C0301	Not Sampled		N/A							
PN012	C0304	Not Sampled		N/A							
PN016	D0317	Not Sampled		N/A							
PN023	D0326	Not Sampled		N/A							
PN127	N/A	Not Sampled		N/A							

ND = not detected

MBAS = methylene blue active substances

Results

The Illicit Discharge Identification Flow Chart provided by NJDEP in chapter 3.6 of the Municipal Separate Storm Sewer System Tier A Guidance Document (Figure 3) was used to determine the presence of an illicit discharge. As seen from the results in Table 1, two of the samples, PN019 and 29, had detectible surfactant concentrations of 0.100 and 0.107, respectively. Both PN019 and 29 are suspected to have illicit discharges from either sanitary wastewater or washwater.

If surfactants are measured, the ratio of ammonia as N to potassium can be used to distinguish a sanitary wastewater source from a sanitary washwater source. The ammonia as N to potassium ratio of sanitary wastewater is characteristically greater than 1.0. Dry weather flows with an ammonia as N to potassium ratio less than 1.0 are likely to be from a sanitary washwater source (NJDEP, 2018). If potassium was reported as not detected (ND), half the reporting limit was used to calculate the ratio. In the case of outfalls PN019 and 29, both exhibited ratios less than 1.0. Therefore, the source of the suspected illicit discharge for both of these outfalls is likely sanitary washwater. Outfall PN019 has several commercial locations adjacent that can be investigated for potential illicit discharges. Outfall 29 is in a rural area, so the source is likely from a nearby residential or agricultural property.

For those discharges where surfactants are not detected, the next part of the investigation is to determine if the temperature of the discharge is above 70 ^{o}F. Discharges where surfactants are not detected and with temperatures greater than 70 ^{o}F are suspected to be from cooling water sources. Due to the low volume of discharge observed at several of the outfalls, temperatures observed at slightly above 70 ^{o}F are more likely due to the influence of the ambient air temperature rather than cooling water. The average ambient air temperature on the day of sampling, August 22, 2023, was reported as 71.83 ^{o}F at the Trenton Mercer Airport in Ewing, NJ. However, PN074 and PN037 exhibited temperatures of 78.2 ^{o}F and 83.1 ^{o}F, respectively. These temperatures are relatively high when compared to the average ambient air temperature of 71.83 ^{o}F . These temperatures are indicative of potential illicit discharges of cooling water from both PN074 and PN037.

Outfall PN074's drainage area is primarily residential with only a few small apartment buildings and schools that could be the sources of cooling water. Outfall PN037's drainage area also is primarily residential with only a few smaller businesses that are unlikely sources of cooling water.

Most industrial discharges can be identified by high potassium concentrations and/or high ammonia as N concentrations. The benchmark concentration for potassium to identify industrial discharges is ≥ 20 mg/L, and the benchmark concentration for ammonia as N to identify industrial discharges is ≥ 50 mg/L (Brown, Caraco, and Pitt, 2004). All potassium and ammonia as N concentrations reported in Table 1 are well below these benchmark concentrations, illustrating that the dry weather flows observed are most likely not from an industrial source.

The data indicate that there is reason to suspect illicit discharges at four of the outfalls: PN019 and 29 for suspected illicit discharge of sanitary washwater and PN074 and PN037 for suspected illicit discharge of cooling water. Further investigation to find the sources of the suspected illicit discharges is required.

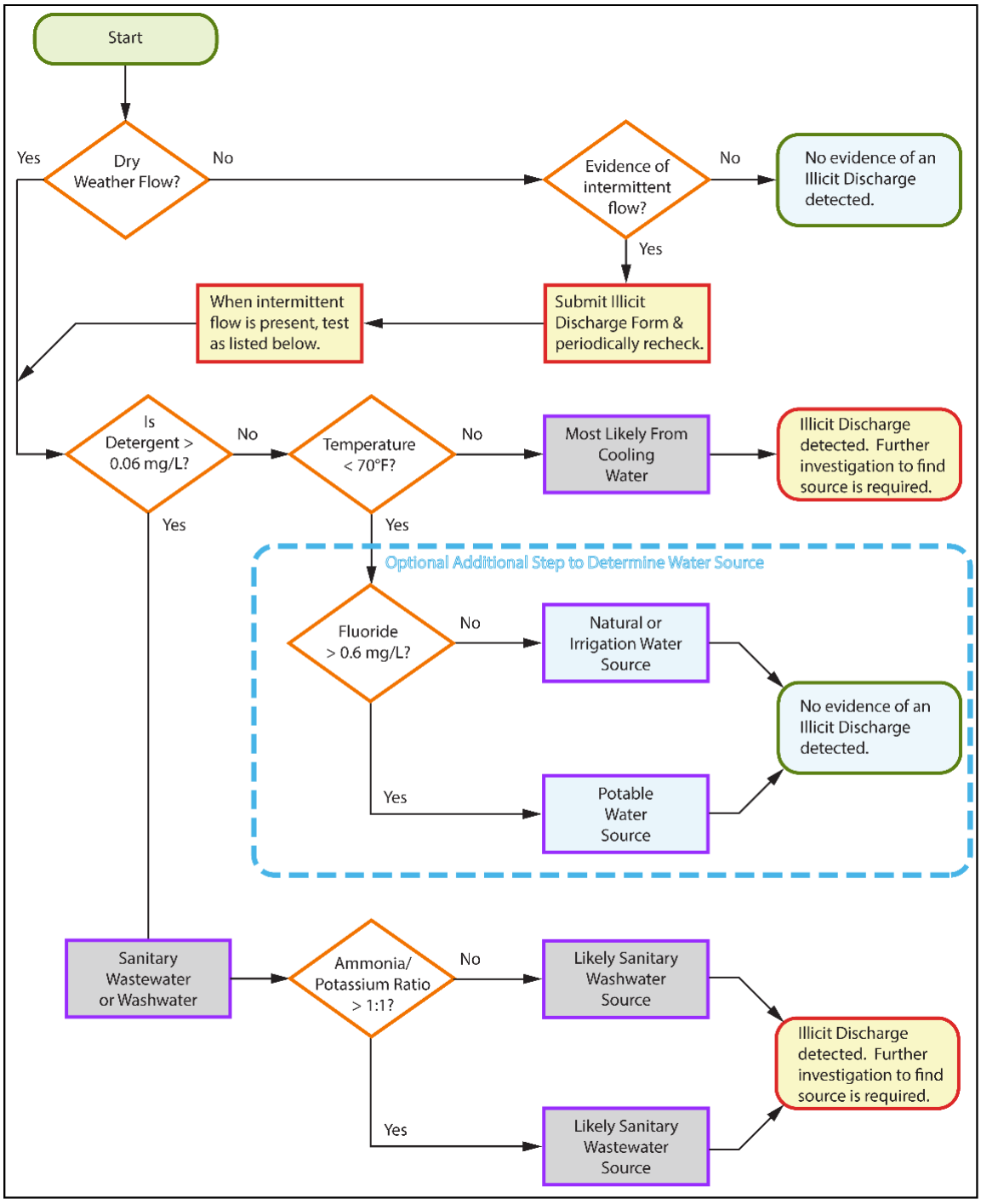

Figure 3: Illicit discharge identification flow chart, NJDEP 2018

References

Brown, E., Caraco, D., Pitt, R. 2004. Illicit Discharge Detection and Elimination: A Guidance Manual: Chapter 12 Indicator Monitoring, pp. 134-135.

New Jersey Department of Environmental Protection (NJDEP). 2018. Tier A Municipal Stormwater Guidance Document. Chapter 3.6: MS4 Outfall Pipe Mapping and Illicit Discharge and Scour Detection Control, pp. 6-12.

Weather Underground, Trenton Mercer Airport Station, 40.23 °N, 74.68 °W, August 22, 2023. https://www.wunderground.com/history/daily/us/nj/ewing/KTTN/date/2023-8-22

Attachment 1: Initial Inspection Table

Suspected Illicit Discharge

Outfall ID	OLD ID	Subwatershed	Date of Inspection	Date of Last Rain	Last Rain Amount [in]	Is the pipe fully or partially submerged?	Are there known non-stormwater discharges?	Rainfall Last 72hrs?	Dry Weather Flow?	Illicit Discharge Suspected?
PN010	C0301	Pond Run	6/6/2023	6/2/2023	0.04	N	N	N	Y	Y
PN012	C0304	Pond Run	6/6/2023	6/2/2023	0.04	N	N	N	Y	Y
PN014	D0319	Pond Run	6/6/2023	6/2/2023	0.04	N	N	N	Y	Y
PN016	D0317	Pond Run	6/6/2023	6/2/2023	0.04	Y (Partially Submerged)	N	N	Y	Y
PN019	D0311	Pond Run	6/9/2023	6/2/2023	0.04	N	N	N	Y	Y
PN023	D0326	Pond Run	6/9/2023	6/2/2023	0.04	N	N	N	Y	Y
PN029	D0321	Pond Run	6/6/2023	6/2/2023	0.04	N	N	N	Y	Y
PN037	D0301	Pond Run	6/6/2023	6/2/2023	0.04	N	N	N	Y	Y
PN074	F0305	Pond Run	6/9/2023	6/2/2023	0.04	N	N	N	Y	Y
PN121	<Null>	Pond Run	7/25/2023	7/21/2023	0.21	N	N	N	Y	Y
PN127	<Null>	Pond Run	6/21/2023	6/16/2023	0.53	N	N	N	Y	Y
PN004	<Null>	Pond Run	6/6/2023	6/2/2023	0.04	N	N	N	N	Unsure
PN130	E0209	Pond Run	6/9/2023	6/2/2023	0.04	N	N	N	N	Unsure

Suspected Illicit Discharge

Outfall ID	OLD ID	Odor	Color	Turbidity	Floatables	Deposits or Stains	Adjacent Vegetation (compared to other areas)	Notes	Overall Priority
PN010	C0301	None	Clear	Clear	None	Excessive sediments	normal	cracking underneath outfall	3 - Medium
PN012	C0304	None	Clear	Clear	Other	None	normal	Welts of grass	2 - Low
PN014	D0319	None	Clear	Clear	None	Other	normal	cracks and minor erosion	3 - Medium
PN016	D0317	None	Clear	Cloudy	Petroleum	None	normal	Partially submerged pipe, very slow moving water bordering on stagnant.	3 - Medium
PN019	D0311	None	Clear	Clear	None	Excessive sediments	normal	the discharge is orange-brown (looks to be iron deposits or algal growth), Other outfalls under bridge are strangely blocked with concrete/boards so no longer serve as outfalls	2 - Low
PN023	D0326	None	Brown	Cloudy	None	Other	normal	the discharge is an orange-brown color and also floating on top of water	2 - Low
PN029	D0321	None	Brown	Clear	None	None	normal	Backed up with sediment debris	3 - Medium
PN037	D0301	None	Clear	Clear	None	No Illicit Discharge	normal	<Null>	2 - Low
PN074	F0305	None	Clear	Clear	None	None	normal	Good, just flowing during dry weather	2 - Low
PN121	<Null>	None	Clear	Clear	None	None	normal	Fenced off, has dry weather flow , estimated measurement 36"	3 - Medium
PN127	<Null>	None	Clear	Clear	None	None	normal	pond that serves as retention basin at grounds for sculpture draining to outfall	3 - Medium
PN004	<Null>	Sewage	<Null>	<Null>	Suds	None	normal	Deep pool of standing water adjacent outfall from erosion	3 - Medium
PN130	E0209	None	<Null>	<Null>	<Null>	White crystalline	normal	white/grey staining	2 - Low

Attachment 2: 2023 Illicit Connection Visual Inspection Reports

Outfall ID: PN074 (6/9/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN074 (formerly F0305) Outfall Location Description: Camp Ave

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 9 / 2023

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

6/9/2023: Dry weather flow observed, added to list for sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☒ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☒ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☒ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 15 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: ND- NOT DETECTED mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 78.2 °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.): _____

Outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND- NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	1.50 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	0.23 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?

The source of the dry weather flow is likely cooling water.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. None of the other parameters were indicative of other illicit discharge sources, but the temperature of the water is unseasonably high, which is indicative of cooling water.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☒ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked:

The town of Hamilton Township will be responsible for proceeding with further investigation to address the identified illicit discharge.

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.26 15:09:37 -04'00' Date: 10/26/2023

Outfall ID: PN121 (7/25/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN121 Outfall Location Description: Roberts Ave between N Johnston Ave and Rt 614

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: _____

Describe the type of conveyance(s) that delivers the stormwater to the receiving waterbody (concrete or corrugated pipe, concrete channel, etc.): 36" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 7 / 25 / 2023

List the date(s) of previous inspection(s) and describe the actions taken, if applicable: 7/25/2023: Dry weather flow observed, added to list for sampling

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☒ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☒ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☒ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 30 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: ND- NOT DETECTED mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 71.9 °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.): _____

Outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND- NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	5.47 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	0.53 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?

The source was likely natural or irrigation water.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. None of these parameters were indicative of illicit discharge sources, and the temperature of the water is within a reasonable range for the time of year that sampling was conducted.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.26 17:10:39 -04'00' Date: 10/26/2023

Outfall ID: PN037 (6/6/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN037 (formerly D0301) Outfall Location Description: 224 Natrona Avenue

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

15" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 6 / 2023

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

6/6/2023: Dry weather flow observed, added to list for sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☒ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☒ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☒ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 2.6 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: ND- NOT DETECTED mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 83.1 °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.): _____

outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND- NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	1.62 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	0.23 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?

The source of the dry weather flow is likely cooling water.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. None of the other parameters were indicative of other illicit discharge sources, but the temperature of the water is unseasonably high, which is indicative of cooling water.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☒ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked:

The town of Hamilton Township will be responsible for proceeding with further investigation to address the identified illicit discharge.

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.26 13:41:40 -04'00' Date: 10/26/2023

Outfall ID: PN014 (6/6/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN014 (formerly D0319) Outfall Location Description: 21 Rivulet Way

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

38" diameter pipe

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 6 / 2023

List the date(s) of previous inspection(s) and describe the actions taken, if applicable: 6/6/2023: dry weather flow observed, added to list for further sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☒ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☒ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☒ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 0.3 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: ND- NOT DETECTED mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 67.2 °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.): _____

Outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND-NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	3.99 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	<0.10 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?

Natural or Irrigation water source, no evidence of illicit discharge detected.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. None of these parameters were indicative of illicit discharge sources, and the temperature of the water is within a reasonable range for the time of year that sampling was conducted.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.25 09:28:01 -04'00' Date: 10/25/2023

Outfall ID: PN019 (6/9/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN019 (formerly D0311) Outfall Location Description: 2103 Whitehorse Mercerville Rd

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

24" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 9 / 2023

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

6/9/2023: Dry weather flow observed, outfall added to list for further sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☒ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ▣ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ▣ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 0.01 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: 0.100 mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 74.6 °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.): _____

Outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	0.822 mg/L
Potassium	Sewage, industrial or commercial liquid waste	9.47 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	0.33 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?

The illicit discharge is likely from a sanitary washwater source.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. The detergent concentration exceeds 0.06 mg/L, which is indicative of sanitary wastewater or washwater. Since there was not a high ammonia to potassium ratio, it could be concluded that the source is likely sanitary washwater.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ■ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked:

The town of Hamilton Township will be responsible for proceeding with further investigation to address the identified illicit discharge.

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.25 14:55:06 -04'00' Date: 10/25/2023

Outfall ID: PN029 (6/6/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN029 (formerly D0321) Outfall Location Description: 728 Estates Boulevard

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

40" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 6 / 2023

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

6/6/2023: Dry weather flow was observed, added to the list for further sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☒ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☒ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☒ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 0.3 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: ND- NOT DETECTED mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 71.4 °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.): _____

outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND- NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	4.91 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	0.41 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?

The source of the dry weather flow is natural or irrigation water.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

There is no evidence of illicit discharge detected. The water was sampled for detergents, fluoride, ammonia, and potassium. Results for these species were not indicative of illicit discharge, and water temperature was within a reasonable range for the temperature at the time sampling was conducted.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.26 12:32:57 -04'00' Date: 10/26/2023

Outfall ID: 29 (8/22/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: 29 Outfall Location Description: 135 Sawmill Road

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Crosswicks Creek Tributary

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

30" diameter concrete pipe

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:

Not submerged

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 8 / 16 / 2019

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

8/16/2019: Outfall identified as potential illicit discharge and added to list to be sampled.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☒ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ▣ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ▣ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 2.5 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: 0.107 mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 71.1 °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.): _____

Outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND- NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	2.31 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	<0.10 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?

The source of dry weather flow is likely sanitary washwater.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. The detergent concentration exceeds 0.06 mg/L, which is indicative of sanitary wastewater or washwater. Since there was not a high ammonia to potassium ratio, it could be concluded that the source is likely sanitary washwater.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☒ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked:

The town of Hamilton Township will be responsible for proceeding with further investigation to address the identified illicit discharge.

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.11.07 16:24:52 -05'00' Date: 11/07/2023

Outfall ID: 26 (8/22/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: 26 Outfall Location Description: 9 Iron Bridge Road

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Edges Brook Tributary

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

24" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 8 / 26 / 2019

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

8/26/2019: Outfall identified as potential illicit discharge and added to list for further sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☒ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☒ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☒ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☒ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ▣ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☐ Normal ▣ Excessive growth and/or algal presence (Food processing plants) ☐ 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. 1 GPM
Detergents Examples include surfactants and methylene blue active substances (MBAS)	Potential discharge types include sewage, washwater, industrial or commercial liquid waste Measurement: ND- NOT DETECTED mg/L
Temperature of dry weather discharge	Temperatures >70°F may indicate cooling water discharges depending on the season Measurement: 70.1 °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.): _____

Outfall

Parameter	Potential Discharge Type (EPA Guidance)	Discharge Measurement
Ammonia	Sewage, washwater	ND- NOT DETECTED mg/L
Potassium	Sewage, industrial or commercial liquid waste	3.06 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	<0.10 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?

No substantial evidence of illicit discharge.

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

Surfactants, potassium, ammonia, and fluoride were all tested on 8/22/2023. None of the other parameters were indicative of other illicit discharge sources, and the temperature of the water is within a reasonable range for the time of year that sampling was conducted. Therefore illicit discharge is not suspected.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.11.07 16:26:55 -05'00' Date: 11/07/2023

Outfall ID: PN010 (6/6/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN010 (formerly C0301) Outfall Location Description: 83 Whitehall Road

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

44" diameter concrete pipe

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 6 / 2023

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

6/6/2023: Outfall identified as potential illicit discharge and added to list to be sampled.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☐ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☐ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☐ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☐ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. NO FLOW _____ 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.): _____

N/A, No flow upon reinspection

_____

_____

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?

_____
_____
_____
_____
_____
_____
_____

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

No flow observed upon re-inspection. None of the observations from the original inspection were determined to be a concern for an illicit connection.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.25 09:15:53 -04'00' Date: 10/25/2023

Outfall ID: PN012 (6/6/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN012 (formerly C0304) Outfall Location Description: 83 Whitehall Road

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

18" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 6 / 2023

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

6/6/2023: Dry weather flow observed, added to list for sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☐ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☐ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☐ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☐ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. NO FLOW _____ 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.): _____

N/A, No flow upon reinspection

_____

_____

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?

N/A

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

No flow observed upon re-inspection. None of the observations from the original inspection were determined to be a concern for an illicit connection.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.25 09:14:27 -04'00' Date: 10/25/2023

Outfall ID: PN016 (6/6/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN016 (previously D0317) Outfall Location Description: 21 Rivulet Way

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

48" diameter concrete pipe

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:

Partially Submerged in standing water

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 6 / 2023

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

6/6/2023: Suspicious properties identified, added to list for sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☐ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☐ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☐ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☐ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. NO FLOW _____ 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.): _____

N/A, No flow upon reinspection

_____

_____

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?

N/A

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

No flow observed upon re-inspection. None of the observations from the original inspection were determined to be a concern for an illicit connection.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.25 10:55:17 -04'00' Date: 10/25/2023

Outfall ID: PN023 (6/9/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN023 (formerly D0326) Outfall Location Description: 2110 Whitehorse Mercerville Rd

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Pond Run

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

24" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 9 / 2023

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

6/9/2023: dry weather flow was observed, outfall added to list for further sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☐ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☐ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☐ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☐ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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. NO FLOW _____ 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.): _____

N/A _____

_____

_____

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?

_____
_____
_____
_____
_____
_____
_____

Describe the investigation, including the methods that were/will be used to identify the suspected source of the illegal discharge, or conclude there was no illicit discharge, along with the timeline of the steps of the investigation. Attach additional pages if necessary.

No evidence of illicit discharge was detected.

SECTION 8: ILLICIT DISCHARGE ELIMINATION

If it was an illicit discharge, has the source been eliminated? ☐ YES ☐ NO

Describe the plan of action that was/will be followed to eliminate the illicit connection. This plan should detail who is/was responsible for the discharge, what methods were/will be used to fix it, how long it took/will take, and how removal was/will be confirmed and rechecked: _____

SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.26 12:02:18 -04'00' Date: 10/26/2023

Outfall ID: PN127 (6/21/2023)

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: Hamilton Township NJPDES #: NJG0 150258

SECTION 2: OUTFALL SUMMARY INFORMATION

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

Outfall ID: PN127 Outfall Location Description: 80 Sculptors Way

Municipality: Hamilton Township County: Mercer

Receiving Waterbody: Hamilton Lake

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

34" diameter concrete pipe

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:

N/A

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.): N/A

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:

N/A

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

SECTION 3: OUTFALL INSPECTION

Date of current inspection: 8 / 22 / 2023

Latest precipitation/snowmelt event: 8 / 18 / 2023 Amount of Precipitation (in.): 0.29

Date dry weather flow or other evidence of an intermittent illicit discharge was first discovered: 6 / 21 / 2023

List the date(s) of previous inspection(s) and describe the actions taken, if applicable: 6/21/2023: Dry weather flow was observed, added to list for further sampling.

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:* N/A *Approximate distance upstream from outfall (ft.):* N/A

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	☐ None ☐ Sewage (stale/septic sanitary wastewater) ☐ Petroleum/Gas (petroleum refineries, vehicle maintenance facilities, petroleum product storage) ☐ Rancid/Sour (food preparation facilities, e.g. restaurants, hotels, etc.) ☐ Sulfide (industries discharging sulfide compounds or organics, e.g. meat packers, canneries, dairies, etc.) ☐ Other: _____
Color	☐ Clear ☐ Brown (meat packers, printing plants, metal works, concrete or stone operations, fertilizer facilities, and petroleum refining facilities) ☐ Gray (dairies, sewage) ☐ Yellow (chemical plants, textile and tanning plants) ☐ Red (meat packers) ☐ Other: _____
Turbidity	☐ Clear ☐ Cloudy (sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers) ☐ Opaque (food processors, lumber mills, metal works, pigment plants)
Floatable Matter (Does not include litter)	*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.* ☐ None ☐ Sewage (toilet paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: _____

Deposits and Stains within outfall	*Coatings, residues or fragments of material may be indicators of a potential intermittent non-stormwater discharge* ☐ None ☐ Grayish-Black (leather tanneries) ☐ White crystalline powder (Nitrogenous fertilizers) ☐ Excessive sediments (construction sites) ☐ Oily residues (petroleum refineries, storage facilities, vehicle service areas) ☐ Other:_____
Vegetation	*As compared to surrounding Riparian bank and/or stream vegetation* ☐ Normal ☐ Excessive growth and/or algal presence (Food processing plants) ☐ 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.*

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** 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.): _____

N/A _____

_____

_____

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
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Fluoride	Distinguishes potable water from natural or irrigation water	mg/L
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_____
_____
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_____
_____

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SECTION 9: INSPECTOR INFORMATION

Inspector's Name: CAITLIN GILVEY

Title: PROGRAM ASSOCIATE Affiliation: RCE WATER RESOURCES PROGRAM

Signature: Caitlin Gilvey Digitally signed by Caitlin Gilvey Date: 2023.10.26 17:35:35 -04'00' Date: 10/26/2023