



## State of New Jersey

CHRIS CHRISTIE  
*Governor*

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Mail Code – 401-02B  
Water Pollution Management Element  
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BOB MARTIN  
*Commissioner*

KIM GUADAGNO  
*Lt. Governor*

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**  
**7010 1870 0001 4760 9191**  
**January 17, 2014**

Michael DeFrancisci, Executive Director  
Passaic Valley Sewerage Commissioners  
600 Wilson Avenue  
Newark, NJ 07105

Re: Draft Surface Water Renewal Permit Action  
Category: A - Sanitary Wastewater  
NJPDES Permit No. NJ0021016  
Passaic Valley Sewerage Commissioners  
Newark City, Essex County

Dear Mr. DeFrancisci:

Enclosed is a **draft** New Jersey Pollutant Discharge Elimination System (NJPDES) permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. The renewal permit is being issued through an application dated August 27, 2009. This permit renewal action serves to renew the Passaic Valley Sewerage Commissioner's (PVSC) individual Category "A" Permit NJ0021016 as well as to incorporate updated CSO requirements. The permittee has authority to reuse its effluent under an authorization (NJG0165883) of the reuse general permit (NJ0142581). This renewal permit proposes to revoke that authorization and authorize effluent reuse under this individual permit.

Notice of this draft permit action will appear in the *Star Ledger* and in the January 22, 2014 *DEP Bulletin*. The *DEP Bulletin* is available on the internet at <http://www.state.nj.us/dep/bulletin>. In accordance with N.J.A.C. 7:14A-15.10(c)1i, the public comment period will close sixty (60) days after its appearance in the newspaper or the *DEP Bulletin*, whichever is later.

A non-adversarial public hearing has also been scheduled on March 12, 2014 from 3:00 pm to 5:00 pm, or until the end of testimony (whichever comes first) at Passaic Valley Sewerage Commissioners, located at 600 Wilson Avenue, Newark, NJ 07105, to provide an opportunity for interested persons to present and submit information on the proposed action. Hearing attendees should bring a form of identification (a form of photo identification is preferred, such as a driver's license) for admittance to the hearing for security reasons only. If you have any questions regarding the identification requirements, please contact the Bureau of Surface Water Permitting at (609) 292-4860.

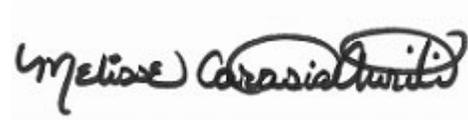
As detailed in the *DEP Bulletin* and aforementioned newspaper written comments on the draft document must be submitted in writing to Pilar Patterson, Chief, Mail Code 401-02B, Division of Water Quality,

Bureau of Surface Water Permitting, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's tentative decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The Department will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments will receive notice of the Department's final decision to issue, revoke, or redraft the document.

If you have questions or comments regarding the draft action, please contact Robert Hall at (609) 292-4860.

Sincerely,

A handwritten signature in black ink that reads "Melisse Carasia Auriti". The signature is written in a cursive style with a large, stylized initial "M".

Melisse Carasia Auriti  
Section Chief  
Bureau of Surface Water Permitting

Enclosures

c: Permit Distribution List

Masterfile #: 8439; PI #: 46756

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New Jersey Department of Environmental Protection  
 Division of Water Quality  
 Bureau of Surface Water Permitting

**PUBLIC NOTICE**

The New Jersey Department of Environmental Protection (NJDEP) is hereby giving Notice in accordance with N.J.A.C. 7:14A-15.10(d) of New Jersey Pollutant Discharge Elimination System (NJPDES) permit actions for nine (9) permittees, a public hearing on those permits as well as a request for input on a related matter as described below.

The NJDEP proposes to renew Passaic Valley Sewerage Commissioner's (PVSC) Discharge to Surface Water (DSW) Permit NJ0021016 as well as to incorporate updated Combined Sewer Overflow (CSO) permit requirements. In addition the NJDEP proposes to terminate the authorizations to discharge which are presently authorized under the Master General Permit NJ0105023 for the towns that are located within the PVSC's service area and issue individual permits with new NJPDES numbers. The following permit actions for the towns include: Bayonne City's NJPDES CSO Permit NJG0109240, East Newark Borough's NJPDES CSO Permit NJG0117846, Harrison Town's NJPDES CSO Permit NJG0108871, Jersey City's NJPDES CSO Permit NJG0108723, Newark City's NJPDES CSO Permit NJG0108758, North Bergen Township's NJPDES CSO Permit NJG0108898, Paterson City's NJPDES CSO Permit NJG0108880 and the Town of Kearny's NJPDES CSO Permit NJG0111244. The new NJPDES numbers will be NJ0109240, NJ0117846, NJ0108871, NJ0108723, NJ0108758, NJ0108898, NJ0108880 and NJ0111244, respectively, to authorize discharges from CSOs.

The above action is executed in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq., for the following discharge(s):

<b>Applicants/Permittees</b>	<b>Facilities</b>
Passaic Valley Sewerage Commissioners 600 Wilson Avenue Newark, NJ 07105	Passaic Valley Sewerage Commissioners Sewage Treatment Plant 600 Wilson Avenue Newark, NJ 07105
Bayonne City Municipal Utilities Authority 630 Avenue C Bayonne, NJ 07002	Bayonne City CSOs 630 Avenue C Bayonne, NJ 07002
East Newark Borough 34 Sherman Ave East Newark, NJ 07029-2793	East Newark Borough CSO 34 Sherman Avenue East Newark, NJ 07029
Harrison Town 318 Harrison Avenue Harrison, NJ 07029-1796	Harrison Town CSOs 318 Harrison Avenue Harrison, NJ 07029
Jersey City Municipal Utilities Authority 555 Route 440 Jersey City, NJ 07305	Jersey City CSOs 555 Route 440 Jersey City, NJ 07305
North Bergen Township Municipal Utilities Authority 4223 Kennedy Boulevard North Bergen, NJ 07047	North Bergen Township CSOs 4223 Kennedy Boulevard North Bergen, NJ 07047
Newark City Hall 920 Broad Street, Room B31f Newark, NJ 07102	Newark City CSOs 920 Broad Street Newark, NJ 07102
Paterson City 155 Market Street Paterson, NJ 07505	Paterson City CSOs 155 Market Street Paterson, NJ 07505

Town of Kearny 402 Kearny Avenue Kearny, NJ 07032	Town of Kearny CSOs 402 Kearny Avenue Kearny, NJ 07032
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Combined Sewer Overflows are discharges from Combined Sewer Systems (CSS). CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. However, during periods of rainfall or snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from CSOs to nearby streams, rivers, or other water bodies prior to reaching the sewage treatment plant.

NJDEP has historically been regulating the majority of discharges from CSOs through authorizations under a Master General Permit NJ0105023 and others through individual permits, consistent with the National Policy for CSO Controls, N.J.A.C. 7:14A-11.12 Appendix C. NJDEP has determined that it is more appropriate to regulate all CSO discharges under individual permits in order to address the site-specific regulatory requirements of each of the permittees and to promote better coordination of a Long Term Control Plan (LTCP) among all permittees contributing to the hydraulically connected systems.

Passaic Valley Sewerage Commissioners

The existing facility discharges treated and disinfected, domestic wastewater with industrial contribution into the Upper New York Harbor and Upper Newark Bay, classified as SE- 2 and SE-3 waters respectively. These water bodies are located within the NY/NJ Harbor Complex Basin and are both tributaries to the Lower New York Bay. The existing facility has a NJPDES flow value of 330 million gallons per day (MGD) on an annual average and currently discharges a monthly average flow of approximately 251 MGD on an annual average. This action proposes effluent limitations based on a flow of 369 MGD since the permit is authorizing increased loadings for some pollutants based on the facility conveying and treating wet weather flows.

Modification provisions as cited in the permit may be initiated in accordance with the provisions set forth in Part IV and upon written notification from the Department.

Bayonne City’s CSOs

Bayonne City discharges combined sewage from thirty (30) CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Kill Van Kull, Upper New York Bay and Newark Bay. The Kill Van Kull and Newark Bay are classified as SE3(C2) waters and the Upper New York Bay is classified as SE2(C2). The receiving waterbodies are all located within the NY/NJ Harbor Basin.

East Newark Borough’s CSO

East Newark Borough discharges combined sewage from one (1) CSO outfall which has solids/floatables removal equipment installed just prior to discharge. The CSO outfall discharges into the Passaic River which is classified as a SE3(C2) waters and is located within the NY/NJ Harbor Basin.

Harrison Town’s CSOs

Harrison Town discharges combined sewage from seven (7) CSO outfalls which have solids/floatables removal equipment installed just prior to discharge. These CSO outfalls discharge into the Passaic River which is classified as a SE3(C2) water and is located within the NY/NJ Harbor Basin.

Jersey City’s CSOs

Jersey City discharges combined sewage from twenty one (21) CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Penhorn Creek and the

Hackensack River. The Penhorn Creek is classified as FW2-NT(C2) waters and the Hackensack River classified as SE2(C2) waters. The receiving waterbodies are located within the NY/NJ Harbor Basin.

#### Newark City's CSOs

Newark City discharges combined sewage from seventeen (17) CSO. Ten (10) outfalls have solids/floatables removal equipment installed just prior to the discharge. Of the remaining seven (7) CSO outfalls, construction is underway to install solids/floatables removal equipment at three (3) CSO outfalls. The CSO outfalls discharge into the Passaic River and the Elizabeth Channel. The Passaic River and the Elizabeth Channel are classified as SE3(C2) waters and are located within the NY/NJ Harbor Basin.

#### North Bergen Township's CSOs

North Bergen Township discharges combined sewage from nine (9) CSO outfalls have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into Bellmans Creek, Cromakill Creek and Penhorn Creek. Bellmans Creek, Cromakill Creek and Penhorn Creek are classified as SE2(C2) waters and are located within the NY/NJ Harbor Basin.

#### Paterson City's CSOs

The City of Paterson discharges combined sewage from twenty three (23) CSO outfalls. Nineteen (19) of the twenty-three (23) outfalls have solids/floatables removal equipment installed just prior to discharge. All CSO outfalls discharge into the Passaic River which is classified as FW2-NT(C2) waters and is located in the NY/NJ Harbor Basin.

#### Town of Kearny's CSOs

The Town of Kearny discharges combined sewage from five (5) CSO outfalls which have solids/floatables removal equipment installed just prior to discharge. These CSO outfalls discharge into the Passaic River and the Lower Passaic River Unnamed Tributary (Frank's Creek). The Passaic River and the Lower Passaic River Unnamed Tributary (Frank's Creek) are classified as SE3(C2) waters and are located within the NY/NJ Harbor Basin.

These above mentioned draft NJPDES permit actions have been prepared for these facilities based on the administrative record filed at the NJDEP, 401 East State Street, Trenton, New Jersey 08625. Copies of the fact sheet which describes in more detail the principal facts and significant considerations examined during the preparation of the draft permit, and the draft permit are posted on NJDEP's website at <http://www.nj.gov/dep/dwq/cso.htm>. Draft documents are obtainable, for a nominal charge, and the administrative record is available for inspection by appointment only, Monday through Friday. If you are interested in scheduling an appointment or requesting specific information regarding the draft documents, contact the Bureau of Surface Water Permitting at (609) 292-4860.

A non-adversarial public hearing has also been scheduled for these nine (9) permits on March 12, 2014 from 3:00 pm to 5:00 pm, or until the end of testimony (whichever comes first) at Passaic Valley Sewerage Commissioners, located at 600 Wilson Avenue, Newark, NJ 07105. Hearing attendees should bring a form of identification (a form of photo identification is preferred, such as a driver's license) for admittance to the hearing for security reasons only. If you have any questions regarding the identification requirements, please contact the Bureau of Surface Water Permitting at (609) 292-4860.

Written comments on these proposals must be submitted in writing to Pilar Patterson, Chief, or Attention: Comments on Public Notice, specifically noted as comments on NJ0021016, NJ0109240, NJ0117846, NJ0108871, NJ0108723, NJ0108758, NJ0108898, NJ0108880 or NJ0111244, Division of Water Quality, Mail Code: 401-02B, Bureau of Surface Water Permitting, PO Box 420, Trenton, NJ 08625 by the close of the public comment period, which will close sixty (60) calendar days after publication of this notice in the newspaper or the January 22, 2014 *DEP Bulletin*, whichever is later. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The NJDEP will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments, or oral comments at the public hearing, will receive notice of the Department's permit decision.

***Public Notice of Proposed Permit Actions  
(Division of Water Quality)***

<p><b><i>Permit:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Name</i></li> <li>• <i>NJPDES No.</i></li> <li>• <i>Type</i></li> </ul>	<p><b><i>Facility Location:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Address</i></li> <li>• <i>County</i></li> </ul>	<p><b><i>NJDEP:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Case manager</i></li> <li>• <i>Bureau</i></li> <li>• <i>Phone No.</i></li> </ul>	<p><b><i>Receiving Discharge:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Stream or Formation or POTW</i></li> <li>• <i>Stream Classification</i></li> <li>• <i>Watershed</i></li> </ul>	<p align="center"><b><i>Executive Summary</i></b></p>
<p>Passaic Valley Sewerage Commissioners</p> <p>NJ0021016</p> <p>DSW Major</p>	<p>600 Wilson Avenue Newark, NJ 07105</p> <p>Essex County</p>	<p>Robert Hall</p> <p>Bureau of Surface Water Permitting</p> <p>(609) 292-4860</p>	<p>Upper New York Harbor (DSN 001A) Upper Newark Bay (DSN 002A)</p> <p>SE-2 (DSN 001A) SE-3 (DSN 002A)</p> <p>Newark Bay/Kill Van Kull/Upper NY Bay</p>	<p>This is a renewal permit action to authorize the discharge of 330 million gallons per day (MGD) of treated and disinfected wastewater with industrial contributions into the two receiving water bodies listed. Treatment consists of trash racks, bar screens, a grit chamber, primary clarifiers, oxygen activated sludge, secondary clarifiers, chlorine disinfection, and effluent control chambers. Effluent limitations are based on a flow of 369 MFD.</p>

New Jersey Department of Environmental Protection  
Division of Water Quality  
Bureau of Surface Water Permitting

**FACT SHEET**

Masterfile #: 8439

PI #: 46756

This fact sheet sets forth the principle facts and the significant factual, legal, and policy considerations examined during preparation of the draft permit. This action has been prepared in accordance with the New Jersey Water Pollution Control Act and its implementing regulations at N.J.A.C. 7:14A-1 et seq. - The New Jersey Pollutant Discharge Elimination System.

**PERMIT ACTION:** Surface Water Renewal Permit Action

The permittee has applied for a New Jersey Pollutant Discharge Elimination System (NJPDES) Surface Water Renewal Permit Action through an application dated August 27, 2009. This Surface Water Renewal Permit Action serves to renew the Passaic Valley Sewer Commission individual Category "A" Permit NJ0020141 as well as to incorporate updated CSO requirements. The CSO fact sheet can be found in Section 13 beginning on page 27. The permittee has the authority to reuse its effluent under an authorization (NJG0165883) of the reuse general permit (NJ0142581). This renewal permit proposes to revoke that authorization and authorize effluent reuse under this individual permit.

**1 Name and Address of the Applicant:**

Passaic Valley Sewerage Commissioners  
600 Wilson Ave  
Newark, NJ 07105

**2 Name and Address of the Facility/Site:**

Passaic Valley Sewerage Commissioners  
600 Wilson Avenue  
Newark City, Essex County

**3 Receiving Water Discharge Location Information:**

A copy of the appropriate section of a USGS quadrangle map indicating the location of the facility and discharge points is included towards the end of this Fact Sheet.

**Outfall Designator: 001A**

General Information		Watershed Information	
Receiving Water:	Upper New York Harbor	Downstream Confluences:	Lower New York Bay
Via :	Outfall pipe	Receiving River Basin:	New York Harbor Complex Basin
Classification (a):	SE-2	WMA (b):	07
Latitude:	40° 39' 16"	Watershed:	Newark Bay/Kill Van Kull/Upper NY Bay
Longitude:	74° 03' 41.9"	Subwatershed:	Upper NY Bay/Kill Van Kull (74d7m30s)
County:	Essex	HUC 14 (c):	02030104010030
Municipality:	Newark	Water Quality Impairments (d):	PCB(fish tissue), DDT, DDD, DDE, Dioxin, Dieldrin, Benzo(a)Pyrene, Hexachlorobenzene, Chlordane
Outfall Description			
Outfall Configuration:	Six finger multi-port diffuser	Submerged Pipe Characteristics:	The outfall is located 40 to 60 feet below the low tide level and is 4, 000 feet from the nearest shore point.

**Outfall Designator: 002A**

General Information		Watershed Information	
Receiving Water:	Upper Newark Bay	Downstream Confluences:	Lower New York Bay
Via :	Outfall pipe	Receiving River Basin:	New York Harbor Complex Basin
Classification (a):	SE-3	WMA (b):	04
Latitude:	40° 42' 45.5"	Watershed:	Passaic River Lower (Newark Bay to Saddle)
Longitude:	74° 07' 22.9"	Subwatershed:	Passaic River Lower (Nwk Bay to 4 <sup>th</sup> St bridge)
County:	Essex	HUC 14 (c):	02030103150050
Municipality:	Newark	Water Quality Impairments (d):	DO, Unionized Ammonia, Ar, Mercury (fish tissue), PCB, DDT, DDD, DDE, Dioxin, Dieldrin, Benzo(a)Pyrene, Chlordane, Heptachlor Epoxide
Outfall Description			
Outfall Configuration:	Headwall with tidegate	Submerged Pipe	Not Applicable
		Characteristics:	

Applicable Receiving Water Dilution Factors DSN 001A	
Acute :	16
Chronic :	22.9
Human Health Non-Carcinogen	22.9
Human Health Carcinogenic	22.9

**Footnotes:**

- (a) The designated uses for this waterbody classification can be found at N.J.A.C. 7:9B-1.12.
- (b) WMA = Watershed Management Area
- (c) HUC 14 = 14 digit Hydrologic Unit Code
- (d) These parameters are listed on Sublist 5 as impaired for this waterbody as per New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

As per the Surface Water Quality Standards at N.J.A.C. 7:9B, the designated uses for the Saline Estuary 2 (SE2) and Saline Estuary 3 (SE3) receiving waters are:

***SE2:***

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

***SE3:***

1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses.

As noted in Section 3 above, this segment of the Upper New York Bay and Lower Passaic River is impaired for PCBs. This facility discharges PCBs and Mercury through outfall 001A. This permit action requires the facility to meet a TMDL limitation for Mercury and may be required to implement a PCB Pollutant Minimization Plan (PMP) in the future Section 6. K. below. All other parameters listed as not meeting the SWQS are monitored as part of the annual WCR requirement to determine if they are present in the effluent. Since DSN 002A is only used in the event the capacity of DSN 001A is reached during a heavy precipitation event and any discharge through DSN 002A must meet the limitations for DSN 001A, no effluent limitations are

applied at DSN 002A at this point. Therefore, no limitations or conditions regarding impaired waterbody listings is necessary for DSN 002A.

#### **4 Facility Description:**

The facility is classified as a major discharger by the Department of Environmental Protection (NJDEP) in accordance with the United States Environmental Protection Agency (EPA) rating criteria. The facility's NJPDES flow value is 330 million gallons per day (MGD) calculated as an annual average. Current discharge averages 242 MGD.

This renewal carries forward provisions from the existing permit that provide an increase in loading for some pollutants based on the facility treating and conveying wet weather flows up to approximately 550 MGD, which results in an increase in the monthly average flow used in limit derivation to 369 MGD. The approximate 550 MGD is based on the additional flows of 220 MGD that will not be discharged from the CSOs, as the permittee will be accepting additional Combined Sewer Overflow (CSO) related flows from Newark City. This permit renewal does not authorize any expansion of the current sewer service area, or flows greater than 330 MGD calculated on an annual average basis, in accordance with the Northeast New Jersey Water Quality Management Plan (NENJWQMP).

This existing permit renewal also contained a compliance schedule containing milestones to ensure that PVSC will reach its goal to hydraulically convey up to 720 MGD of wet weather related flows during this current permit cycle. However, the facility has not taken flows up to 550 MGD to date and the milestones have not been completed thus far. Therefore, this renewal will not authorize the 720 MGD flows and limitations for DSN 002A will not be imposed. Authorization for 720 MGD and limitations for DSN 002A will be incorporated at the next permit renewal given that all studies have been completed.

During this permit cycle, the permittee will be authorized to use DSN 002 to discharge treated effluent only if the hydraulic capacity of DSN 001A is exceeded during periods of heavy precipitation. This POTW has a delegated pretreatment program.

Sanitary wastewater with industrial contribution is processed through the following units:

1. bar screens
2. grit channels
3. primary clarifiers
4. oxygen activated sludge
5. secondary clarifiers
6. sodium hypochlorite disinfection
7. effluent control chamber

A schematic of the facility's treatment is included near the end of the fact sheet.

Sludge is thickened, either 1) wet air oxidized, decanted, and filter pressed before being managed at an approved residuals management site, or 2) is centrifuged and then sent to an approved residuals management site.

Storm water discharges are covered by the individual authorization NJ00118427 under the Storm Water Basic General Permit NJ0088315. If there are any questions regarding the storm water permit, contact the Bureau of Nonpoint Pollution Control at (609) 633-7021.

#### **5 Type and Quantity of the Wastes or Pollutants:**

The Permit Summary Table near the end of this fact sheet contains a summary of the quantity and quality of pollutants treated and discharged from the facility and the proposed effluent limitations.

## **6 Summary of Permit Conditions:**

The proposed effluent limitations and other pertinent information regarding the draft permit are described below:

### **A. Basis for Effluent Limitations and Permit Conditions - General:**

The effluent limitations and permit conditions in this permit have been developed to ensure compliance with the following, as applicable:

1. NJPDES Regulations (N.J.A.C. 7:14A),
2. New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B),
3. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List),
4. Requirements of the Interstate Environmental Commission (N.J.A.C. 7:9B-1.5(b)2),
5. Secondary Treatment Standards (40 CFR Part 133, N.J.A.C. 7:14A-12.2 and -12.3),
6. Existing permit limitations in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44 (antibacksliding requirements),
7. Permit limitations in accordance with N.J.A.C. 7:9B-1.5(d) (antidegradation requirements),
8. Statewide Water Quality Management Planning Rules (N.J.A.C. 7:15),
9. Existing Effluent Quality limitations in accordance with N.J.A.C. 7:14A-13.8,
10. Pretreatment Requirements (N.J.A.C. 7:14A-19)

When existing effluent quality limitations are appropriate in accordance with N.J.A.C. 7-14A-13.3(e), the maximum daily limit shall be set equal to the maximum projected effluent concentration, which shall be calculated using an approved statistical method, a 95% confidence interval, a 95% probability basis, and at least 10 data points. The average monthly limitation shall be calculated from the maximum daily limitation if deemed necessary. Specific procedures concerning the calculation of existing effluent quality limitations are contained in the USEPA's Technical Support Document.

In accordance with N.J.A.C. 7:14A-13.5, Water Quality Based Effluent Limitations (WQBELs) are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey Surface Water Quality Standards (SWQS), N.J.A.C. 7:9B-1.1 *et seq.*, and the Federal Water Quality Standards, 40 CFR Part 131. WQBELs are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3. The procedures used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA "Technical Support Document for Water Quality-based Toxics Control" (TSD) (EPA- 505/2-90-001) and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

Expression of all effluent limitations is in accordance with N.J.A.C. 7:14A-13.14 and 13.15.

Whole effluent toxicity is expressed as a minimum as percent effluent.

Loading limitations (kg/day or g/day) are calculated by multiplying the flow value of 369 million gallons per day (MGD) by the conversion factor of 3.785 (L/gal) and the appropriate concentration limitation (mg/L or µg/L).

### **B. Basis and Derivation for Effluent Limitations and Monitoring Requirements- Specific:**

All permit limitations and conditions in this permit action, are equal to or more stringent than those contained in the existing permit action. As a result, this permit action satisfies the federal and state anti-degradation regulations at 40 CFR 131.12 and N.J.A.C. 7:9B-1.5(d), and no further anti-degradation analysis is necessary.

Monitoring frequencies and sample types are in accordance with N.J.A.C. 7:14A-14, unless specified otherwise in the permit. In accordance with N.J.A.C. 7:14A-14.2, the permittee may submit a written request for a modification

of the permit to decrease monitoring frequencies for non-limited parameters listed in Part III if site specific conditions indicate the applicability of such a modification.

1. Flow:

This permit includes a numerical limitation for flow of 330 MGD that shall be met on an annual average basis. Monitoring and reporting is required for the monthly average and daily maximum and shall be reported on the monthly Discharge Monitoring Report (DMR) form. The loading limitations in this permit renewal are calculated with the flow of 369 MGD.

Flow shall be monitored on a **continuous** frequency with a **metered** sample type.

2. 5-Day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>):

The concentration limitations are based on N.J.A.C. 7:14A-12.2(c). The concentration limitations are a monthly average of 25 mg/L and a weekly average of 40 mg/L. The loading limitations have been recalculated using the flow of 369 MGD. The new loading limitations are 34,916 kg/d for a monthly average and 55,867 kg/d for a weekly average.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be a **24-hour composite**.

3. Total Suspended Solids (TSS):

The concentration limitations are based on the definition of secondary treatment at 40 CFR 133.102 (b) (1) and (2). and N.J.A.C. 7:14A-12.2(e) 1. and 2. The concentration limitations are 30 mg/L as a monthly average and 45 mg/L as a weekly average. The loading limitations based on a flow of 369 MDG are 41,900 kg/day as a monthly average and 62,850 as a weekly average.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be a **24-hour composite**.

4. Percent Removal Requirement for CBOD<sub>5</sub> and TSS:

The percent removal limitations for both CBOD<sub>5</sub> and TSS are based on the definition of secondary treatment at 40 CFR 133.102(b)(3) and N.J.A.C. 7:14A-12.2(e) 3. The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **calculated**.

While the percent removal limitation applies under regular operating conditions, the Department has determined that a percent removal waiver is also applicable to the permittee during certain wet weather conditions. In a letter dated June 6, 2011 from the permittee to the Department, the permittee requested the removal of the percent removal requirement in accordance with the waiver regulations found at N.J.A.C. 7:14A-12.3(b) and (c). This regulation allows the removal or imposition of a less stringent limitation when a domestic treatment works receives less concentrated influent wastewater during wet weather or for dry weather provided certain conditions are met as detailed at N.J.A.C. 7:14A-12.3(c)1-3. The Department forwarded this request to USEPA for their determination on this issue.

In response to the June 6, 2011 letter, the USEPA prepared a response dated September 20, 2011. USEPA denied the request on the basis that PVSC had not provided data supporting all of the conditions required by federal regulations to grant relief as required under 40 CFR 133.103(a) and (e). USEPA provided specific comments as to what information would be required in order to satisfy the regulatory requirements. The permittee addressed the USEPA's concerns in a resubmittal of their request with additional information and precipitation data in a submittal dated September 11, 2013.

USEPA issued its decision on this issue in a December 6, 2013 e-mail to Pilar Patterson of the Department from Kate Anderson of USEPA. Based on a review of the additional technical information, USEPA determined that the 85% removal limitation can be waived during wet weather flows only. Under this operating scenario, USEPA explained that additional combined sewer flows will receive full treatment during wet weather events, thus preventing combined sewer overflow discharges. USEPA also provided a copy of the State Pollution Discharge Elimination System permit for Syracuse NY to provide one example of a wet weather waiver of the percent removal requirement and to illustrate its implementation. This permit contains the narrative condition “Percent removal requirements do not apply when influent flows are >126.3 MGD.

USEPA further stated that it does not support waiving the 85% removal requirement under dry weather conditions. This determination is based on its belief that the facility can meet the percent removal requirement during dry weather and does not treat to unreasonably low concentration levels during dry weather conditions. PVSC and the surrounding communities should address infiltration and inflow that may be diluting the influent, instead of receiving relief from the 85% removal requirement.

While the USEPA and the Department have determined that the 85% removal limitation does not apply during wet weather conditions, the permittee and the Department are in the process of determining what flow value is appropriate to define wet weather. For example in the Rahway Valley Sewerage Authority NJPDES permit, certain permit conditions do not apply “When influent flows are greater than 61 MGD and are sustained for a minimum of 8 consecutive hours...” Once this determination is made, the Department will issue a minor modification to this permit to incorporate that flow value in accordance with N.J.A.C. 7:14A-16.5.

To accommodate this waiver in the permit, the Department has included two options on the DMR form (Option 1 and Option 2); one for wet weather percent removal (with a reporting only requirement) and one for dry weather percent removal (when the limitation is applicable). The trigger for this condition will be included at a later date via a minor permit modification as described above. This subject permit action serves to provide public notice on this issue in accordance with N.J.A.C. 7:14A-16.4.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **calculated**.

5. pH:

The effluent limitations are based on the definition of secondary treatment at 40 CFR 133.102(c) and N.J.A.C. 7:14A-12.2 (f) and are 6.0 s.u. as a minimum and 9.0 s.u. as a maximum.

The existing monitoring frequency of **six per day** is carried forward from the existing permit and the sample type shall be **grab**.

6. Temperature:

As authorized by N.J.A.C. 7:14A-6.2(a)14, monitoring and reporting requirements for temperature are included in the permit.

The existing monitoring frequency of **six per day** is carried forward from the existing permit and the sample type shall be **grab**.

7. Fecal Coliform:

The limitations are based on N.J.A.C. 7:14A-12.5(b) 1. and 2. The monthly average limit of 200 colonies/100 mL and the weekly average of 400 colonies/100 mL are being carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

The monitoring frequency is **once per day** and is consistent with N.J.A.C 7:14A-14.2. The sample type shall be **grab**.

8. Dissolved Oxygen (DO):

The effluent limitation was based on the Northeast New Jersey Water Quality Management Plan in a previous permit and is being carried forward in the permit renewal in accordance with N.J.A.C. 7:14A-13.19. A weekly average limitation of 3.0 mg/L and a monitoring only requirement for daily average should adequately protect the instream water quality for DO.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **grab**.

8. Oil and Grease:

The effluent limitations are based on N.J.A.C. 7:14A-12.8(c) and are 10 mg/L as a monthly average and 15 mg/L as a daily maximum.

The existing monitoring frequency of **twice per month** is carried forward from the existing permit and the sample type shall be **grab**.

10. Chlorine Produced Oxidants (CPO):

In the existing permit renewal, the Department established a CPO Decay Factor and WQBEL based on two reports on CPO decay entitled "Report on Chlorine Produced Oxidants (CPO) Decay Disinfection Studies for the Passaic Valley Sewerage Commissioners' Final Effluent," dated January 23, 1998 and "Final Report on Chlorine Produced Oxidants (CPO) Decay and Disinfection Studies for the Passaic Valley Sewerage Commissioners' Hypochlorite Dosing System," dated January 24, 2001. Both reports were prepared on behalf of PVSC by the Great Lakes Environmental Center (GLEC). These reports are the basis for the CPO decay factor that was incorporated in the existing permit and is now being carried forward in this renewal permit action.

a. CPO Decay Calculation Procedure

Following is the procedure for calculating the final CPO concentration that is to be used for DMR reporting and compliance determinations against the WQBELs for CPO in Table III-A-1:

1. Utilizing the following equation, calculate the effluent travel time ("ETT") in minutes from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure at the time the effluent CPO concentration was measured at the treatment plant:

$$ETT = (601.62 / EFR) \times 60$$

where "EFR" equals the effluent flow rate in MGD occurring at the time the effluent grab sample for CPO analysis was taken at the treatment plant. The above equation was generated based on the graphical travel time curve (Flow (MGD) vs. Time (hours)) presented in the January 23, 1998 report and a data table provided by the Permittee in a fax dated February 1, 2005.

- Calculate the CPO concentration decay (“CPO<sub>DECAY</sub>”) in mg/L during the effluent travel in the outfall pipe from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure using the equation:

$$\text{CPO}_{\text{DECAY}} = (0.0043 \text{ mg/L/min}) \times \text{ETT}$$

where “ETT” equals the effluent travel time calculated in step 1 above.

- Calculate the CPO concentration at the discharge location in Upper New York Harbor (“CPO<sub>EFFL</sub>”) using the equation:

$$\text{CPO}_{\text{EFFL}} = (\text{CPO}_{\text{MEAS}}) - (\text{CPO}_{\text{DECAY}})$$

where “CPO<sub>MEAS</sub>” equals the measured effluent CPO concentration at the treatment plant in mg/L and “CPO<sub>DECAY</sub>” equals the CPO concentration decay calculated in step 2 above.

- The calculated CPO<sub>EFFL</sub> is the CPO concentration value that is used to determine compliance with the water quality based maximum daily and average monthly CPO concentration effluent limitations in Table III-A-1 and for all DMR monitoring and reporting purposes. Please refer to the example calculation below for further clarification on the above procedure.

If the CPO<sub>EFFL</sub> value calculated using the above procedure is less than the method detection level (MDL) of the method being used to measure CPO, then the CPO<sub>EFFL</sub> value used for reporting purposes will be < MDL in mg/L. For example, if the MDL for the method being utilized to measure CPO is 0.05 mg/L and the calculated CPO<sub>EFFL</sub> value is 0.01 mg/L, then < 0.05 mg/L (not 0.01 mg/L) is to be used for DMR reporting purposes for that measurement.

**EXAMPLE:** An effluent grab sample is taken at the O&M Building Sample Room when the measured effluent flow rate (EFR) is 300 MGD. The measured CPO concentration in that sample (i.e. CPO<sub>MEAS</sub>) is 0.6 mg/L. What is the calculated CPO effluent concentration (CPO<sub>EFFL</sub>) at the discharge location in Upper New York Harbor that is to be used for DMR reporting and permit compliance purposes?

Effluent Travel Time:                      ETT = (601.62 / EFR) × 60  
ETT = (601.62 / 300 MGD) × 60 = 120 minutes

CPO Decay:                                      CPO<sub>DECAY</sub> = (0.0043 mg/L/min) × ETT  
CPO<sub>DECAY</sub> = 0.0043 mg/L/min × 120 minutes = 0.52 mg/L

Calculated Upper New York Harbor Discharge Location CPO Concentration:  
CPO<sub>EFFL</sub> = (CPO<sub>MEAS</sub>) - (CPO<sub>DECAY</sub>)  
CPO<sub>EFFL</sub> = 0.60 mg/L - 0.52 mg/L = 0.08 mg/L

Result: Therefore, 0.08 mg/L would be the effluent CPO concentration value used for all DMR reporting and permit compliance purposes.

**b. Chlorine Produced Oxidants WQBEL Calculation**

The existing effluent limitations for CPO were calculated using the dilution factors from the dilution and CPO decay studies cited above, the appropriate facility design flow of 369 MGD, and the aquatic water quality criteria for CPO in saline waters of 0.013 mg/l and 0.00752 mg/L for acute and chronic respectively. Since no input data has changed since the last renewal, these calculations are still appropriate and the resulting limitations are being carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

**Limit Derivation:**

1. Calculate the wasteload Allocation

Notes: The wastewater concentration (Cw) shall be the wasteload allocation (WLA). To calculate the Long Term Average (LTA) from the WLA, the 99<sup>th</sup> percentile multiplier is used. The calculated site-specific coefficient of variation (CV) of 0.22 is used.

$$C_i = (WLA + C_{up}) / DF$$

$$WLA = (C_i \times DF) - C_{up}$$

where,

WLA = wasteload allocation, mg/L

C<sub>i</sub> = instream surface water criteria; acute = 0.013 mg/L and chronic = 0.00752 mg/L

DF = dilution factor; Acute = 16

Chronic = 22.9

C<sub>up</sub> = upstream concentration, mg/L

Assuming C<sub>up</sub> = 0 mg/L: WLA = C<sub>i</sub> x DF

WLA<sub>a</sub> = 0.21 mg/L

WLA<sub>c</sub> = 0.172 mg/L

2. Calculate the Long Term Average

$$LTA(a/c) = WLA \times [WLA_{a,c} \text{ multiplier (see Table 5-1 in TSD, page 102)}]$$

a) Acute LTA

$$LTA_a = WLA \times [\text{acute multiplier}]$$

$$LTA_a = 0.21 \text{ mg/L} \times 0.614 = 0.129 \text{ mg/L}$$

b) Chronic LTA

$$LTA_c = WLA \times [\text{chronic multiplier}]$$

$$LTA_c = 0.172 \text{ mg/L} \times 0.78 = 0.134$$

3. Calculate the Limitations

$$AML[a,c] = LTA[a,c] \times [LTA_{a,c} \text{ multiplier}]$$

$$MDL[a,c] = LTA[a,c] \times [LTA_{a,c} \text{ multiplier}]$$

where, MDL = maximum daily limitation (mg/L)

AML = average monthly limitation (mg/L)

where, For MDL, use the 99<sup>th</sup> percentile multiplier and the site specific CV [See page 103 of the TSD]

For AML, use the 99<sup>th</sup> percentile multiplier and the site specific CV [See page 103 of the TSD]

$$MDL = 0.13 \times 1.62 = 0.21 \text{ mg/L}$$

$$AML = 0.13 \times 1.1 = 0.14 \text{ mg/L}$$

Loading Limitations: AML = AML(concentration) x facility flow x conversion factor (3.785)

MDL = MDL(concentration) x facility flow x conversion factor (3.785)

$$\text{AML} = 0.14 \text{ mg/L} \times 369 \text{ MGD} \times 3.785 = 196 \text{ kg/day}$$
$$\text{MDL} = 0.21 \text{ mg/L} \times 369 \text{ MGD} \times 3.785 = 293 \text{ kg/day}$$

The existing monitoring frequency of **six per day** is carried forward from the existing permit and the sample type shall be **grab**.

11. Ammonia (Total as N):

The Department had recalculated the ammonia limitations EEQ limitations in the existing permit. The concentration limitation was a daily maximum of 53.2 mg/L, while the loading limitation was a daily maximum of 74,303 kg/day. Monitoring and reporting was required for the monthly average concentration and monthly average loading. However, these limitations were stayed in accordance with the Stipulation of Settlement dated January 22, 2010. The existing limitations were reincorporated into the permit and are 53,700 kg/day as a monthly average and 78,400 kg/day as a daily maximum. The permittee shall also monitor for monthly average and daily maximum concentrations.

The existing permit also required the permittee to complete and submit an ammonia toxicity study, which was submitted to the Department on August 16, 2006 and was received by the Department on August 17, 2006. After review of the study, the Department determined that toxicity based ammonia limitations for ammonia do not apply to the permittee's discharge. Therefore, no WQBEL cause analysis is necessary during this permit renewal and the existing EEQ limitations are being carried forward in accordance with N.J.A.C. 7:14A-13.19.

The monitoring frequency is **once per month** with a **24-hour composite** sample type.

12. Whole Effluent Toxicity (WET):

Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the State's SWQS at N.J.A.C. 7:9B-1.5(a)4 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the NJDEP determines using site-specific WET data that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the State's SWQS and the NJPDES Regulations, the need for a WQBEL for WET was evaluated for this discharge.

In order to determine the need for a WET WQBEL, the NJDEP has analyzed all available WET effluent data. In general, an acceptable data set consists of, at a minimum, 10 data values including the most recent 2½ years of data collection. Based on the review of the applicable data set, the Department has concluded the following:

- After review of the applicable data set, WET was found in quantifiable amounts in the effluent. Effluent data from the time period of January 2008 through January 2013 showed 3 detectable values and 17 non-detectable values (>100%) with an average of the detectable values being equal to LC50 ≥ 86.37%. Therefore, further analyses have been conducted for WET.

*Cause Analysis:*

For WET, a cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the maximum effluent value (in toxic units) exceeds the applicable site specific WLA (in toxic units), the discharge is shown to cause an exceedance of the SWQS.

Using the steady state mass balance equation, acute and chronic WLA of 48 TU<sub>a</sub>s and 22.9 TU<sub>c</sub>s respectively, were developed utilizing the narrative criteria for toxic substances (general)

specified in the New Jersey SWQS at N.J.A.C. 7:9B, and dilution factors of 16 for acute and 22.9 for chronic, human health, and human health carcinogen. These dilution factors originate from the water quality study dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Narajrian Associates L.P., Ocean Surveys Inc., and Killam Associates. Consistent with the recommendations of section 2.3.3 of the TSD, values of 0.3 acute toxic unit ( $TU_a$ ) and 1.0 chronic toxic unit ( $TU_c$ ) were used to interpret the narrative water quality criteria for WET contained at N.J.A.C. 7:9B-1.14(c) (see Response to Comments 13-74 through 13-89, 29 NJR 1861, (May 5, 1997)).

Review of the acute WET data set indicates the maximum effluent data value to be 1.33  $TU_{as}$  (i.e. an  $LC50 = 75\%$ ). Since the maximum reported effluent data value does not exceed the applicable site specific WLA of 4.80  $TU_{as}$ , the discharge does not cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS.

*Reasonable Potential to Cause:*

For WET, a reasonable potential to cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the projected maximum effluent value (in toxic units) exceeds the applicable site specific WLA (in toxic units), the discharge is shown to have reasonable potential to cause or contribute to an exceedance of the SWQS.

The projected maximum effluent value was calculated utilizing the procedures specified in section 3.0 of the USEPA TSD.

For this analysis, the acute reasonable potential multiplying factor (R.P.M.F.) of 1.37 was based on the number of data values in the applicable database specified above (20 data values), a default coefficient of variation (CV) of 0.6, a 95% confidence level and a 95% probability basis (refer to Table 3.1 of USEPA's TSD). Multiplying the R.P.M.F. with the maximum data value of 1.33  $TU_{as}$  from the above cause analysis, results in a projected maximum data value of 1.81  $TU_{as}$ . Since the projected maximum data value does not exceed the applicable site specific WLA of 4.80  $TU_{as}$ , the discharge does not have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS.

*Water Quality Based Effluent Limitation Derivation:*

Since the discharge was not found to cause or have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS, no new WQBELs have been calculated in this permit action. However, in accordance with the antibacksliding provisions at N.J.A.C. 7:14A-13.19(a), the existing acute WET effluent action level if  $LC50 \geq 50\%$  has been retained from the existing permit action. This action level was imposed per the Stipulation of Settlement dated January 22, 2010.

On January 5, 2009 the New Jersey Pollutant Discharge Elimination System (NJPDES) Rules were readopted. This re Adoption repealed N.J.A.C. 7:14A-5.3(a) which contained the state minimum effluent standard for acute WET and instead adopted an acute WET action level of  $LC50 \geq 50\%$  at N.J.A.C. 7:14A-13.18(f). Therefore, consistent with this requirement, the existing and effective acute WET limitation of  $LC50 \geq 50\%$  is being replaced with an acute WET action level of  $LC50 \geq 50\%$  in this renewal. Monitoring and reporting will be required to determine whether the discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS.

Imposing an action level for acute WET will be equally protective of water quality as an effluent limit in this circumstance, since the violation of either the WET limitation or the action level carries with it the same enforceable permit condition to initiate the Toxicity Reduction and Implementation Requirements (TRIR), in order to correct the toxicity problem should this value be exceeded. The Department anticipates there will be no change in water quality as a result of this change. This change satisfies the antibacksliding provisions at N.J.A.C. 7:14A-13.19, which incorporate Section 402(o)3 of the Federal Clean Water Act, because it includes the TRIR provisions. Specifically, Section 402(o)3 prohibits the revision of an effluent limit "if the implementation of such limitation would result in a violation of a water quality standard." In this circumstance, violation of either the numerically identical action level or an effluent limitation will trigger an enforceable permit condition to conduct a TRIR in order to address or prevent a violation of a water quality standard.

The test species method to be used for acute testing shall be the *Mysidopsis bahia* 96 hour definitive test. Such selection is based on the saline characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and N.J.A.C. 7:18, the Regulations Governing the Certification of Laboratories and Environmental Measurements (N.J.A.C. 7:18).

The TRIR are included in accordance with N.J.A.C. 7:14A-13.17(a), 7:14A-6.2(a)5 and recommendations in Section 5.8 of the TSD. The requirements are necessary to ensure compliance with the applicable WET action level and to expedite compliance with the WET action level should exceedances of the WET limitation occur. As included in section B.1 of the TRIR requirements, the initial step of the TRIR is to identify the variability of the effluent toxicity and to verify that a consistent toxicity problem does in fact exist.

Effluent samples for conducting WET testing are to be collected after the last treatment step, consistent with the collection location for all other parameters.

The existing monitoring frequency of **quarterly** is carried forward from the existing permit and the sample type shall be **composite**.

### 13. Toxic Metals, Organic Compounds, and Cyanide:

In accordance with N.J.A.C. 7:14A-13.6(a), a WQBEL shall be imposed when the NJDEP determines pursuant to N.J.A.C. 7:14A-13.5 that the discharge of a pollutant causes an excursion above a SWQS. Furthermore, The New Jersey Water Pollution Control Act as amended (N.J.S.A. 58:10A-7b(3)), commonly called the Clean Water Enforcement Act (CWEA) and N.J.A.C. 7:14A-6.16(a) directs the NJDEP to include in NJPDES permits issued to delegated POTWs with an approved pretreatment program, effluent limitations for all regulated pollutants listed under the USEPA's Categorical Pretreatment Standards, adopted pursuant to 33 U.S.C., section 1317, and such other pollutants for which local discharge limitations have been established for a permittee discharging into the PVSC Wastewater Treatment Plant that are discharged from the facility above detectable levels. PVSC has an approved pretreatment program and is a delegated POTW. The following pollutants are regulated by the permittee on its users: Copper, Cadmium, Lead, Mercury, Nickel, and Zinc.

In the existing permit issued on January 6, 2005, the NJDEP imposed more stringent EEQ limitations for **Copper, Nickel, Zinc, Lead, and Cyanide**. The permittee adjudicated the permit and requested that the existing EEQ limitations be imposed since the permittee would have problems consistently meeting these newer EEQs. The NJDEP issued the permittee stay letters granting a stay for **Copper, Nickel, Zinc, and Lead** on March 2, 2005 and February 28, 2006 to effectively stay these limitations and reincorporate the old EEQs until this renewal permit. It also stated that if any parameter showed cause or reasonable potential to cause during this renewal action, the calculated WQBEL will be imposed.

Regarding **Cyanide**, the permittee performed a Free Cyanide study and requested a revision to the saltwater SWQS at N.J.A.C. 7:9B-1.14. The Free Cyanide SWQS was revised as a result and the NJDEP stayed the Total Cyanide EEQ. Note that the NJDEP inadvertently calculated the existing Total Cyanide WQBEL of 16

ug/L using the older Free Cyanide criteria of 1.0 ug/L, which is incorrect. During this renewal, the Department has performed a cause analysis for Total Cyanide using the Total Cyanide Criteria as shown below. The January 22, 2010 Stipulation of Settlement also recognizes this decision and notes that the NJDEP will impose the most stringent of either a WQBEL or the existing EEQ limitation, where there is no cause. However, current policy is to impose the least stringent limitation for a delegated parameter when no cause or reasonable potential to cause is shown. Since no Free Cyanide data is available to compare against the new revised Free Cyanide SWQS adopted January 4, 2010 and since Total Cyanide is present in the effluent, the NJDEP is imposing a monitoring requirement for Free Cyanide and will evaluate the necessity of a Free Cyanide WQBEL based on the new Free Cyanide SWQS at the next permit renewal action.

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all effluent data sets made available to the NJDEP. Acceptable data sets generally consist of, at a minimum, 10 data values including the most recent 2½ years of data collection. A pollutant is considered discharged in “quantifiable amounts” when an exact amount of that pollutant is measured equal to or above the detection level reported by a laboratory analysis (refer to the “NJPDES Monitoring Report Form Reference (MRF) Manual” for further information). Based on the review of the data sets, the NJDEP has concluded the following:

Parameters Monitored as Part of WCR Requirement and not Detected:

- After review of the applicable data sets, all parameters, with the exception of those listed below, were not found to be discharged in the effluent. These toxic pollutants do not have effluent limitations proposed in the draft permit at this time. However, monitoring and reporting requirements have been included in this permit action based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA TSD).

Parameters Monitored as Part of WCR Requirement and Detected:

- After review of the applicable data sets, **Chloroform, Total Chromium, Manganese, and Tetrachloroethylene** were found to be discharged in quantifiable amounts in the effluent. Therefore, further analyses have been conducted on these pollutants as shown below.

Parameters Not Detected as Part of DMR Requirement:

- After review of the applicable data sets, Mercury and Lead were not found to be discharged in the effluent.

**Mercury**

The existing permit contains a monthly average loading limit of 2.5 kilograms per day with monitoring required for the daily maximum. These limitations were originally imposed in the June 27, 1996 issued permit renewal and were based on current effluent quality as part of the Phase I TMDL since the receiving waterbody is known or projected to exceed applicable water quality standards for Mercury and is required to have Phase I TMDLs for this metal. The TMDLs were developed by the USEPA, as a Federal regulatory action. This Federal promulgation results in the incorporation of TMDLs into State Water Quality Management Plans. In accordance with the above, this permit incorporates Phase I EEQ effluent limitations for mercury. For mercury, Phase I TMDLs/WLAs are based on existing loads for all significant point sources and a projected reduction in atmospheric loads due to implementation of the Clean Air Act.

Existing monthly discharge monitoring report data show that mercury is not consistently detected in the effluent and was only detected three times for the time period of March 2011 through March 2013. Since the facility has a delegated pretreatment program and Mercury is regulated on the permittee’s users, the Department is obligated to impose an effluent limitation.

As such, the Department has retained the existing mass-based TMDL of 2.5 kg/day as a monthly average permit limitation for total recoverable mercury in accordance with N.J.A.C. 7:14A-13.19. Monitoring and reporting is also required on a concentration basis as a daily maximum and monthly average and on a mass basis as a daily maximum.

The existing monitoring frequency of **once per month** is being carried forward and the sample type shall be a **24-hour composite**.

### Lead

The Department is carrying forward the EEQ limitations of 162 kg/day as a monthly average and 300 kd/day as a daily maximum in accordance with N.J.A.C. 7:14A-13.19. The permittee shall also monitor for monthly average and daily maximum concentration.

The existing monitoring frequency of **once per month** is being carried forward and the sample type shall be a **24-hour composite**.

### Parameters Detected as Part of DMR Requirement:

- After review of the applicable data sets, **Copper, Nickel, Zinc, and Cyanide** were found to be discharged in quantifiable amounts in the effluent. Therefore, further analyses have been conducted on these pollutants as shown below.

### Quantified Pollutant Analysis Methodology:

For each pollutant discharged in quantifiable amounts in the effluent, a cause analysis was conducted using the procedures specified in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.5. The cause analysis consists of a comparison between the pollutant's maximum effluent concentration value (or average value of a long term data set in the case of criteria with an averaging period longer than one year) and the pollutant's applicable site specific wasteload allocation.

Using the steady state mass balance equation, WLAs were developed utilizing the applicable surface water quality criteria, pollutant specific upstream concentrations (when available), and dilution factors of 16 for acute and 22.9 for chronic, human health, and human health carcinogen. These dilution factors originates from the water quality study dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Narajrian Associates L.P., Ocean Surveys Inc., and Killam Associates.

For the applicable pollutants (Copper, Lead, Nickel, and Zinc), the applied criteria is based on a water effect ratio (WER) of 1.0.

For the applicable metals, default/site specific translators were utilized to convert total recoverable data to its dissolved equivalent for the cause analyses for aquatic criteria, and, if applicable, to convert the dissolved long term averages to total recoverable values for determining WQBELs. Translator values for the parameters listed below, if not site specific, are based on the conversion factors for dissolved metals at N.J.A.C 7:14A-13.6(c). The default metal translators used in the analyses are as follows:

Metal	Saline Water	
	Translator (acute)	Translator (chronic)
Copper	0.830	0.830
Lead	0.951	0.951
Nickel	0.990	0.990
Zinc	0.946	0.946

\* Conversion factors for lead are hardness dependent. Values shown are at a hardness of 100 mg/L of calcium carbonate.

*Quantified Pollutant Analysis Results:*

Cause analyses were conducted on:

<b>Copper</b>	<b>Manganese</b>
<b>Lead</b>	<b>Chloroform</b>
<b>Nickel</b>	<b>Total Chromium</b>
<b>Zinc</b>	<b>Tetrachloroethylene</b>
<b>Total Cyanide</b>	

As a result of the cause analyses, none of the parameters were found to cause an excursion of the SWQS. The Department's conclusions and results are listed below. Refer to Table A at the back of the Fact Sheet for a summary of the effluent limitation analysis for the Toxic Metals, Organic Compounds, and/or Cyanide.

- Since the discharge of the above listed parameters in the permittee's effluent was not found to cause an excursion of the SWQS, WQBELs are not proposed in the draft permit for these parameters at this time. However, because of the delegated status of this facility and the fact that **copper, nickel, lead, and zinc** are limited on its users, EEQ limitations from the existing permit have been included based on N.J.A.C. 7:14A-6.16(a) and N.J.A.C. 7:14A-13.3(e).

The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **24-hour composite**.

*Existing Effluent Quality (EEQ) Limitation Derivation Procedures*

EEQ limitations were calculated based on N.J.A.C. 7:14A-13.8(a) and procedures set forth in the USEPA TSD. Consistent with the recommendations set forth in Appendix E of the USEPA TSD, the Department utilized a site-specific CV based on the lognormal or the delta-lognormal distribution statistics for **Copper, Cyanide, Nickel, Zinc, and Manganese**. Consistent with the recommendations set forth in the USEPA TSD (Section 5.5.2), the Department utilized a default CV of 0.6 for the analysis of **Chloroform, Total Chromium, and Tetrachloroethylene**. The maximum projected effluent concentration calculation incorporated the use of the 95 percent confidence interval and the 95 percent probability basis reasonable potential multiplying factors from Table 3-2 of the TSD in accordance with N.J.A.C. 7:14-13.8(a)1i. Based on N.J.A.C. 7:14A-13.8(a)2, the maximum daily limitation was set equal to the maximum projected effluent concentration. In accordance with N.J.A.C. 7:14-A-13.14(a)2, effluent limitations are expressed as concentration and mass loading. The limitations for the metal parameters are expressed in the total recoverable form in accordance with 40 CFR 122.45(c).

Because of the delegated status of the facility, effluent monitoring of annually for all other priority pollutants not discussed above, as noted under N.J.A.C. 7:14A-4 et seq, Appendix A, Table II and III, is required in accordance with N.J.S.A. 58:10A-6(n) and N.J.A.C. 7:14A-19.3(c)7. The effluent characterization monitoring data will be used at the time of the next permit action to evaluate whether effluent limitations need to be incorporated into the permit based on the Clean Water Enforcement Act.

**C. Influent and Effluent Monitoring Requirements:**

In order to calculate percent removals, influent monitoring is required for CBOD<sub>5</sub> and TSS in accordance with N.J.A.C. 7:14A-6.5(b) and 11.2(a) 2. Consistent with the intent of 40 C.F.R. 403.5 and as authorized by the provisions of N.J.A.C. 7:14A-6.3(a), the monitoring requirements for influent pH and temperature are included in the permit.

The annual influent monitoring requirement of the priority pollutants as noted under N.J.A.C. 7:14A-4 *et seq.*, Appendix A, Table II and III, is required in accordance with N.J.S.A. 58:10A-6(n) and N.J.A.C. 7:14A-19.3(c)7. The influent monitoring is required to evaluate the loading to the treatment plant to generate the percent removal data.

**D. Recommended Quantitation Levels Policy (RQLs):**

The Department developed the RQLs to insure that useful data is provided to the Department in order to characterize the discharger's effluent. The Department recommends that the permittee achieve detection levels that are at least as sensitive as the RQLs found in Part III. The Department has determined that the quantitation levels listed therein can be reliably and consistently achieved by most state certified laboratories for most of the listed pollutants using the appropriate procedures specified in 40 CFR Part 136. FAILURE TO ATTAIN A QUANTITATION LEVEL AS SENSITIVE AS A LISTED RQL IS NOT A VIOLATION OF THE PERMIT, BUT DOES TRIGGER SOME ADDITIONAL REPORTING REQUIREMENTS FOR THE PERMITTEE AS SPECIFIED IN PART IV OF THE PERMIT.

**E. Reporting Requirements:**

All data requested to be submitted by this permit shall be reported on the Discharge Monitoring Reports (DMRs), Waste Characterization Reports (WCR), and Residual Transfer Reports (RTR) as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

**F. General conditions:**

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

**G. Operator Classification Number:**

The operator classification requirement is no longer included in the permit. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Construction and Connection Permits at (609) 984-4429.

**H. Flow Related Conditions:**

All flow related conditions are incorporated into the permit to implement the Treatment Works Approval Program (N.J.A.C. 7:14A-22), the Capacity Assurance Program (N.J.A.C. 7:14A-22.16), the Sewer Ban Program (N.J.A.C. 7:14A-22.17), the applicable Water Quality Management Plan (N.J.A.C. 7:15), and the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C).

This facility is located in the area covered by the Northeast Water Quality Management Plan.

**I. Pretreatment Conditions:**

The Department has approved PVSC's industrial pretreatment program on July 27, 1983. The Permittee is a local agency that owns or operates the Passaic Valley Sewage Commissioners treatment plant as defined under N.J.S.A.

58:10A-3.x and y, and 40 CFR 403.8(a). Therefore, the treatment plant operated by the Permittee is subject to the industrial pretreatment program requirements noted in this NJPDES permit NJ0021016. This program shall enable the permittee to detect and enforce against violations of the categorical pretreatment standards promulgated under Section 307 (b) and (c) of the Federal Clean Water Act and prohibited discharge standards as set forth in 40 CFR Part 403.5.

The Department intends to monitor the conduct and effectiveness of the Permittee's pretreatment program by use of an on-site audit to be scheduled in March of each year. The on-site audit will be a discussion of the Permittee's pretreatment program operational status, industrial compliance status, enforcement activities (if any), industrial monitoring activities, an evaluation of the IPP record keeping system, and a general discussion of the miscellaneous topics related to the pretreatment program.

The program shall comply with N.J.A.C. 7:14A-19, and be implemented in accordance with the approved pretreatment program submitted by The Passaic Valley Sewage Commissioners.

All industrial pretreatment program related plant monitoring requirements have been incorporated into the Monitoring Section of the permit and should be reported in the Pretreatment Annual Report.

**J. Residuals/Sludge Conditions:**

All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residuals management. All conditions for residual monitoring and use and disposal can be found in the Residual General Permit Authorization NJG0198064.

**K. Polychlorinated Biphenyl (PCB) Sampling and Pollutant Minimization Plan (PMP):**

The United States Environmental Protection Agency and the International Agency for Research on Cancer have concluded that PCBs are carcinogenic to humans. The primary non-occupational source of human PCB exposure is food, especially fish and shellfish from contaminated waters. PCBs persist in the environment, accumulate in the tissue of fish and other animals, and biomagnify through the food chain. The Department has, therefore, adopted rules at N.J.A.C. 7:14A-11.13 and 14.4 on December 18, 2006 to reduce discharges of PCBs to New Jersey's surface waters from industrial facilities and sewage treatment plants. The regulations at N.J.A.C. 7:14A-11.13 outline the PCB monitoring requirements and the regulations at N.J.A.C. 7:14A-14.4 outline the monitoring frequency requirements.

The *New Jersey 2010 Integrated Water Quality Monitoring and Assessment Report (integrated report)* lists pollutants that are currently not meeting the surface water criteria in stream segments throughout the state. Since this facility discharges to a subwatershed that is listed as impaired for PCBs under a Fish Advisory in the Integrated Report, more specifically, Sublist 5 of the New Jersey List Of Water Quality Limited Waters (also known as the 303(d) List or as the Impaired Waterbodies List), this facility is subject to the rules at N.J.A.C. 7:14A-11.13 and 14.4.

The permittee has completed sampling for PCBs as required in a previous permit action. The Department is currently reviewing the sampling data for this and other facilities to determine which facilities are discharging at more elevated levels. Once the Department completes this review and if the permittee's effluent is discharging PCBs at more elevated levels, the Department will require the permittee to develop and submit a PMP for approval within 12 months from the effective date of the permit action the requirement is incorporated in.

The Department has developed a PMP Technical Manual to help permittees with the development of the PMP, which can be found on the Department's web site at <http://www.state.nj.us/dep/dwq/techman.htm>.

If based on the monitoring for PCBs, it is determined that the permittee must develop and implement a PCB PMP, the permittee will be required to submit an Annual PMP Progress Report. These reports will be used to update the

Department regarding any revisions to the PMP, measures taken to achieve reductions, and changes to the baseline loading.

These conditions have been incorporated into the permit at Part IV, Section D.

#### **L. Reclaimed Water for Beneficial Reuse (RWBR):**

This draft permit contains conditions allowing PVSC to beneficially reuse treated effluent identified as RWBR provided the effluent is in compliance with the criteria specified for the particular use. There are two main types of RWBR uses, Public Access Use and Restricted Access Use. Conditions applicable to both types of RWBR are included herein. However, currently approved types of RWBR are included in Appendix A of this permit. As specified in Part IV, the permittee must obtain approval from the Department for each additional RWBR application prior to implementation. Approval shall be granted via a minor modification to the permit for any newly requested applications and included in Appendix A of this permit.

##### **1. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Public Access****

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Public Access reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Reclaimed water shall not exceed 5.0 mg/L of Total Suspended Solids (TSS) at a point before application of disinfection. The sample type shall be grab. The facility shall provide continuous on-line monitoring for turbidity before application of disinfection. These requirements are consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse", EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where chlorine is utilized for disinfection, chlorine-produced oxidants (CPO) of at least 1.0 mg/L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous on-line monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Fecal coliform concentrations shall not exceed 14 fecal coliforms per 100 mL at any given time (as an instantaneous maximum level). Fecal coliform concentrations shall also meet a weekly (7 day) median value of 2.2 fecal coliforms per 100 mL. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO<sub>3</sub> + NH<sub>3</sub>) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the

information stated in the Engineering Report section of the “Technical Manual for Reclaimed Water for Beneficial Reuse.”

2. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Restricted Access – Land Application and Non Edible Crops**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Non Edible Crops reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Where chlorine is utilized for disinfection, chlorine-produced oxidants (CPO) of at least 1.0 mg/ L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous on-line monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department’s “Technical Manual for Reclaimed Water for Beneficial Reuse” and EPA document entitled, “Municipal Wastewater Reuse, Selected Readings on Water Reuse” EPA # 430/09-91-022, September 1991 and the EPA Manual, “Guidelines for Water Reuse”, EPA document # 625R-92/004, September 1992.

Fecal coliform shall comply with the permit limitations as specified in the Effluent Limitations Table in Part III of the permit. This is consistent with a report entitled “Regulations Governing Agricultural Use of Municipal Wastewater and Sludge”, National Academy Press, Washington, D.C. 1996, Department’s “Technical Manual for Reclaimed Water for Beneficial Reuse” and the EPA Manual, “Guidelines for Water Reuse”, EPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO<sub>3</sub> + NH<sub>3</sub>) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department’s “Technical Manual for Reclaimed Water for Beneficial Reuse.” This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the information stated in the Engineering Report section of the “Technical Manual for Reclaimed Water for Beneficial Reuse.”

3. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Restricted Access – Construction and Maintenance Operations and Restricted Access – Industrial Systems**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Construction and Maintenance Operation Systems and/or Industrial Systems reuse identified in Part IV of this permit shall be met.

**Other Applicable Conditions for RWBR:**

The following conditions are consistent with the requirements of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA document entitled, “Municipal Wastewater Reuse, Selected Readings on Water Reuse” EPA # 430/09-91-022, September 1991 and the EPA Manual, “Guidelines for Water Reuse”, EPA document # 625R-92/004, September 1992.

Only reclaimed water meeting high level treatment and the conditions detailed in the approved Operations Protocol shall be diverted for beneficial reuse. Diversion of acceptable quality reclaimed water to the reuse location shall occur only during periods of operator presence, unless other provisions for increased facility

reliability are detailed in the Operations Protocol. The Operations Protocol must be reviewed and updated as required. Changes to the Operations Protocol must be submitted to the Department and approved by the Department prior to implementation. Reclaimed water produced at the treatment facility that fails to meet the criteria established in the Operations Protocol shall not be diverted for beneficial reuse and must instead, be discharged in compliance with the NJPDES/DSW permitted outfall.

The application of reclaimed water shall not produce surface runoff or ponding of the reclaimed water. Land application sites shall not be frozen or saturated when applying RWBR. All setback distances shall be consistent with the requirements of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

The permittee must post advisory signs designating the nature of the project in the area where beneficial reuse is practiced. Examples of methods for notification are identified in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

No cross-connections to potable water systems shall be allowed. All reuse system valves and outlets must be appropriately tagged or labeled to warn the public and employees that the water is not intended for drinking. All piping, pipelines, valves, and outlets must be color coded, or otherwise marked, to differentiate reclaimed water from domestic or other water, as detailed in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

The permittee is required to submit a Beneficial Reuse Annual Report on February 1 of each year. The annual report shall compile the total flow of reuse water distributed to each approved reuse site for each approved type of reuse for the previous calendar year. Specific requirements for the annual report are identified in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse". In addition a daily log noting the volume of water supplied, the name of the user, date of pick-up, the location and type of reuse (e.g. sewer jetting, landscape irrigation, etc...). and where it is being distributed shall be maintained on-site.

The permittee is required to submit a copy of all Reuse Supplier and User Agreements for existing reuses with its permit application package. Additional Reuse Supplier and User Agreements shall be submitted for each additional user prior to start-up of that use. A Reuse Supplier and User Agreement is a binding agreement between the permittee that supplies the RWBR and the entity that beneficially reuses this water. This agreement is required to ensure that all parties involved work to ensure that construction, operation, maintenance and monitoring of the RWBR system is in compliance with the Technical Manual, all applicable rules and regulations, this permit and the permittee's NJPDES discharge permit. The requirement for submittal of this document is consistent with N.J.A.C. 7:14A-2.11(a). Please note that a Reuse Supplier and User Agreement is not required if the supplier of the RWBR and the user are the same entity.

The permittee is required to submit and receive approval of an Engineering Report in support of RWBR approval requests for new or expanded RWBR projects as detailed in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse"

## **7 Wet Weather Facility Flow Conditions:**

### **A. Compliance Schedule for Accepting Additional CSO flows up to 720 MGD**

This permit action carries forward the authorization for the permittee to discharge up to 550 MGD of DSN 001's 580 MGD capacity. The permittee is working towards accepting CSO flows in excess of 550 MGD and up to 720 MGD using a second outfall, DSN 002. The authorization to accept up to 720 MGD of CSO flow will be incorporated into the next permit renewal if all studies and upgrades are completed, giving the permittee time to modify the plant and perform the below listed plan addressing future permit limitations. Allowing the permittee to accept up to 720 MGD will allow the treatment of CSO flows that would otherwise go untreated before reaching the surface waters of the state.

The following submittals shall be met by the permittee:

1. PVSC has initiated the work outlined in the approved work plans for:

“Quality Assurance Project Plan – Mixing Zone Modeling for Passaic Valley Sewerage Commissioners’ Secondary Outfall to Newark Bay: Evaluating Compliance with the Surface Water Quality Standards during Wet Weather- Ambient Water Quality Monitoring Study”, dated September 15, 2009 (with editorial revisions on October 13, 2009), and submitted by Great Lakes Environmental Center.

“Development of Design Conditions for Mixing Zone Modeling for Passaic Valley Sewerage Commissioners’ Secondary Outfall to Newark Bay: Evaluating Compliance with the Surface Water Quality Standards during Wet Weather”, dated February 19, 2009, and submitted by Great Lakes Environmental Center.

2. No later than 12 months following initiation of the study as outlined in the approved work plan, PVSC will submit to the DEP a draft of the final report presenting the results of the study to be used to establish effluent limits for PVSC's Newark Bay outfall 002 for wet weather flows at the plant exceeding 550 MGD up to a maximum of 720 MGD.
3. No later than 3 months following DEP's written comments on the draft of the final report, PVSC will finalize the report and submit it to the DEP.

## **8 Variances to Permit Conditions:**

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To date, the Department has not received a variance request from the permittee.

Procedures for modifying a WQBEL are found in the New Jersey SWQS, N.J.A.C. 7:9B-1.8 and 1.9. If a water quality based effluent limitation has been proposed in this permit action, the permittee may request a modification of that limitation in accordance with N.J.A.C. 7:14A-11.7(a). This request must be made prior to the close of the public comment period. The information that must be submitted to support the request may be obtained from the Bureau of Water Quality Standards and Assessment at (609) 777-1753.

## **9 Description of Procedures for Reaching a Final Decision on the Draft Action:**

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Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in the *Star Ledger* and in the DEP Bulletin.

## **10 Contact Information**

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If you have any questions regarding the surface water conditions of this permit action, please contact Robert Hall, Bureau of Surface Water Permitting at (609) 292-4860.

## 11 Calculation Equations:

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A. Steady State Mass Balance Equation:  $C_d = C_i = (Q_{up} \times C_{up} + Q_w \times WLA) / (Q_{up} + Q_w)$

where,  $C_d$  = downstream concentration  
 $C_i$  = instream surface water criteria (from N.J.A.C. 7:9B)  
 $C_{up}$  = upstream concentration  
 $Q_{up}$  = upstream design low flow value, cfs  
 $Q_w$  = wastewater flow, cfs  
 $WLA$  = wasteload allocation

B. Wasteload Allocation:  $WLA = C_i \times Df - C_{up}(Df - 1)$

where,  $WLA$  = wasteload allocation  
 $C_i$  = instream surface water criteria (from N.J.A.C. 7:9B)  
 $C_{up}$  = upstream concentration  
 $Df$  = dilution factor

C. Long Term Average:  $LTA = (WLA) \times [WLA \text{ multiplier (LTA)}]$

where,  $LTA$  = long term average  
 $WLA$  = wasteload allocation  
 $WLA \text{ multiplier (LTA)}$  = wasteload allocation multiplier for long term average, the 99th percentile multiplier, (see Table 5-1 in TSD, page 102)

D. Maximum Daily Limitation:  $MDL = (LTA) \times [LTA \text{ multiplier (MDL)}]$

where, MDL = maximum daily limitation  
LTA = long term average  
LTA multiplier (MDL) = long term average multiplier for the maximum daily limitation ,  
the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

E. Average Monthly Limitation:  $AML = (LTA) \times [LTA \text{ multiplier (AML)}]$

where, AML = average monthly limitation  
LTA = long term average  
LTA multiplier (AML) = long term average multiplier for the average monthly limitation,  
the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

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Permit Summary Table

Unless otherwise noted, all effluent limitations are expressed as maximums. Dashes (--) indicate there is no effluent data, no limitations, or no monitoring for this parameter depending on the column in which it appears.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA Jan. 2008 – March 2013	EXISTING LIMITS	FINAL LIMITS
Flow	MGD	Monthly Avg. Daily Max. Yearly Avg.	241.76 628 243.37	MR MR 330	MR MR 330
5 Day Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )	kg/d	Monthly Avg. Weekly Avg.	10,734.81 15,179.86	34,916 55,867	34,916 55,867
5 Day Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )	mg/L	Monthly Avg. Weekly Avg.	11.52 15.79	25 40	25 40
Influent CBOD <sub>5</sub>	mg/L	Monthly Avg. Weekly Avg.	153.37 172.44	MR MR	MR MR
CBOD <sub>5</sub> Minimum Percent Removal Option 1 (Dry Weather)	%	Monthly Avg.	92.46	85	85
CBOD <sub>5</sub> Minimum Percent Removal Option 2 (Wet Weather)	%	Monthly Avg.	92.46	85	MR
Total Suspended Solids (TSS)	kg/d	Monthly Avg. Weekly Avg.	16,624.83 22,986.14	41,900 62,850	41,900 62,850
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	17.86 23.57	30 45	30 45
Influent Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	153.06 172.78	MR MR	MR MR
TSS Minimum Percent Removal Option 1 (Dry Weather)	%	Monthly Avg.	88.32	85	85
TSS Minimum Percent Removal Option 2 (Wet Weather)	%	Monthly Avg.	88.32	85	MR
Fecal Coliform (geometric mean)	# per 100mL	Monthly Avg. Weekly Avg.	3.24 28.44	200 400	200 400
Dissolved Oxygen (minimum)	mg/L	Weekly Avg. Daily Avg.	7.87 4.3	3 MR	3 MR
Oil and Grease	mg/L	Monthly Avg. Instant Max.	2.24 14.8 47/16	10 15	10 15
Influent Temperature	°C	Instant. Min. Monthly Avg. Instant. Max.	7.5 18.57 28.8	MR MR MR	MR MR MR
Effluent Temperature	°C	Instant. Min. Monthly Avg. Instant. Max.	8.0 19.24 27.1	MR MR MR	MR MR MR
Influent pH	su	Instant. Min. Instant. Max.	5.7 11.9	MR MR	MR MR
Effluent pH	su	Instant. Min. Instant. Max.	6.0 7.3	6.0 9.0	6.0 9.0
Ammonia (Total as N)	kg/d	Monthly Avg. Daily Max.	25,752.77 40,669	53700 78400	53700 78400
Ammonia (Total as N)	mg/L	Monthly Avg. Daily Max.	29.06 44.8	MR MR	MR MR
Chlorine Produced Oxidants	kg/d	Month Avg. Daily Max.	306.63 547.49 32/31	196 293	196 293

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA Jan. 2008 – March 2013	EXISTING LIMITS	FINAL LIMITS
Chlorine Produced Oxidants	mg/L	Month Avg. Daily Max.	0.28 0.60 32/31	0.14 0.21	0.14 0.21
Mercury, Total Recoverable	kg/day	Monthly Avg. Daily Max.	0.15 0.3 5/58	2.5 MR	2.5 MR
Mercury, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det./# N.D.	0.16 0.3 5/58	MR MR	MR MR
Copper, Total Recoverable	kg/day	Monthly Avg. Daily Max.	15.63 39.3	187 350	187 350
Copper, Total Recoverable	µg/L	Monthly Avg. Daily Max.	17.72 47.2	MR MR	MR MR
Nickel, Total Recoverable	kg/day	Monthly Avg. Daily Max.	12.50 24.8	150 262	150 262
Nickel, Total Recoverable	µg/L	Monthly Avg. Daily Max.	12.50 31	MR MR	MR MR
Zinc, Total Recoverable	kg/day	Monthly Avg. Daily Max.	61.85 259.9	562 1037	562 1037
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	70.37 327	MR MR	MR MR
Lead, Total Recoverable	kg/day	Monthly Avg. Daily Max.	<6.1 - <13.9 <6.1 - <13.9 0/63	162 300	162 300
Lead, Total Recoverable	µg/L	Monthly Avg. Daily Max.	<8.0 - <10 <8.0 - <10 0/63	MR MR	MR MR
Cyanide, Total	kg/day	Monthly Avg. Daily Max.	29.66 58.7 54/9	120 255	120 255
Cyanide, Total	µg/L	Monthly Avg. Daily Max.	33.73 70 54/9	MR MR	MR MR
Cyanide, Free	kg/day	Monthly Avg. Daily Max.	-- --	-- --	MR MR
Cyanide, Free	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR
Acute Toxicity, LC50	% effluent	Minimum	86.37 3/17	MR (1)	MR (1)

**Footnotes and Abbreviations:**

MR Monitor and report only

(1) The permittee shall meet an action level of  $LC50 \geq 50\%$

**Table A:** Effluent limitation analysis for the Toxic Metals, Organic Compounds, Cyanide, and other pollutants; effluent flow of 369 MGD and stream hardness of 100 mg/L.

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Maximum reported data value (µg/L) (1)	Calculated instream WLA (µg/L)	"Cause" Y = yes N = no	Aquatic criteria LTA (µg/L)	Water quality based limit, if applicable (µg/L)	Existing EEQ Limitations (kg/day)
				<b>A</b>	<b>B</b>	<b>A &gt; B ?</b>			
Total Recoverable Copper	3/2011 to 3/2013	(dt) = 25 (nd) = 0	0.39 (ca)	39.18 (max)	(a) = 76.8 (c) = 70.99 (h) = NA (hc) = NA	(a) = N (c) = N (h) = NA (hc) = NA	(a) = 41.38 (c) = 55.59	MDL = 92.5 AML = 63.67 NOT IMPOSED	<b>MDL = 350</b> <b>AML = 187</b>
Total Cyanide	3/2011 to 3/2013	(dt) = 16 (nd) = 9	0.74 (ca)	47 (max)	(a) = NA (c) = NA (h) = 3,206 (hc) = NA	(a) = NA (c) = NA (h) = N (hc) = NA	(a) = NA (c) = NA	MDL = 5,550 AML = 3,206 NOT IMPOSED	<b>MDL = 255</b> <b>AML = 120</b>
Total Recoverable Nickel	3/2011 to 3/2013	(dt) = 25 (nd) = 0	0.32 (ca)	20.81 (max)	(a) = 6350.72 (c) = 1010.58 (h) = 500 (hc) = NA	(a) = N (c) = N (h) = N (hc) = NA	(a) = 3786.33 (c) = 832.49	MDL = 690.85 AML = 500 NOT IMPOSED	<b>MDL = 262</b> <b>AML = 150</b>
Total Recoverable Zinc	3/2011 to 3/2013	(dt) = 25 (nd) = 0	0.40 (ca)	126.76 (max)	(a) = 1440 (c) = 1854.9 (h) = 595,400 (hc) = NA	(a) = N (c) = N (h) = N (hc) = NA	(a) = 669.90 (c) = 1262.34	MDL = 1522.2 AML = 1040.55 NOT IMPOSED	<b>MDL = 562</b> <b>AML = 1037</b>
Chloroform	2/2008 to 2/2013	(dt) = 5 (nd) = 1	0.6 (d)	6.1 (max)	(a) = NA (c) = NA (h) = 48090 (hc) = NA	(a) = NA (c) = NA (h) = N (hc) = NA	(a) = NA (c) = NA	MDL = 48090 AML = 78996 NOT IMPOSED	<b>Not Applicable</b>
Total Chromium	2/2008 to 2/2013	(dt) = 6 (nd) = 0	0.6 (d)	13 (max)	(a) = NA (c) = NA (h) = 17175 (hc) = NA	(a) = NA (c) = NA (h) = N (hc) = NA	(a) = NA (c) = NA	MDL = 28212.8 AML = 17175 NOT IMPOSED	<b>Not Applicable</b>
Manganese	2/2008 to 2/2013	(dt) = 11 (nd) = 0	0.27 (ca)	451 (max)	(a) = NA (c) = NA (h) = 2290 (hc) = NA	(a) = NA (c) = NA (h) = N (hc) = NA	(a) = NA (c) = NA	MDL = 3026.5 AML = 2290 NOT IMPOSED	<b>Not Applicable</b>
Tetrachloroethylene	2/2008 to 2/2013	(dt) = 6 (nd) = 1	0.6 (d)	2.64 (LTaeq)	(a) = NA (c) = NA (h) = NA (hc) = 36.64	(a) = NA (c) = NA (h) = NA (hc) = N	(a) = NA (c) = NA	MDL = 60.2 AML = 36.64 NOT IMPOSED	<b>Not Applicable</b>

- (1) For human health carcinogen (hc) water quality based calculations, the data set's long-term average equivalent is used instead of the maximum reported data value. For human health carcinogen (hc) existing effluent quality limitations, the maximum reported data value is used.

**Footnotes and Abbreviations:**

(dt) = Data values detected.

(nd) = Data values non-detected.

(d) = Default CV

(ca) = Calculated from data set.

(max) = Maximum

(LTAeq) = Long Term Average equivalent

(a) = acute aquatic

(c) = chronic aquatic

(h) = human health non-carcinogen

(hc) = human health carcinogen

(\*) = Dissolved

(\*\*) = Total Recoverable

LTA = Long Term Average

WLA = Waste Load Allocation

MDL = Maximum Daily Limit

AML = Average Monthly Limit

EEQ = Existing Effluent Quality

N/A = Not Applicable

MR = Monitor and Report

## **13 Combined Sewer Overflow (CSO)**

### Combined Sewer Overflow Discharge Description:

This facility receives flows from combined sewer systems (CSS). Such flows are regulated through this permit.

CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. However, during periods of rainfall or snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from CSOs to nearby streams, rivers, or other water bodies prior to reaching the sewage treatment plant.

CSOs often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS) which may pose risks to human health, threaten aquatic life and its habitat, and impair the use and enjoyment of the State's waterways.

Although PVSC does not own and/or operate any CSO outfalls, they indirectly control the discharge of the CSO outfalls in, Bayonne, Jersey City, Newark, North Bergen, East Newark, Harrison, Kearny and Paterson. Please refer to those communities individual NJPDES discharge to surface water regarding those CSO discharge points.

## **14 Combined Sewer Overflow Control Policy Background:**

### **A. Regulatory Background**

Historically, the control of CSOs has proven to be extremely complex. This complexity stems partly from the difficulty in quantifying CSO impacts on receiving water quality and the site-specific variability in the volume, frequency, and characteristics of CSOs. In addition, the financial considerations for communities with CSOs can be significant. The U.S. Environmental Protection Agency (EPA) estimated the CSO abatement costs for the 1,100 national communities served by CSSs to be approximately \$41.2 billion in the May 1995 Combined Sewer Overflows - Guidance for Nine Minimum Controls. In 2008, New Jersey's CSO abatement costs were estimated at \$9.3 billion. See National Clean Watersheds Needs Survey,

<http://water.epa.gov/scitech/datait/databases/cwns/upload/cwns2008rtc.pdf>.

To address these challenges, EPA's Office of Water issued a National Combined Sewer Overflow Control Strategy ("CSO Strategy") on August 10, 1989 (54 Federal Register 37370). Five years later, EPA issued the National CSO Control Policy (National Policy) on April 19, 1994, which remains the current national framework for control of CSOs. The National Policy provides guidance to permittees and state authorities on coordinating the planning, selection and implementation of CSO controls. It promotes a phased approach to the control of CSOs through a series of permits that include progressively more stringent requirements. The National Policy prohibits dry weather overflows and contains provisions for developing appropriate, site-specific NPDES permit requirements for all CSOs. In the Wet Weather Quality Act of 2000, Congress amended the CWA to incorporate the National Policy. As amended, the CWA requires that all permits, orders and decrees issued to regulate combined system overflows must comply with the National Policy. 33 U.S.C.A. § 1342(q)(1). DEP incorporated the National Policy verbatim into its regulations at N.J.A.C. 7:14A-11.12 – Appendix C.

### Key Elements of the National CSO Control Policy

The National Policy contains four key principles to ensure that existing and proposed CSO controls are cost-effective and meet the requirements of the CWA. These four principles are:

- Provide clear levels of control that would be presumed to meet appropriate health and environmental objectives;
- Provide sufficient flexibility to municipalities, especially those that are financially disadvantaged, to consider the site-specific nature of CSOs and determine the most cost-effective means of reducing pollutants and meeting CWA objectives and requirements;
- Allow a phased approach for implementation of CSO controls which considers a community's financial capability; and
- Review and revise, as appropriate, WQS and their implementation procedures when developing long-term CSO control plans to reflect the site-specific wet weather impacts of CSOs.

The National Policy requires permittees to implement Nine Minimum Controls (NMCs), and to develop and implement a Long Term Control Plan (LTCP). The NMCs are as listed below.

1. Proper operation and regular maintenance programs for the sewer system and the CSOs,
2. Maximum use of the collection system for storage,
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized,
4. Maximization of flow to the publicly owned treatment works for treatment,
5. Prohibition of CSOs during dry weather,
6. Control of solid and floatable materials in CSOs,
7. Pollution prevention,
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

There are nine minimum elements of the LTCP. They are:

1. Characterization, monitoring, and modeling activities to serve as the basis for selection and design of effective CSO controls;
2. A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;
3. Consideration of sensitive areas as the highest priority for controlling overflows;
4. Evaluation of alternatives that will enable the permittee, in consultation with the NPDES permitting authority, WQS authority, and the public, to select CSO controls that will meet CWA requirements;
5. Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
6. Operational plan revisions to include agreed-upon long-term CSO controls;
7. Maximization of treatment at the existing POTW treatment plant for wet weather flows;
8. An implementation schedule for CSO controls; and
9. A post-construction compliance monitoring program adequate to verify compliance with water quality-based CWA requirements and ascertain the effectiveness of CSO controls.

In New Jersey, the CSO Strategy, and later, National Policy have been implemented, in part, through NJPDES Master General Permit (MGP) (NJ0105023) for Combined Sewer Systems. Most of the CSSs in the State were regulated under General Permit Authorizations issued under the MGP, however some CSSs continued to be regulated under individual NJPDES permits. In addition, some CSO controls were required under other enforceable documents, such as Administrative Consent Orders or Judicial Consent Orders.

The first MGP was issued on January 27, 1995, and became effective on March 1, 1995. Under the 1995 MGP, permittees which own and/or operated any portion of a CSS were required to develop and implement technology based control measures including the NMCs. Of significance to note, the Department required the installation of solid and floatable controls, i.e., netting or bar screens, that would not allow the passage of solids greater than one half inch. To date, 89% of such facilities across the State have installed these controls. In addition, the permittees were required to initiate the first element of the LTCP, by requiring the development of Combined Sewer System Characterization

Studies (System Characterization Study) to demonstrate the relationship between rainfall, runoff and sewer system responses. As part of the studies, permittees were required to develop a field calibrated and verified CSO model designed to represent the CSS's response to historical events of precipitation. The study was divided into six components: 1. Monitoring Program Proposal and Work Plan; 2. Service Area and Land Use Report; 3. Sewer System Inventory and Assessment Report; 4. Rainfall Monitoring Study; 5. Combined Sewer Overflow Monitoring Study; and 6. Combined Sewer System Modeling Study.

On February 24, 2000, the Department renewed the MGP.

On June 30, 2004, the Department revoked and reissued the MGP. Existing requirements remained in place, and the Department added several new provisions to require permittees to address four additional elements of the CSO LTCP. Specifically, the permit required permittees to develop, with Department oversight, a Public Participation Plan, evaluate a specific set of alternatives, develop appropriate cost and performance curves, and maximize conveyance for treatment at the existing POTW treatment plant for wet weather flows. Permittees with CSO points were required to develop and evaluate a variety of disinfection control alternatives. The permit became effective on August 1, 2004, and expired on July 31, 2009. DEP issued a draft new general permit before the August 1, 2009 expiration date, but did not finalize it.

The 2004 MGP reflected the Department's intention to allow the CSO permittees to integrate the results of ongoing TMDL studies into their LTCPs. The TMDL water quality studies were intended to help develop water quality goals for the receiving waters, identify CSO and non-CSO sources of pollution, and identify load reduction objectives and allocations through establishment of TMDLs for pathogens, nutrients and other pollutants determined to be responsible for the impairments. As indicated in the Fact Sheet that accompanied the 2004 MGP, the Department did not intend to require the permittees to develop and implement all elements of the LTCP until the TMDLs for pathogens were established.

The Department expected that TMDL studies would have been completed during the lifetime of the 2004 MGP. However, the studies were not completed until after the MGP expired. Further, on March 15, 2012, EPA provided DEP with a draft of the water quality study and associated documentation that was intended to provide the basis for the pathogens TMDL in the NY/NJ Harbor. After reviewing the draft water quality study, the Department determined that it was technically deficient, and that the Department could not move forward with the TMDL for pathogens at that time. Rather than continue to wait for an acceptable water quality study and for TMDLs to be adopted, the Department has determined that it is necessary to move forward on individual permits requiring permittees to develop and implement all elements of the LTCP at this time. Thus, the Department has determined that it is no longer appropriate to control CSOs through a MGP and is issuing individual permits in a phased approach in order to address the site-specific conditions of each of the permittees and to promote better coordination of a LTCP among all permittees contributing to the hydraulically connected system.

Since the inception of the Department's CSO program, 64 CSO points in New Jersey have been eliminated. Permittees have put into place Solids/Floatables Control Measure for at least 183 CSO points. The control measures for the remaining CSO points are in various stages of construction. These Solids and Floatables control facilities currently capture, remove, or otherwise prevent the discharge of an estimated 700 tons of solids and floatables material per year. The New Jersey Environmental Infrastructure Financing Program, through a partnership with DEP and the New Jersey Environmental Infrastructure Trust has helped finance much of this work by funding over \$1.4 billion for CSO abatement projects.

Specifically, PVSC has performed the following studies funded in part by the NJ Environmental Infrastructure Trust:

- Passaic Valley Sewerage Commissioners CSO Characterization Study – Modeling Study, prepared by HydroQual, dated December 2003.
- Passaic Valley Sewerage Commissioners Public Participation Report, prepared by Hatch Mott Macdonald, dated April 2007.
- Cost and Performance Analysis Report for Domestic Treatment Works, prepared by Malcolm Pirnie, dated March 2007.
- Passaic Valley Sewerage Commissioners CSO Long Term Control Plan Cost and Analysis Report Volume 1 and Volume 2, prepared by Hatch Mott Macdonald, dated April 2007.

A complete list of studies performed by all CSO permittees in PVSC's hydraulically collection system is summarized in Appendix C at the end of this permit.

Multiple municipalities/permittees own separate portions of a hydraulically connected combined sewer system, and any changes to the system, or CSO controls that are implemented by one of these municipalities/permittees will likely affect the CSO discharges in other portions of the hydraulically connected combined sewer system. Additionally, these municipalities/permittees are then connected to a STP which is owned by a separate entity. Therefore, the Department requires that the permittee work cooperatively with the receiving STP and all other appropriate municipalities/permittees in the hydraulically connected combined sewer system to ensure that the data collected is used consistently in the development of the LTCP and can be documented to achieve overall water quality benefits.

Further, the Department strongly encourages the permittees to combine their resources to develop and submit a single LTCP on behalf of the permittees in the hydraulically connected combined sewer system.

The Department recognizes that the development of such a single comprehensive LTCP among multiple entities will require extensive coordination and cooperation and, as such, will consider requests to extend the compliance schedule for the submittal of the single, comprehensive LTCP.

This permit contains conditions necessary to implement the National Policy pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., Sewage Infrastructure Improvement Act, N.J.S.A. 58:25-23 et seq., and the Clean Water Act, 33 U.S.C. 1251 et seq., and the regulations promulgated pursuant thereto, N.J.A.C. 7:14A, specifically, N.J.A.C. 7:14A-11.12, Appendix C.

### **Summary of Permit Conditions:**

#### **A. Nine Minimum Controls:**

This permit requires that the permittee continue to comply with all of the Nine Minimum Controls (NMCs), as listed below.

1. Proper operation and regular maintenance programs for the sewer system and the CSOs,
2. Maximum use of the collection system for storage,
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized,
4. Maximization of flow to the publicly owned treatment works for treatment,
5. Prohibition of CSOs during dry weather,
6. Control of solid and floatable materials in CSOs,
7. Pollution prevention,
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The NMCs are identified in the National Policy as minimum technology-based controls that can be implemented to address CSOs without extensive engineering studies or significant construction costs, prior to the implementation of long-term control measures. As described in the National Policy, permittees were to implement the NMCs as the first steps in controlling discharges from CSOs. EPA has prepared a document to guide permittees on how to implement the NMCs and document implementation. The document, Guidance for Nine Minimum Controls, can be found at <http://www.epa.gov/npdes/pubs/owm0030.pdf>.

Permittees are encouraged to be creative and explore innovative and cost-effective measures in implementing the NMCs to address their specific CSOs. The NMCs are not necessarily distinct and separate from one another. Many control measures can address and facilitate more than one of the controls at the same time (e.g., street sweeping can address both the "Control of Solids/Floatables" and the "Pollution Prevention" controls). With the assistance of the guidance document referenced above, permittees should continue to plan and pursue control measures that can achieve the ultimate goal of reducing overall CSO impacts in a holistic

manner. Based upon the evaluation of the implementation of the NMCs, the Department has included enhancements in order to clarify requirements consistent with the National Policy. A brief description of the NMCs under this permit follows.

## **1. Proper Operation and Regular Maintenance Program Requirements**

Under the MGP a Combined Sewer Overflow Pollution Prevention Plan (CSOPPP) and a Proper Operation & Maintenance Plan and Manual is required, and consistent with state and federal regulations, (N.J.A.C. 7:14A-6.12 and 40 CFR 122.41(e)), all permittees with CSOs were required to develop and maintain a current Operations and Maintenance (O&M) Plan and Manual for their contributory collection system to the CSO outfalls. The Plan and Manual were to demonstrate that the permittee has made or will make all the necessary financial, administrative and institutional arrangements to meet the requirements of the permit. The Department has determined that it is necessary to provide more detail in the permit, consistent with EPA Guidance, on the necessary components of an O & M Program and Manual. Under this proposed permit action, the permittee is required to continue to implement and update annually as necessary, an Operations & Maintenance (O&M) Program (and corresponding Manual), Emergency Plan, detailed Standard Operating Procedures (SOPs) and an Asset Management Plan to ensure that the treatment works, which are owned and/or operated by the permittee, are operated and maintained in a manner that achieves compliance with all terms and conditions of this permit. For example, SOPs are required to be developed to ensure that the permittee:

- a. Conduct visual inspections to provide that unpermitted discharges, obstructions, damage and dry weather overflows will be discovered,
- b. Provides a system for documenting, assessing, tracking and addressing residential complaints regarding blockages and other situations that lead to flooding of basements, streets and other public and private areas,
- c. Provides for ongoing infiltration and inflow (I/I) reduction strategies through the identification of sources and implementation of I/I reduction projects,
- d. Includes Asset Management planning, addressing such measures as infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, and
- e. Includes under the Emergency Plan: a plan for addressing a wide range of emergencies, including procurement for energy (fuel oil, electricity) and replacement parts.

The permittee shall provide an updated accurate characterization on a GIS map (including the capacity, dimensions, age, type of material, etc.) of the entire collection system owned and/or operated by the permittee that conveys flows to the treatment. The permittee shall also review its rules, ordinances and sewer use agreements with its customer and/or upstream municipalities and revise if necessary to require them to identify I/I and reduce where appropriate, and to identify and eliminate interconnections and cross-connections in storm sewers. More specifically, the SOPs shall specify the operation, inspection, scheduled preventive maintenance and timely repairs required to ensure that the entire collection system conveys flows to the treatment works properly.

## **2. Maximum Use of the Collection System for Storage**

Under the MGP, the permittee was required to conduct a feasibility study to evaluate in-line and off-line storage technologies for incorporation into possible future control strategies to store flow for subsequent treatment at the STP after downstream conveyance and treatment capacities were restored. Under this proposed permit action, the permittee will be required to minimize the introduction of sediment and obstructions and regularly remove any impediments to flows within the system and to identify and implement minor modifications to enable the entire collection system owned/operated by the permittee that conveys flows to the treatment works to store additional wet weather flows to minimize CSO discharges (volume, frequency and duration), while not creating or increasing sewage overflows to basements, streets and other public and private areas, until downstream sewers and treatment facilities can adequately convey and treat the flows.

### **3. Review and Modification of Pretreatment Requirements to Assure CSO Impacts are Minimized**

Under the existing individual NJPDES Discharge to Surface Water permits issued to the STPs that receive combined sewage, the STPs were required to explore various options to minimize discharges of non-domestic users during wet weather periods. Under this proposed permit action, the CSO permittee is required to determine the locations of Significant Indirect/Industrial Users (SIUs) as it relates to the locations of its CSO outfalls, and the discharge nature of the SIUs for the entire collection system which is owned and/or operated by the permittee. Furthermore, the permittee is to determine and prioritize the environmental impact of these SIUs by CSO outfall and include this information in the characterization portion of its Operation & Maintenance Program. For delegated STPs, the permittee shall require that SIUs investigate ways to minimize their discharges during wet weather, and where necessary, establish agreements with SIUs or enact ordinances or rules specifying that the SIUs should restrict discharges to the greatest extent practicable during wet weather periods.

### **4. Maximization of Flow to the POTW for Treatment**

Under the MGP (and the existing individual NJPDES Discharge to Surface Water permits issued to the STPs that receive combined sewage), the permittee was required to operate and maintain the facilities to maximize the conveyance of wastewater to the STP for treatment and to minimize the frequency and duration of CSOs to the receiving waters. Under this proposed permit action, this requirement is continued and the permittee is also required to evaluate and implement low-cost alternatives for increasing the flow to the STP, based upon capacity evaluations of the permittee's collection system.

### **5. Prohibition of CSOs during Dry Weather**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the prohibition of discharges from CSOs during dry weather at this time.

### **6. Control of Solids and Floatable Material in CSOs**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the prohibition of discharges from CSOs during dry weather at this time.

### **7. Pollution Prevention**

Under the MGP and the existing individual NJPDES Discharge to Surface Water permit, the permittee was required to develop, implement, and maintain a Combined Sewer Overflow Pollution Prevention Plan (CSOPPP). The CSOPPP required documentation of the procedures used to develop, evaluate and implement interim and long term solids/floatables control measures among other things. Under this proposed permit action, Bayonne, Jersey City, Newark, North Bergen MUA, East Newark, Harrison, Kearny and Paterson will be required to prevent and limit contaminants from entering the entire collection system owned and/or operated by Bayonne, Jersey City, Newark, North Bergen MUA, East Newark, Harrison, Kearny and Paterson or PVSC.

### **8. Public Notification to Ensure that the Public Receives Adequate Notification of CSO Occurrences and CSO Impacts**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to ensure that the public receives notification of CSO occurrences and impacts at this time.

### **9. Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to characterize CSO impacts and controls at this time.

## **B. Long Term Control Plan (LTCP):**

This permit contains requirements for the permittee to develop and submit a final LTCP on or before the Effective Date of the Permit + 3 years. The permittee may utilize information collected under previous permits to the extent that they are accurate and representative of a properly operated and maintained sewer system and meet the current requirements, such as:

Passaic Valley Sewerage Commissioners CSO Long Term Control Plan Cost and Analysis Report Volume 1 and Volume 2, prepared by Hatch Mott Macdonald, dated April 2007,

A complete list of studies performed by all CSO permittees in PVSC's hydraulically connected system is summarized in Appendix C at the end of this permit.

As stated above, since multiple municipalities/permittees own portions of hydraulically connected combined sewer systems, the Department requires that the permittee work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected combined sewer system to ensure that the data is used consistently in the development of the LTCP and can be documented to achieve overall water quality benefits. The Department encourages a single LTCP be developed and submitted on behalf of all of the permittees in a hydraulically connected combined sewer system. For example, the Department supports the permittee combining their resources with the member permittees of Bayonne, Jersey City, Newark, North Bergen MUA, East Newark, Harrison, Kearny and Paterson in the development of a single LTCP to address this permit requirement.

The National Policy lists nine elements that must be addressed in the LTCP. The National Policy also encourages permittees to develop, and permit writers to evaluate LTCPs on a watershed management basis. Permittees should evaluate all sources of pollution (e.g., point sources, CSOs, storm water) during system characterization and, wherever possible, develop control strategies on a watershed basis in coordination with the NPDES permitting authority.

This permit allows for the submittal of the LTCP in three steps. EPA has prepared a document to provide guidance to permittees on the development of the Long Term Control Plans and how to document the implementation. This document can be found at <http://www.epa.gov/npdes/pubs/owm0272.pdf>

As listed in the National Policy, the nine elements of the LTCP are:

1. Characterization, monitoring, and modeling activities as the basis for selection and design of effective CSO controls;
2. A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;
3. Consideration of sensitive areas as the highest priority for controlling overflows;
4. Evaluation of alternatives that will enable the permittee, in consultation with the NPDES permitting authority, WQS authority, and the public, to select CSO controls that will meet CWA requirements;
5. Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
6. Operational plan revisions to include agreed-upon long-term CSO controls;
7. Maximization of treatment at the existing POTW treatment plant for wet weather flows;
8. An implementation schedule for CSO controls; and
9. A post-construction compliance monitoring program adequate to verify compliance with water quality-based CWA requirements and ascertain the effectiveness of CSO controls.

The Department has grouped the LTCP submittal requirements into 3 steps, in accordance with EPA's LTCP planning approach outlined in the Guidance for Long Term Control Plans. The LTCP shall consist of the following steps and be submitted according to the schedule in the permit.

Step 1 entails the development and submittal of the Sewer System Characterization Workplan and final report as well as the creation of the Public Participation Process and identification, evaluation and prioritization of the Sensitive Areas. This step also entails understanding the water quality standards as they apply to the receiving water for each CSO and how achievement of those standards will affect the choice of the CSO control measures. The workplan is being required to ensure that all permittees of the hydraulically connected system conduct and update the characterization using a coordinated approach that will result in a comprehensive and integrated sewer system characterization. While the permittee has conducted characterization work under its individual NJPDES Discharge to Surface Water permit, it will be necessary to update the information from previous studies to incorporate modifications in the collection system and requirements under this permit. This Workplan is required to be submitted 3 months after the effective date of the permit and the final Sewer System Characterization Report, along with the Public Participation Process and the Consideration of Sensitive Areas information is then due 1 year after the effective date of the permit.

Based upon the information gathered under Step 1, Step 2 will entail the development and evaluation of the CSO control alternatives described below, that at a minimum will enable the permittee, in consultation with the Department's NJPDES program, the water quality standards program, and the public to select CSO control measures that will meet the Clean Water Act requirements. The Development and Evaluation of Alternatives Report required for Step 2 is to be submitted 2 years after the effective date of the permit.

Step 3 entails the final selection and implementation schedule of the agreed upon LTCP CSO control measures as well as the Compliance Monitoring Program (CMP). The CMP will require monitoring of the discharges and the receiving waters prior to, and at various intervals during, the implementation of the LTCP to evaluate the effectiveness of the ongoing CSO control measures. This step will also entail concurrent revisions to the O&M Program and Manual as control measures are implemented. The permittee is required to submit an approvable Selection and Implementation of Alternatives Report 3 years after the effective date of the permit.

A brief description of the LTCP requirements in the permit follows.

### **1. Characterization, Monitoring and Modeling of the Combined Sewer System**

Under PVSC's individual NJPDES Discharge to Surface Water permit and the MGP, the permittee was required to submit a Combined Sewer Overflow Discharge Characterization Study consisting of a field calibrated and verified Combined Sewer Overflow Model designed to represent the combined sewer system's response to historical events of precipitation. Under this proposed permit action, the permittee will be required to submit an updated characterization study of the combined sewer system to: establish the existing baseline conditions, evaluate the efficiency of the technology based controls, determine the baseline condition upon which the LTCP will be based and uniformly characterize the hydraulically connected system with respect to the requirements of this permit, specifically the number of events as defined in this permit.

### **2. Public Participation Process**

Under PVSC's individual NJPDES Discharge to Surface Water permit and the MGP, the permittee was required to create a Public Participation Program that would ensure the opportunity for participation by the public in the LTCP development process. Under this proposed permit action, the permittee will be required to submit an updated Public Participation Plan and to involve the public in the decision making process in determining the alternatives chosen under the LTCP.

### **3. Consideration of Sensitive Areas**

Under this proposed permit action, the permittee will be required to give the highest priority to controlling overflows in sensitive areas. The LTCP shall prohibit increased CSO overflows and eliminate/relocate

CSO overflows in sensitive areas. If elimination/relocation is not possible, the permittee shall provide treatment necessary to meet the WQS.

#### 4. Evaluation of Alternatives

Under PVSC's individual NJPDES Discharge to Surface Water permit and the MGP, the permittee was required to evaluate specific alternative interim and long term control measures for the control of pathogens and to formulate cost and performance relationships for treatment of CSO discharges. Under this proposed permit action, the permittee will be required to evaluate a broader range of control alternatives that meet the CWA requirements and provide attainment of the WQS using either the Presumption Approach or the Demonstration Approach. The control alternatives shall include: green infrastructure, increased storage in the collection system, STP expansion/storage, I/I reduction, sewer separation, discharge treatment and bypass of secondary treatment at the STP.

When evaluating the alternatives for the LTCs, the permittee may use one of two approaches:

- 1) 'The Presumption Approach' in which the permittee chooses to implement a minimum level of treatment (e.g., 4 or less overflow events per year, or at least 85 percent removal of volume/mass of the collected combined sewage flows) that is presumed to meet the water quality-based requirements of the CWA, unless data indicate otherwise. The "Presumption" Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides the below:

A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

- i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. These four overflow events shall be calculated over a 60 month rolling average, provided that the Department may allow up to two additional overflow events per year. For the purpose of this criterion, an 'event' is:
  - In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.
  - In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.
- ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis.
- iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section G.4.f.ii.

Combined sewer overflow remaining after implementation of the NMCs and within the criteria specified in Sections ii. and iii. above, shall receive minimum treatment in accordance with the items below.

- Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.).
- Solids and floatables disposal.
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

OR

- 2) The ‘Demonstration Approach’ in which the permittee demonstrates that its plan is adequate to meet the water quality-based requirements of the CWA. The “Demonstration” Approach, in accordance with N.J.A.C. 7:14A-11 Appendix C provides the below.

A permittee may demonstrate that a selected control program, though not meeting the criteria specified under the Presumption Approach, is adequate to meet the water quality-based requirements of the CWA. The permittee must demonstrate each of the following below.

- i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs.
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment.
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable.
- iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

The permittee will be required to evaluate a range of CSO control alternatives, based on their practical and technical feasibility, and the water quality benefits of constructing and implementing various remedial controls and combinations of such controls. The permittee should be prepared to address any future changes in the WQS. For example, on November, 26, 2012, EPA recommended new recreational water quality criteria for pathogens. NJDEP will be evaluating these new criteria and considering a proposal to incorporate them within the next 3 years.

The permit requires the permittee to consider at least the following:

- Green infrastructure which allows for stormwater management close to its source, providing both water quality treatment and some volume control. The volume that is retained onsite and kept out of the sewer system can help delay expensive gray infrastructure maintenance and upgrades. Some examples of green infrastructure measures include, but are not limited to, pervious pavements, street bump-outs, rain gardens, and tree trenches.
- Increased storage capacity in the collection system to store the wastewater until the sewage flows subside sufficiently for the downstream sewers to be able to transport the flow to the STP for treatment;

- STP expansion and/or storage at the plant. Based on information provided by the STP, an evaluation of the capacity of the unit processes must be conducted at the STP and a determination made of whether there is any additional treatment capacity available at the STP. The permittee shall use this information and determine (modeling may be used) the amount of CSO discharge reduction that would be achieved by utilizing the additional treatment capacity while maintaining compliance with all permit limits;
- I/I reduction in the entire collection system that conveys flows to the treatment works. I/I reduction can free up storage capacity or conveyance in the sewer system and/or treatment capacity at the STP. The permittee shall determine the amount of CSO discharge reduction that could be achieved and the feasibility of implementing in the entire system or portions thereof;
- Sewer separation through construction of new sewer lines to separate and remove the stormwater from the sanitary sewer system;
- CSO discharge treatment at individual CSO outfalls; and
- Providing CSO related bypasses of the secondary treatment portion of the STP in accordance with the National Policy.

The National Policy encourages permittees to consider the use of a bypass of secondary treatment in the evaluation of alternatives. The intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is considered a bypass. EPA bypass regulations at 40 CFR 122.41(m) allow for a facility to bypass some or all the flow from its treatment process under specified limited circumstances. Under the regulation, the permittee must show that the bypass was unavoidable to prevent loss of life, personal injury or severe property damage, there was no feasible alternative to the bypass and the permittee submitted the required notices. In addition, the regulation provides that a bypass may be approved only after consideration of adverse effects.

Under the National Policy, a CSO-related bypass of the secondary treatment portion of the POTW treatment plant for combined sewer flows may be an appropriate alternative for CSO controls that can be considered in certain limited circumstances. For example, EPA suggests that a bypass can be justified if:

- the permittee can demonstrate that the secondary treatment system is properly operated and maintained;
- the system has been designed to meet secondary limits for flows greater than the peak dry weather flow, plus an appropriate quantity of wet weather flow;
- it is either technically or financially infeasible to provide secondary treatment at the existing facilities for greater amounts of wet weather flow; and
- the permittee can ensure that the discharge will not cause exceedances of WQS.

Further, in order for the Department to consider a by-pass as a feasible alternative under the LTCP the permittee must address compliance with the requirements of all other applicable regulations, such as N.J.A.C. 7:14A, N.J.A.C. 7:9B, and N.J.A.C. 7:15. N.J.A.C. 7:14A-23.13(m) prohibits plant designs that propose the use of bypass lines which would circumvent treatment units and allow untreated or partially treated wastewater to be discharged. The Department recognizes that the rule would need to be modified in order to allow bypasses as part of an approved LTCP.

The permittee may refer to Combined Sewer Overflows - Guidance for Long-Term Control Plan (EPA 832-B-95-002) for further information on these alternatives.

## **5. Cost/Performance Considerations**

Under PVSC's individual NJPDES Discharge to Surface Water permit and the MGP, the permittee was required to develop a cost and performance analysis report for specific control alternatives for each CSO. Under this proposed permit action, the permittee will be required to update and submit cost/performance considerations to determine where the increment of pollution reduction diminishes compare to the increased cost, often known as "knee of the curve". If the permittee chooses the Presumption Approach of no more than an average of 4 discharge events per year, the permittee is not required to conduct analysis for the other events (i.e. 0, 7, 10, 20). The permittee can use previous studies in developing cost/performance considerations to the extent that the studies meet the requirements of this permit.

## **6. Operational Plan**

Under PVSC's individual NJPDES Discharge to Surface Water permit and the MGP, the permittee was required to develop an operational plan to implement control alternatives for continuous disinfection on outfalls that had been required to remove solids floatables. Under this proposed permit action, the permittee will be required to modify the O&M Program and Manual to address the final LTCP CSO control facilities and operating strategies.

## **7. Maximizing Treatment at the Existing STP**

Under this proposed permit action, the permittee will be required to investigate the control alternative of maximizing flow through the STP, including the alternative of bypassing of secondary treatment at the STP.

## **8. Implementation Schedule**

Under this proposed permit action, the permittee will be required to submit a construction and financing schedule for implementation of the LTCP CSO controls. The schedule may be phased and shall consider: addressing areas of overflows, discharges to sensitive areas as highest priority, use impairment of receiving waters, permittee's financial capability, grant/loan availability, user fees and rate structures, funding mechanisms and resources necessary to implement an asset management plan.

As noted in the National Policy, permittees are required to develop and submit their LTCPs "as soon as practicable, but generally within two years after the date of the NPDES permit provision, Section 308 information request, or enforcement action requiring the permittee to develop the plan." However, "NPDES authorities may establish a longer timetable for completion of the long-term CSO control plan on a case-by-case basis to account for site-specific factors which may influence the complexity of the planning process."

New Jersey has determined that due to the fragmented nature of the CSS ownership in this hydraulically connected sewer system, and the extreme complexities of integrated sewer systems involving multiple municipalities and dozens of interdependent outfalls, that a compliance schedule of 36 months is appropriate. However, as noted above, if the permittees work cooperatively to develop one LTCP, the Department will consider extending the compliance schedule for submittal of the final LTCP.

## **9. Compliance Monitoring Program (CMP)**

Under PVSC's individual NJPDES Discharge to Surface Water permit and the MGP, the permittee was required to conduct an annual inspection of all combined sewer overflow control facilities owned and/or operated by the permittee. Additionally, the permittee was required to submit a rainfall monitoring study and a CSO monitoring study. The permittee was not required to monitor the water quality of the receiving waterbody.

Under this proposed permit action, the permittee will be required to implement a CMP to verify: baseline and existing ambient conditions, effectiveness of controls, compliance with the WQS and protection of designated uses. The permittee can use previously submitted studies in developing the CMP that shall detail the monitoring protocols. If using the Demonstration Approach, the ambient monitoring must be ongoing ever year, however, if using the Presumption Approach the ambient monitoring may be reduced during implementation of the CSO controls.

**C. General Conditions:**

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

**D. Operator Classification Number:**

The specific licensed operator classification requirement for the collection system is not included in the permit, however, as part of the O&M requirements in Part IV.F., the permittee is required to have an appropriately licensed operator as per N.J.A.C. 7:10-13. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Finance and Construction at (609) 633-1180.

**E. Compliance Schedule:**

This permit includes a compliance schedule for the submittal of the LTCP which is established at three (3) years from the effective date of the permit (EDP) to allow the permittee sufficient time to coordinate the development of the LTCP with all of the municipalities in the hydraulically connected sewer system. This permit also requires other submittal deadlines to document the permittee's progress toward compliance with the NMC and LTCP of the National Policy and N.J.A.C. 7:14A-11 – Appendix C, in accordance with N.J.A.C. 7:14A-6.4.

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**15 Description of Procedures for Reaching a Final Decision on the Draft Action:**

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Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in the *Star Ledger* and in the DEP Bulletin.

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**16 Contact Information**

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If you have any questions regarding the CSO sections of this permit action, please contact Joe Mannick, Bureau of Surface Water Permitting at (609) 292-4860.

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**17 Contents of the Administrative Record**

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The following items are used to establish the basis of the Draft Permit:

Rules and Regulations:

1. 33 U.S.C. 1251 et seq., Federal Water Pollution Control Act. [C]
2. 40 CFR Part 131, Federal Water Quality Standards. [A] [C]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [C]
4. National CSO Control Policy (Published April 19, 1994, at 59 Federal Register 18688)
5. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A] [B]
6. N.J.A.C. 7:14A-1 et seq., New Jersey Pollutant Discharge Elimination System Regulations. [A] [B]
7. N.J.A.C. 7:9B-1 et seq., New Jersey Surface Water Quality Standards. [A] [B]

8. N.J.A.C. 7:15, Statewide Water Quality Management Planning Rules. [A] [B]
9. N.J.A.C. 7:14C, Sludge Quality Assurance Regulations. [B]
10. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 et seq.
11. N.J.S.A. 58:25-23 et/ seq., Sewage Infrastructure Improvement Act
12. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List
13. Pretreatment Requirements (N.J.A.C. 7:14A-19)

Guidance Documents / Reports:

1. "Field Sampling Procedures Manual", published by the NJDEP. [A]
2. "NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at [http://www.state.nj.us/dep/dwq/pdf/MRF\\_Manual.pdf](http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf).

To help permittees and NPDES permitting and WQS authorities implement the provisions of the CSO Control Policy, EPA has developed the following guidance documents:

- Combined Sewer Overflows - Guidance for Long-Term Control Plan (EPA 832-B-95-002)
- Combined Sewer Overflows - Guidance for Nine Minimum Controls (EPA 832-B-95-003)
- Combined Sewer Overflows - Guidance for Screening and Ranking Combined Sewer System Discharges (EPA 832-B-95-004)
- Combined Sewer Overflows - Guidance for Monitoring and Modeling (EPA 832-B-95-005)
- Combined Sewer Overflows - Guidance for Financial Capability Assessment (EPA 832-B-95-006)
- Combined Sewer Overflows - Guidance for Funding Options (EPA 832-B-95-007)
- Combined Sewer Overflows - Guidance for Permit Writers (EPA 832-B-95-008)
- Combined Sewer Overflows - Questions and Answers on Water Quality Standards and the CSO Program (EPA 832-B-95-009)

Guidance Documents / Reports:

1. "EPA Technical Support Document for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [A]
2. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A] [B]
3. Draft "Technical Manual for Reclaimed Water for Beneficial Reuse", published by NJDEP, October 2002. [A] [B]
4. Discharge Monitoring Report (DMR) forms from the Department's NJEMS system for the time period of March 2005 through May 2010.
5. Wastewater Characterization Report (WCR) forms from the Department's NJEMS system for the time period of July 2005 through February 2011.

Permits / Applications:

1. NJPDES/DSW Permit Application dated August 27, 2009. [A]
2. Existing Draft NJPDES/DSW Permit NJ0021016, issued March 1, 2004. [A]
3. Existing Final NJPDES/DSW Permit NJ0021016, issued January 6, 2005 and effective March 1, 2005. [A]
4. Minor Modification to NJPDES/DSW Permit NJ0021016, issued March 4, 2005 and effective on March 1, 2005, which revised the CPO decay rate and fecal sample requirements.[A]
5. Minor Modification to NJPDES/DSW Permit NJ0021016, issued July 29, 2005 and effective on March 1, 2005, which corrected the sample type for volatile organics.[A]
6. Minor Modification to NJPDES/DSW Permit NJ0021016, issued February 23, 2006 and effective on March 1, 2005, which corrected the units for asbestos on the annual WCR.[A]
7. Major Modification to NJPDES/DSW Permit NJ0021016, issued February 24, 2006 and effective on March 1, 2006, which incorporated CSO conditions in the permit.[A]

8. Major Modification to NJPDES/DSW Permit NJ0021016, issued September 7, 2006 and effective on August 1, 2006, which incorporated CBOD5 limitations into the permit.[A]
9. Major Modification to NJPDES/DSW Permit NJ0021016, issued October 19, 2007 and effective on December 1, 2007, which incorporated monitoring conditions for PCBs.[A]
10. Minor Modification to NJPDES/DSW Permit NJ0021016, issued December 1, 2008 and effective on January 1, 2009, which corrected the sample type for cyanide on the annual WCR.[A]
11. Minor Modification to NJPDES/DSW Permit NJ0021016, issued October 30, 2009 and effective on December 1, 2009, which authorized additional discharges at DSN 002A.[A]
12. Minor Modification to NJPDES/DSW Permit NJ0021016, issued January 8, 2010 and effective on January 1, 2010, which revised the language that authorized additional discharges at DSN 002A. [A]

**Correspondences/Submittals:**

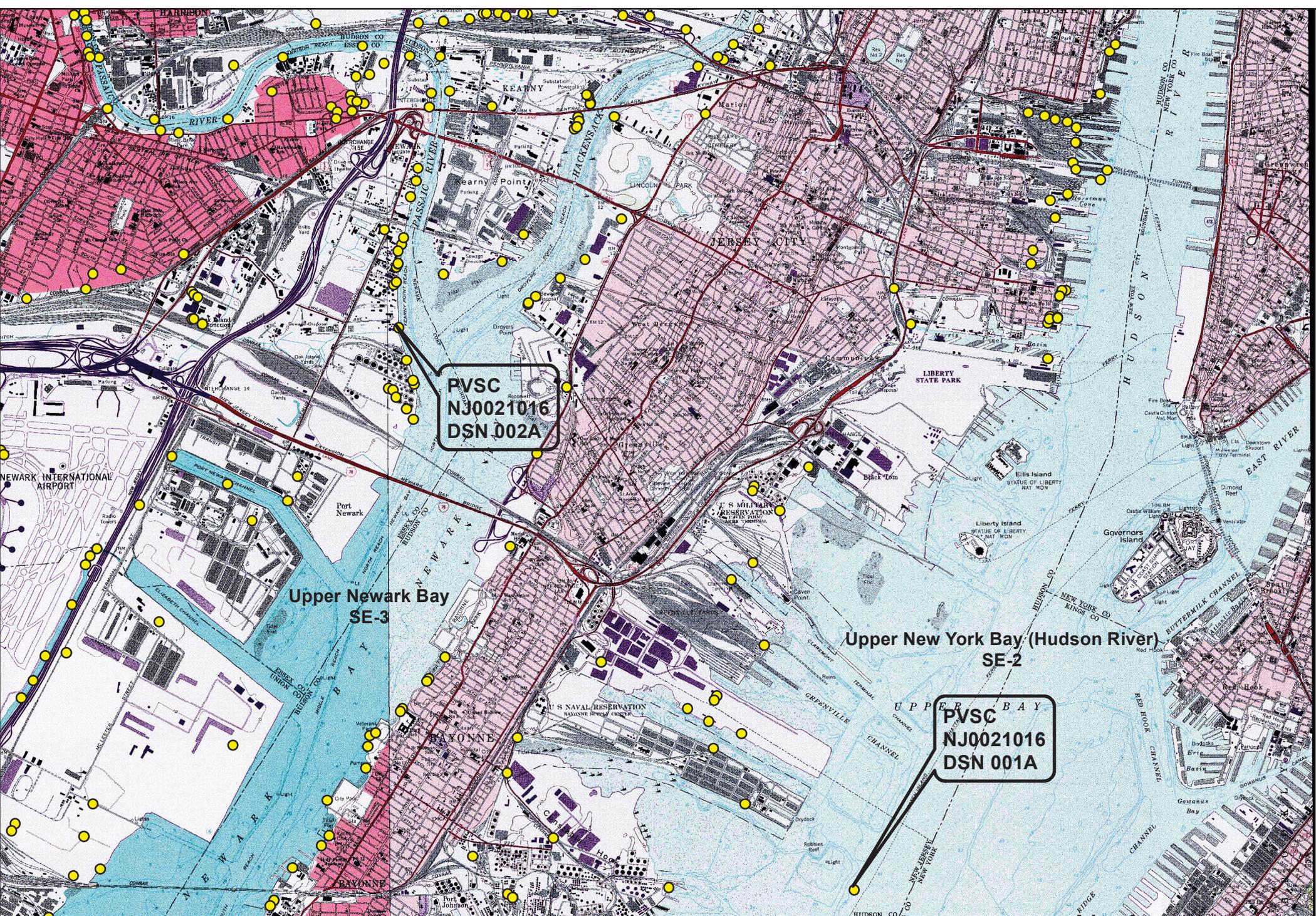
A complete list of studies performed by all CSO permittees in PVSC's hydraulically connected system is summarized in Appendix C at the end of this permit.

**Meetings / Site Visits:**

1. CSO Roll Out Meeting, December 18, 2013.

**Footnotes:**

- [A] Denotes items that may be found in the NJPDES/DSW Administrative Record Library located in the NJDEP Central File Room, 401 East State Street, Trenton, New Jersey.
- [B] Denotes items that may be found on the New Jersey Department of Environmental Protection (NJDEP) website located at "<http://www.state.nj.us/dep/>".
- [C] Denotes items that may be found on the United States Environmental Protection Agency (USEPA) website at "<http://www.epa.gov/>".



PVSC  
NJ0021016  
DSN 002A

PVSC  
NJ0021016  
DSN 001A

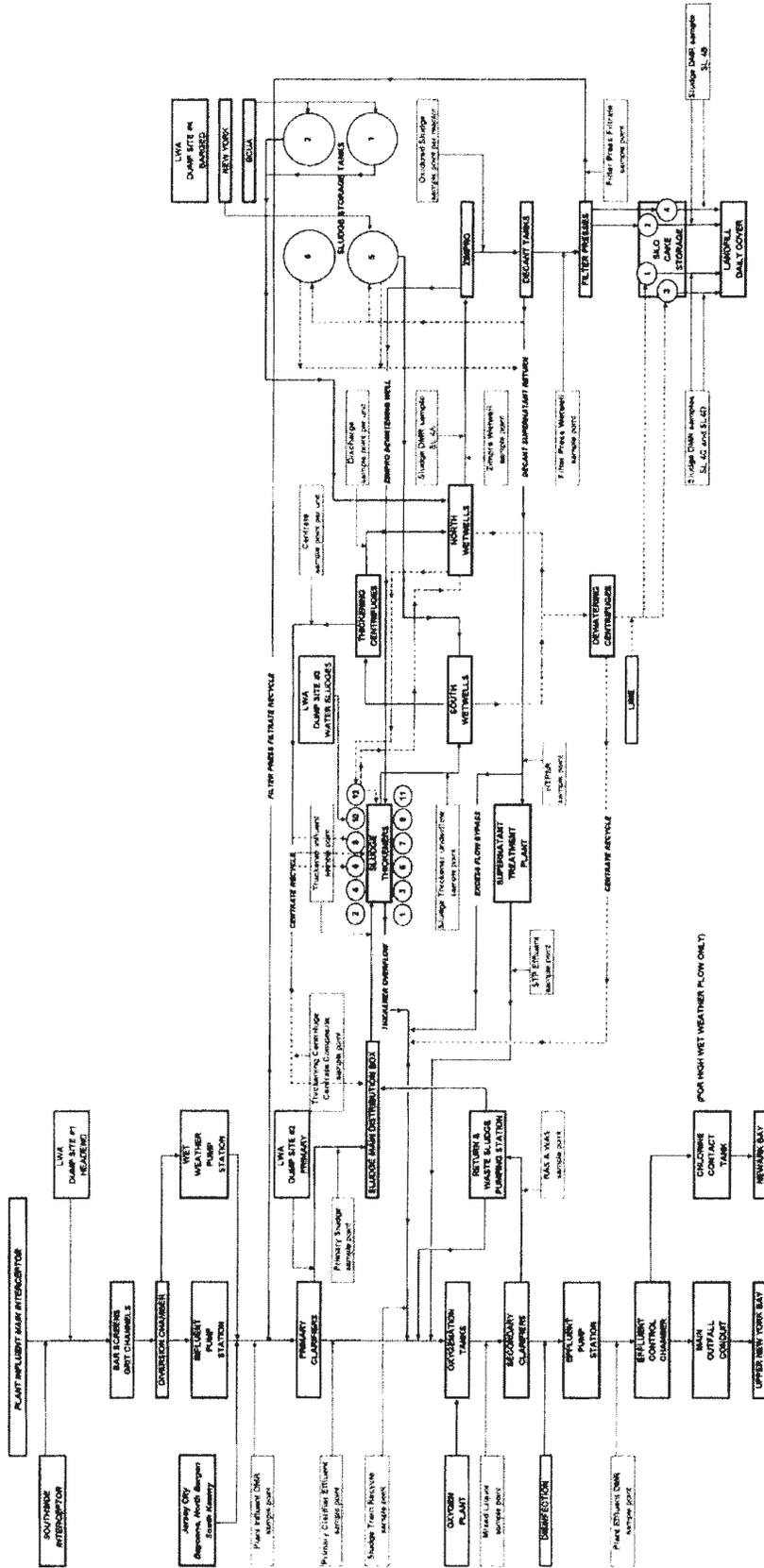
Upper Newark Bay  
SE-3

Upper New York Bay (Hudson River)  
SE-2

USGS Topographical Map



PVSC FLOW CHART





# NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

**Permit Number: NJ0021016**

**Draft: Surface Water Renewal Permit Action**

**Permittee:**

Passaic Valley Sewerage Commissioners  
600 Wilson Avenue  
Newark, NJ 07105

**Co-Permittee:**

**Property Owner:**

Passaic Valley Sewerage Commissioners  
600 Wilson Avenue  
Newark, NJ 07105

**Location Of Activity:**

Passaic Valley Sewerage Commissioners  
600 Wilson Avenue  
Newark, Essex County

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
A - Sanitary Wastewater - Renewal	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>
CSM – Combined Sewer Management	<i>Revoked</i>	<i>Revoked</i>	<i>Revoked</i>
ABR – Beneficial Reuse	<i>Revoked</i>	<i>Revoked</i>	<i>Revoked</i>

**By Authority of:  
Commissioner's Office**

**DEP AUTHORIZATION  
Pilar Patterson, Chief  
Bureau of Surface Water Permitting  
Water Pollution Management Element  
Division of Water Quality**

(Terms, conditions and provisions attached hereto)

**Division of Water Quality**

# PART I GENERAL REQUIREMENTS: NJPDES

## A. General Requirements of all NJPDES Permits

### 1. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.
- b. General Conditions
  - Penalties for Violations N.J.A.C. 7:14-8.1 et seq.
  - Incorporation by Reference N.J.A.C. 7:14A-2.3
  - Toxic Pollutants N.J.A.C. 7:14A-6.2(a)4i
  - Duty to Comply N.J.A.C. 7:14A-6.2(a)1 & 4
  - Duty to Mitigate N.J.A.C. 7:14A-6.2(a)5 & 11
  - Inspection and Entry N.J.A.C. 7:14A-2.11(e)
  - Enforcement Action N.J.A.C. 7:14A-2.9
  - Duty to Reapply N.J.A.C. 7:14A-4.2(e)3
  - Signatory Requirements for Applications and Reports N.J.A.C. 7:14A-4.9
  - Effect of Permit/Other Laws N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
  - Severability N.J.A.C. 7:14A-2.2
  - Administrative Continuation of Permits N.J.A.C. 7:14A-2.8
  - Permit Actions N.J.A.C. 7:14A-2.7(c)
  - Reopener Clause N.J.A.C. 7:14A-6.2(a)10
  - Permit Duration and Renewal N.J.A.C. 7:14A-2.7(a) & (b)
  - Consolidation of Permit Process N.J.A.C. 7:14A-15.5
  - Confidentiality N.J.A.C. 7:14A-18.2 & 2.11(g)
  - Fee Schedule N.J.A.C. 7:14A-3.1
  - Treatment Works Approval N.J.A.C. 7:14A-22 & 23
- c. Operation And Maintenance
  - Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b)
  - Proper Operation and Maintenance N.J.A.C. 7:14A-6.12
- d. Monitoring And Records
  - Monitoring N.J.A.C. 7:14A-6.5
  - Recordkeeping N.J.A.C. 7:14A-6.6
  - Signatory Requirements for Monitoring Reports N.J.A.C. 7:14A-6.9
- e. Reporting Requirements
  - Planned Changes N.J.A.C. 7:14A-6.7
  - Reporting of Monitoring Results N.J.A.C. 7:14A-6.8
  - Noncompliance Reporting
    - Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)
    - Written Reporting N.J.A.C. 7:14A-6.10(c) & (d)
    - Duty to Provide Information N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
  - Schedules of Compliance N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
  - Transfer N.J.A.C. 7:14A-6.4
  - N.J.A.C. 7:14A-6.2(a)8 & 16.2

## **PART II**

# **GENERAL REQUIREMENTS: DISCHARGE CATEGORIES**

### **A. Additional Requirements Incorporated By Reference**

#### **1. Requirements for Discharges to Surface Waters**

- a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.
  - i. Surface Water Quality Standards N.J.A.C. 7:9B-1
  - ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

### **B. General Conditions**

#### **1. Scope**

- a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

#### **2. Permit Renewal Requirement**

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application: 180 days before the Expiration Date.

#### **3. Notification of Non-Compliance**

- a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).
- b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

#### **4. Notification of Changes**

- a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.
- b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

#### **5. Access to Information**

- a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

**6. Operator Certification**

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.
  - i. Notifications shall be submitted to:  
NJDEP  
Bureau of Licensing & Pesticide Operations  
Mailcode 401-04E  
P.O. Box 420  
Trenton, New Jersey 08625-0420  
(609)984-6507.
- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

**7. Operation Restrictions**

- a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

## PART III

# LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION: 001A Sanitary Outfall      RECEIVING STREAM: Upper New York Bay      STREAM CLASSIFICATION: SE2(C2)      DISCHARGE CATEGORY(IES): A - Sanitary Wastewater

**Location Description**

The effluent sampling point for DSN 001 shall be post chlorination. The influent sampling point for DSN 001 shall be before any treatment, other than degritting, and before the addition of any internal waste streams. DSN 001 is located at Lat. = 40d 39' 16" and Long. = 74d 03' 42" and discharges to the Upper New York Bay, classified as SE-2 waters.

**Contributing Waste Types**

Sanitary

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

		PHASE Start Date:		PHASE End Date:							
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type	
Flow, In Conduit or Thru Treatment Plant January thru December	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	330 Annual Average	*****	*****	MGD	Continuous	Metered	
	QL	***	***		***	***	***				
pH January thru December	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	*****	REPORT Report Per Maximum	SU	6/Day	Grab	
	QL	***	***		***	***	***				
pH January thru December	Effluent Gross Value	*****	*****	*****	6.0 Report Per Minimum	*****	9.0 Report Per Maximum	SU	6/Day	Grab	
	QL	***	***		***	***	***				
Solids, Total Suspended January thru December	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite	
	QL	***	***		***	***	***				

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE: Final**

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended January thru December	Effluent Gross Value	41900 Monthly Average	62850 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
Solids, Total Suspended Option 1 January thru December	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
	QL	***	***		***	***	***			
Solids, Total Suspended Option 2 January thru December	Percent Removal	*****	*****	*****	REPORT Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
	QL	***	***		***	***	***			
Oil and Grease January thru December	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Instant Maximum	MG/L	2/Month	Grab
	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N) January thru December	Effluent Gross Value	53700 Monthly Average	78400 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
	QL	***	***		***	***	***			
Coliform, Fecal General January thru December	Effluent Gross Value	*****	*****	*****	*****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Day	Grab
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC January thru December	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE: Final**

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
BOD, Carbonaceous 5 Day, 20oC  January thru December	Effluent Gross Value	34916 Monthly Average	55867 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC Option 1 January thru December	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC Option 2 January thru December	Percent Removal	*****	*****	*****	REPORT Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
	QL	***	***		***	***	***			
LC50 Statre 96hr Acu Mysid Bahia  January thru December	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
	AL	***	***		50	***	***			
Chlorine Produced Oxidants  January thru December	Effluent Gross Value	196 Monthly Average	293 Daily Maximum	KG/DAY	*****	0.14 Monthly Average	0.21 Daily Maximum	MG/L	6/Day	Grab
	MDL	125	125		***	0.1	0.1			
Temperature, oC  January thru December	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
	QL	***	***		***	***	***			
Temperature, oC  January thru December	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
	QL	***	***		***	***	***			

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE: Final**

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Oxygen, Dissolved (DO)	Effluent Gross Value	*****	*****	*****	3 Weekly Av Minimum	REPORT Daily Avg Minimum	*****	MG/L	1/Day	Grab
	QL	***	***		***	***	***			
Cyanide, Total (as CN)	Effluent Gross Value	120 Monthly Average	255 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
	January thru December	RQL	56		56	***	40			
Nickel, Total Recoverable	Effluent Gross Value	150 Monthly Average	262 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
	January thru December	RQL	14		14	***	10			
Zinc, Total Recoverable	Effluent Gross Value	562 Monthly Average	1037 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
	January thru December	RQL	42		42	***	30			
Lead, Total Recoverable	Effluent Gross Value	162 Monthly Average	300 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
	January thru December	RQL	14		14	***	10			
Copper, Total Recoverable	Effluent Gross Value	187 Monthly Average	350 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
	January thru December	RQL	14		14	***	10			
Mercury Total Recoverable	Effluent Gross Value	2.5 Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
	January thru December	RQL	1.4		1.4	***	1			

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE:** Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Cyanide, free  January thru December	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
	QL	***	***		***	***	***			

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements**

**PHASE:** Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Arsenic, Total (as As)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total (as Be)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Cadmium, Total (as Cd)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Total (as Cr)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Thallium, Total (as Tl)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Silver, Total (as Ag)	Effluent Gross Value	REPORT RQL = 2	UG/L	24 Hour Composite	January thru December
Antimony, Total (as Sb)	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Selenium, Total (as Se)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Acenaphthene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Anthracene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(k)fluoranthene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Effluent Gross Value	REPORT RQL = 26.5	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso- propyl) ether	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Chrysene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Diethyl phthalate	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Diphenyl- hydrazine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Fluorene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo- pentadiene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)- pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Isophorone	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n- propylamine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl- amine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl- amine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Phenanthrene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Benzo(ghi)perylene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
1,2,4-Trichloro- benzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
1,4-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 20	UG/L	Grab	January thru December
2-Chloronaphthalene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro- benzidine	Effluent Gross Value	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Naphthalene	Effluent Gross Value	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Benzidine	Effluent Gross Value	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorobutadiene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December
Dichlorobromomethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,2-Dichloroethane	Effluent Gross Value	REPORT RQL = 3	UG/L	Grab	January thru December
Bromoform	Effluent Gross Value	REPORT RQL = 8	UG/L	Grab	January thru December
Chloroform	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Toluene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Benzene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December
Acrolein	Effluent Gross Value	REPORT RQL = 50	UG/L	Grab	January thru December
Acrylonitrile	Effluent Gross Value	REPORT RQL = 50	UG/L	Grab	January thru December
Chlorobenzene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Chlorodibromomethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Ethylbenzene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Methyl Bromide	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
Methyl Chloride	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
Methylene Chloride	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Tetrachloroethylene	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
Trichlorofluoro- methane	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
1,1-Dichloroethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1-Dichloroethylene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,1-Trichloro- ethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2-Trichloro- ethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro- ethane	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
1,2-Dichloropropane	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
1,2-trans-Dichloro- ethylene	Effluent Gross Value	REPORT RQL = 4	UG/L	Grab	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Vinyl Chloride	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements**

PHASE: Final

PHASE Start Date:

PHASE End Date:

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Trichloroethylene	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Chloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Parachloro-m-cresol	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Phenols	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Delta BHC, Total (ug/l)	Effluent Gross Value	REPORT RQL = 0.02	*****	24 Hour Composite	January thru December
Endosulfan Sulfate	Effluent Gross Value	REPORT RQL = 0.08	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Effluent Gross Value	REPORT RQL = 0.1	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Aldrin	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha BHC	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Beta BHC	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Gamma BHC (lindane),	Effluent Gross Value	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Chlordane	Effluent Gross Value	REPORT RQL = 0.2	UG/L	24 Hour Composite	January thru December
Dieldrin	Effluent Gross Value	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Endrin	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Toxaphene	Effluent Gross Value	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Heptachlor	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Effluent Gross Value	REPORT RQL = 0.4	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Effluent Gross Value	REPORT RQL = 18	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
2,4-Dimethylphenol	Effluent Gross Value	REPORT RQL = 13.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Effluent Gross Value	REPORT RQL = 40	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro-phenol	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Effluent Gross Value	REPORT RQL = 21	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Effluent Gross Value	REPORT RQL = 12	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

**Table III - A - 2: Surface Water WCR - Annual Limits and Monitoring Requirements**

**PHASE:** Final                      **PHASE Start Date:**                      **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
4,6-Dinitro-o-cresol	Effluent Gross Value	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

MONITORED LOCATION:

002A Sanitary Outfall

RECEIVING STREAM:

Upper Newark Bay

STREAM CLASSIFICATION:

SE3(C2)

DISCHARGE CATEGORY(IES):

A - Sanitary Wastewater

**Location Description**

The permittee will be authorized during this permit term to use DSN 002A to discharge fully treated effluent only when the hydraulic capacity of DSN 001 is exceeded during periods of heavy precipitation as explained at Part IV, Section E.1(g); or during the process of deepening the Port Jersey Channel as explained at Part IV, Section E.1(h).

**Contributing Waste Types**

Sanitary

**Requirements have not been defined for this Monitored Location.**

MONITORED LOCATION: IPPI Influent IPP Requirements      RECEIVING STREAM:      STREAM CLASSIFICATION:      DISCHARGE CATEGORY(IES):  
A - Sanitary Wastewater

**Contributing Waste Types**

Sanitary

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP)..

**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements**

**PHASE:** Final                      **PHASE Start Date:**                      **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Cyanide, Total (as CN)	Raw Sew/influent	REPORT RQL = 40	UG/L	Grab	January thru December
Arsenic, Total (as As)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total (as Be)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Cadmium, Total (as Cd)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Total (as Cr)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Copper, Total (as Cu)	Raw Sew/influent	REPORT RQL = 0.01	UG/L	24 Hour Composite	January thru December
Lead, Total (as Pb)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Thallium, Total (as Tl)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Nickel, Total (as Ni)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Silver, Total (as Ag)	Raw Sew/influent	REPORT RQL = 2	UG/L	24 Hour Composite	January thru December
Zinc, Total (as Zn)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Antimony, Total (as Sb)	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP)..

**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Selenium, Total (as Se)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Mercury, Total (as Hg)	Raw Sew/influent	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Acenaphthene	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Anthracene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(k)fluoranthene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Raw Sew/influent	REPORT RQL = 26.5	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso- propyl) ether	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Chrysene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

**Surface Water WCR - Annual Reporting Requirements:**

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP)..

**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:**Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
1,2-Diphenyl-hydrazine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Fluorene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorocyclopentadiene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)-pyrene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Isophorone	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenylamine	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodimethylamine	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Phenanthrene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Pyrene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

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<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
1,2-Dichlorobenzene	Raw Sew/influent	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,2,4-Trichloro- benzene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Raw Sew/influent	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,4-Dichlorobenzene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Chloronaphthalene	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro- benzidine	Raw Sew/influent	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Naphthalene	Raw Sew/influent	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Raw Sew/influent	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzidine	Raw Sew/influent	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

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**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:**Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Hexachlorobutadiene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Raw Sew/influent	REPORT RQL = 7	UG/L	Grab	January thru December
Dichlorobromomethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
1,2-Dichloroethane	Raw Sew/influent	REPORT RQL = 3	UG/L	Grab	January thru December
Bromoform	Raw Sew/influent	REPORT RQL = 8	UG/L	Grab	January thru December
Chloroform	Raw Sew/influent	REPORT RQL = 5	UG/L	Grab	January thru December
Toluene	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
Benzene	Raw Sew/influent	REPORT RQL = 7	UG/L	Grab	January thru December
Acrolein	Raw Sew/influent	REPORT RQL = 50	UG/L	Grab	January thru December
Acrylonitrile	Raw Sew/influent	REPORT RQL = 50	UG/L	Grab	January thru December
Chlorobenzene	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
Chlorodibromomethane	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
Ethylbenzene	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
Methyl Bromide	Raw Sew/influent	REPORT RQL = 9	UG/L	Grab	January thru December

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Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Methyl Chloride	Raw Sew/influent	REPORT RQL = 10	UG/L	Grab	January thru December
Methylene Chloride	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
Tetrachloroethylene	Raw Sew/influent	REPORT RQL = 9	UG/L	Grab	January thru December
Trichlorofluoro- methane	Raw Sew/influent	REPORT RQL = 5	UG/L	Grab	January thru December
1,1-Dichloroethane	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
1,1-Dichloroethylene	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,1-Trichloro- ethane	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2-Trichloro- ethane	Raw Sew/influent	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro- ethane	Raw Sew/influent	REPORT RQL = 10	UG/L	Grab	January thru December
1,2-Dichloropropane	Raw Sew/influent	REPORT RQL = 5	UG/L	Grab	January thru December
1,2-trans-Dichloro- ethylene	Raw Sew/influent	REPORT RQL = 4	UG/L	Grab	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Vinyl Chloride	Raw Sew/influent	REPORT RQL = 10	UG/L	Grab	January thru December
Trichloroethylene	Raw Sew/influent	REPORT RQL = 5	UG/L	Grab	January thru December
Chloroethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December

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**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Parachloro-m-cresol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenols	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Delta BHC, Total (ug/l)	Raw Sew/influent	REPORT RQL = 0.02	*****	24 Hour Composite	January thru December
Endosulfan Sulfate	Raw Sew/influent	REPORT RQL = 0.08	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Raw Sew/influent	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Raw Sew/influent	REPORT RQL = 0.1	UG/L	24 Hour Composite	January thru December
PCB-1016 (Arochlor 1016)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Aldrin	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha BHC	Raw Sew/influent	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Beta BHC	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Raw Sew/influent	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December

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**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:**Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
Chlordane	Raw Sew/influent	REPORT RQL = 0.2	UG/L	24 Hour Composite	January thru December
Dieldrin	Raw Sew/influent	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Endrin	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Toxaphene	Raw Sew/influent	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Heptachlor	Raw Sew/influent	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Raw Sew/influent	REPORT RQL = 0.4	UG/L	24 Hour Composite	January thru December
PCB-1221 (Arochlor 1221)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1232 (Arochlor 1232)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1242 (Arochlor 1242)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1248 (Arochlor 1248)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1254 (Arochlor 1254)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1260 (Arochlor 1260)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Raw Sew/influent	REPORT RQL = 18	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

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**Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

<b>Parameter</b>	<b>Sample Point</b>	<b>Compliance Quantity</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Period</b>
2,4-Dimethylphenol	Raw Sew/influent	REPORT RQL = 13.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Raw Sew/influent	REPORT RQL = 40	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro-phenol	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Raw Sew/influent	REPORT RQL = 21	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Raw Sew/influent	REPORT RQL = 12	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Raw Sew/influent	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Raw Sew/influent	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

## PART IV

# SPECIFIC REQUIREMENTS: NARRATIVE

### Sanitary Wastewater

#### A. MONITORING REQUIREMENTS

##### 1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136, unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the Bureau of Point Source Permitting Region 2. For limited parameters with no QL specified, the sample analysis shall use a detection level at least as sensitive as the effluent limit.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- g. Monitoring for Wastewater Characterization Report parameters shall be conducted concurrently with the Whole Effluent Toxicity monitoring, when feasible.
- h. All influent and effluent sampling for toxic pollutant analyses shall be collected concurrently.
- i. Annual and semi-annual wastewater testing shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.
- j. Flow shall be measured using a meter.

#### B. RECORDKEEPING

##### 1. Standard Recordkeeping Requirements

- a. The permittee shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports, and all data used to complete the application for this permit.

- b. Records of monitoring information shall include the date, locations and time of sampling or measurements, the individual who performed the sampling or measurements, the date the samples were collected, the date the samples were analyzed, the individual who performed the analysis, the analytical method used, and the results.
- c. The permittee shall retain copies of all reports required by a NJPDES permit and records of all data used to complete the application for a NJPDES permit for a period of at least 5 years.

## **C. REPORTING**

### **1. Standard Reporting Requirements**

- a. The permittee shall submit all required monitoring results to the DEP on the forms provided to them. The Monitoring Report Forms (MRF) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. Any MRF in paper format shall be submitted to the following addresses:
  - .
  - i. NJDEP  
Division of Water Quality  
Bureau of Permit Management  
Mailcode 401-02B  
P.O. Box 420  
Trenton, New Jersey 08625-0420.
  - ii. Northern Bureau of Water Compliance and Enforcement  
7 Ridgeway Avenue  
Cedar Knolls  
New Jersey 07927-1112.
- c. Any electronic data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEO upon written request.
- d. All monitoring reports shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- e. The highest ranking official may delegate responsibility to certify the monitoring report forms in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- f. Monitoring reports shall be completed in accordance with the current Monitoring Report Reference (MRF) Manual and any updates thereof.
- g. When quantification levels (QL) and effluent limits are both specified for a given parameter in Part III, and the QL is less stringent than the effluent limit, effluent compliance will be determined by comparing the reported value against the QL.
- h. If monitoring for a parameter is not required for that monitoring period, the permittee is required to report "CODE=N" on that Monitoring Report Form.

## **D. SUBMITTALS**

**1. Standard Submittal Requirements**

- a. The permittee shall amend the Operation & Maintenance Manual whenever there is a change in the treatment works design, construction, operations or maintenance which substantially changes the treatment works operations and maintenance procedures.

**2. Compliance Schedule for Wet Weather Flow Limitations Report**

- a. (This task has been satisfied) PVSC will prepare a conceptual plan for addressing anticipated effluent limitations for the Newark Bay outfall 002, which is anticipated to be utilized for wet weather flows at the plant exceeding 550 MGD up to a maximum of 700 MGD. The plan will be structured based on the guidance provided in 7:14A-13.12(b), and will be submitted to the DEP no later than EDP + 6 months.
- b. (This task has been satisfied) No later than 3 months following receipt of DEP's written comments on the above conceptual plan, PVSC will submit a draft work plan to DEP.
- c. (This task has been satisfied) No later than 2 months following DEP's written approval of the work plan, PVSC will initiate the work outlined in the approved work plan.
- d. No later than 12 months following initiation of the study as outlined in the approved work plan, PVSC will submit to the DEP a draft of the final report presenting the results of the study to be used to establish effluent limits for PVSC's Newark Bay outfall 002 for wet weather flows at the plant exceeding 550 MGD up to a maximum of 700 MGD.
- e. No later than 3 months following DEP's written comments on the draft of the final report, PVSC will finalize the report, and submit it to the DEP.

**3. Polychlorinated Biphenyls (PCB) Requirements**

- a. Pollutant Minimization Plan (PMP) Requirement
  - i. If, based on the review of the Final Report, the Department determines that a PMP is required, the permittee shall prepare and submit a PMP to the Department by the date specified in the Department's determination letter.
  - ii. The permittee shall implement the PMP within 30 days after written notification by the Department that the PMP is complete.
  - iii. The PMP shall be developed to achieve maximum practical reduction in accordance with the PMP Technical Manual.
- b. PCB PMP Annual Report Requirement
  - i. The permittee shall submit an annual report in accordance with the Annual Report Guidance Document every 12 months from the implementation of the PMP.
  - ii. Any revisions to the PMP as a result of the ongoing work shall be reported in the annual report.
  - iii. The annual report shall contain, at a minimum, a detailed discussion of the specific progress and actions taken by the permittee during the previous twelve month period that addresses PCB loadings and implementation of the PMP.

**E. FACILITY MANAGEMENT****1. Discharge Requirements**

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee shall not discharge foam, or cause objectionable deposits, or foaming of the receiving water.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.
- e. The permittee shall operate the plant to assure that the flow does not exceed an annual average flow of 330 million gallons per day (MGD). At any given time, this average shall be calculated by averaging the monthly averages of the previous 12 months.
- f. When the committed flow exceeds 80% of 330 MGD on an annual average basis, the permittee shall:
  - i. Develop a Capacity Assurance Program (CAP) in accordance with N.J.A.C. 7:14A-22.16.
  - ii. For more information concerning the CAP, please contact the Bureau of Construction and Connection Permits at (609) 984-6840.
  - iii. Contact the Division of Watershed Management at (609) 984-0058 to discuss whether an amendment to the WQMP will be necessary.
- g. The permittee will be authorized during this permit term to use DSN 002 to discharge fully treated effluent only when the hydraulic capacity of DSN 001 is exceeded during periods of heavy precipitation. All effluent discharge through DSN 002 must receive the same treatment as the effluent discharged through DSN 001; in other words, there shall be no bypassing of any treatment steps. When discharge through DSN 002 will last for more than 24 hours, the discharge must be reported to the Department as soon as it becomes apparent that the duration of the discharge will be greater than 24 hours.

## **2. Interstate Environmental Commission**

- a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations." Although no monitoring requirements specific to the IEC are included in this permit, compliance may be determined by the IEC based on its own sampling events. IEC effluent requirements shall not be considered effluent limitations for the purpose of mandatory penalties under N.J.S.A. 58:10A-10.1.

## **3. Applicability of Discharge Limitations and Effective Dates**

- a. This Final Phase requirements and limitations are effective for the full term of the permit cycle.

## **4. Operation, Maintenance and Emergency conditions**

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit as specified in the Operation & Maintenance Manual.
- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with N.J.A.C. 7:14A-6.12(d).

## **5. Toxicity Testing Requirements-Acute Whole Effluent Toxicity**

- a. The DMR for DSN 001A contains an Action Level (AL) for acute Whole Effluent Toxicity. Toxicity Reduction and Implementation Requirements may be triggered based on exceedences of this Action Level. See Toxicity Reduction and Implementation Requirements section below for more details.
- b. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- c. Acute toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- d. Any test that does not meet the specifications of N.J.A.C. 7:18, laboratory certification regulations, must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- e. The permittee shall collect and analyze the concentration of ammonia-N in the effluent on the day a sample is collected for WET testing. This result is to be reported on the Biomonitoring Report Form.
- f. The permittee shall resubmit an Acute Methodology Questionnaire within 60 days of any change in laboratory.
- g. Submit an acute whole effluent toxicity test report: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP). The permittee shall submit toxicity test results on appropriate forms.
- h. Test reports shall be submitted to:  
New Jersey Department of Environmental Protection  
Mailcode 401-02B  
Division of Water Quality, Bureau of Surface Water Permitting  
P.O. Box 420  
Trenton, New Jersey 08625-042B.

#### **6. Toxicity Reduction Implementation Requirements (TRIR)**

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity action level specified in Part III of this permit.
  - i. If the exceedence of the toxicity action level is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity action level in Part III. The monitoring frequency for toxicity testing shall be increased to monthly. Up to 12 additional tests may be required.
  - i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity action level.

- ii. If two out of any six consecutive, acceptable tests again exceed the toxicity action level in Part III, the permittee shall repeat the Toxicity Reduction Implementation Requirements.
- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the third exceedence of the toxicity action level specified in Part III during the toxicity characterization.
  - i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.
  - ii. As appropriate, the PTI shall include:
    - (1) treatment plant performance evaluation,
    - (2) pretreatment program information,
    - (3) evaluation of ammonia and chlorine produced oxidants levels and their effect on the toxicity of the discharge,
    - (4) evaluation of chemical use and processes at the facility, and
    - (5) an evaluation of incidental facility procedures such as floor washing, and chemical spill disposal which may contribute to effluent toxicity.
  - iii. If the permittee demonstrates that the cause of toxicity is the chlorine added for disinfection or the ammonia concentration in the effluent and the chlorine and/or ammonia concentrations are below the established water quality based effluent limitation for chlorine and/or ammonia, the permittee shall identify the procedures to be used in future toxicity tests to account for chlorine and/or ammonia toxicity in their preliminary toxicity identification report.
  - iv. The permittee shall submit a Preliminary Toxicity Identification Notification within 15 months of triggering TRIR. This notification shall include a determination that the permittee intends to demonstrate compliance OR plans to initiate a CTI.
- d. The permittee must demonstrate compliance with the WET action level in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.
- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity action level in Part III can not be made.
  - i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.
  - ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity action level in Part III, a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
  - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
  - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.

- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.
  - i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity action level in Part III in four consecutive toxicity tests.
  - ii. If the implemented corrective measures do not result in consistent compliance with the toxicity action level in Part III, the permittee shall submit a plan for resuming the CTI.

**7. Chlorine Produced Oxidants (CPO) Requirements**

- a. The permittee shall collect the effluent CPO grab samples at the treatment plant O&M Building Sample Room. For the purpose of DMR reporting and compliance with the applicable maximum daily and monthly average effluent limitations in Table III-A-1, the measured effluent CPO concentration value in mg/L will be adjusted as follows...
  - i. Utilizing the following equation, calculate the effluent travel time ("ETT") in minutes from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure at the time the effluent CPO concentration was measured at the treatment plant:

$$ETT = (601.62 / EFR) * 60$$

where "EFR" equals the effluent flow rate in MGD occurring at the time the effluent grab sample for CPO analysis was taken at the treatment plant.

- ii. Calculate the CPO concentration decay ("CPODECAY") in mg/L during the effluent travel in the outfall pipe from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure using the equation:

$$CPODECAY = (0.0043 \text{ mg/L/min}) * ETT$$

where "ETT" equals the effluent travel time calculated in step i. above.

- iii. Calculate the CPO concentration at the discharge location in Upper New York Harbor ("CPOEFFL") using the equation:

$$CPOEFFL = (CPOMEAS) - (CPODECAY)$$

where "CPOMEAS" equals the measured effluent CPO concentration at the treatment plant in mg/L and "CPODECAY" equals the CPO concentration decay calculated in step ii. above.

- iv. The calculated CPOEFFL is the CPO concentration value that is used to determine compliance with the water quality based maximum daily and average monthly CPO concentration effluent limitations in Table III-A-1 and for all DMR monitoring and reporting purposes.
- v. If the CPOEFFL value calculated using the above procedure is less than the method detection level (MDL) of the method being used to measure CPO, then the CPOEFFL value used for reporting purposes will be < MDL in mg/L. For example, if the MDL for the method being used to measure CPO is 0.05 mg/L and the calculated CPOEFFL value is 0.01 mg/L, then < 0.05 mg/L (not 0.01 mg/L) is to be used for DMR reporting purposes for that measurement.

**8. Introduction to RWBR Requirements**

- a. The following RWBR sections contain the conditions for the permittee to beneficially reuse treated effluent or Reclaimed Water for Beneficial Reuse (RWBR), provided the effluent is in compliance with the criteria specified for the particular use specified below.
- b. There are two levels of RWBR uses. Public Access and Restricted Access.

**9. RWBR Requirements for Public Access**

- a. The Public Access reuse types authorized by this permit are those approved in Appendix A. Other Public Access reuse types may be added by minor modification of this permit.
- b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.
- c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.
  - i. Total Suspended Solids (TSS): Instantaneous maximum of 5.0 mg/L prior to disinfection.
  - ii. Nitrogen, Total (NO<sub>3</sub> + NH<sub>3</sub>): Daily maximum of 10.0 mg/L. This requirement only applies when RWBR is land applied.
  - iii. Fecal Coliform: 7-day median maximum of 2.2 colonies per 100 mL and an instantaneous maximum of 14 colonies per 100 mL.
  - iv. Chlorine Produced Oxidants (CPO): If the permittee disinfects utilizing chlorine, an instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow must be met.
- d. Monitoring of the diverted public access RWBR shall be conducted in the following manner:
  - i. Sampling for TSS shall be immediately prior to disinfection. Monitoring for TSS shall be a grab sample once per week.
  - ii. Sampling for Turbidity in systems shall be sampled immediately prior to disinfection. The permittee shall establish a correlation between Turbidity and TSS in their effluent as detailed in the Reuse Technical Manual. A statistically significant correlation between Turbidity and TSS shall be established prior to commencement of the RWBR program and shall be incorporated into the Operations Protocol and updated annually. The initial correlation should be done as part of a daily monitoring program for at least 30 days. To ensure continuous compliance with the 5.0 mg/L TSS level, Turbidity must be monitored continuously and achieve the level established in the Operations Protocol.
  - iii. For chlorine disinfection, monitoring for CPO shall be continuous and shall be monitored after the appropriate contact time is achieved.
  - iv. Monitoring for Fecal Coliform shall be a grab sample, taken in accordance with Part III, at least a minimum of once per week taken immediately after disinfection. Fecal coliform shall be monitored immediately after disinfection.
  - v. Monitoring for Total Nitrogen (NO<sub>3</sub> + NH<sub>3</sub>) shall be a composite sample, taken in accordance with Part III, at least once per week taken prior to RWBR diversion. Total Nitrogen (NO<sub>3</sub> + NH<sub>3</sub>) shall be monitored after the appropriate disinfection treatment is achieved.

- e. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.
  - i. If chlorine is used for disinfection, the lowest sampling result obtained during the reporting month shall be reported for CPO.

#### **10. RWBR Requirements for Restricted Access--Land Application and Non Edible Crops**

- a. The Restricted Access--Land Application and Non Edible Crops reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Land Application and Non Edible Crops reuse types may be added by minor modification of this permit.
- b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.
- c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.
- d. Nitrogen, Total (NO<sub>3</sub> + NH<sub>3</sub>): Daily maximum of 10 mg/L. Frequency of sampling for Total Nitrogen shall be at a minimum monthly. The sample shall be collected as a composite sample taken prior to diversion for RWBR. Nitrogen, Total (NO<sub>3</sub> + NH<sub>3</sub>) shall be monitored after the appropriate disinfection treatment time is achieved. This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area.
- e. Fecal Coliform shall comply with the permit limitations as specified in the Effluent Limitations Table in Part III of the permit. Frequency of sampling for Fecal Coliform and Enterococci shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection.
- f. Chlorine Produced Oxidants (CPO): For chlorine disinfection, instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow. Frequency of sampling for CPO shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection. The value reported for CPO shall be the minimum sampling result obtained during the reporting month for diverted RWBR. Chlorine Produced Oxidants (CPO) shall be monitored after the appropriate contact time is achieved.
- g. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.

#### **11. RWBR Requirements for Restricted Access--Construction and Maintenance Operations**

- a. The Restricted Access--Construction and Maintenance Operations reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Construction and Maintenance Operations reuse types may be added by minor modification of this permit.
- b. Fecal Coliform shall comply with the permit limitations as specified in the Effluent Limitations Table in Part III of the permit. Frequency of sampling for Fecal Coliform and Enterococci shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection. This requirement does not apply to sanitary sewer jetting.

#### **12. RWBR Requirements for Restricted Access--Industrial Systems**

- a. The Restricted Access--Industrial Systems reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Industrial Systems reuse types may be added by minor modification of this permit.

### **13. RWBR Submittal Requirements**

- a. For all types of RWBR, with the exception of sanitary sewer jetting and STP washdown water, the permittee shall submit and receive approval of an Operations Protocol or modify the existing Operations Protocol as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of any RWBR activity. A copy of the approved Operations Protocol shall be maintained onsite. Specific requirements for the Operations Protocol are identified in the Reuse Technical Manual.
- b. The permittee shall submit a copy of the Reuse Supplier and User Agreement with each request for authorization to distribute RWBR in which the user is a different entity than the supplier. Specific requirements for the Reuse Supplier and User Agreement are identified in the Reuse Technical Manual.
- c. For Public Access RWBR on Edible Crops, the permittee shall submit an annual inventory of edible crop irrigation with the Beneficial Reuse Annual Report. Specific requirements for the annual inventory are identified in the Reuse Technical Manual.
- d. Submit a Beneficial Reuse Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP). The permittee shall compile the total volume of RWBR distributed to each type of authorized RWBR activity for the previous calendar year. Specific requirements for the Annual Reuse Report are identified in the Reuse Technical Manual.
- e. The permittee shall submit and receive approval of an Engineering Report in support of RWBR authorization requests for new or expanded RWBR projects as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Engineering Report shall be maintained onsite. Specific requirements for the Engineering Report are identified in the Reuse Technical Manual.
- f. All submittals shall be mailed or delivered to: New Jersey Department of Environmental Protection, Mailcode 401-02B, Division of Water Quality, Bureau of Surface Water Permitting, P.O. Box 420, Trenton, New Jersey 08625-0420.

### **14. RWBR Operational Requirements**

- a. Effluent that does not meet the requirements for RWBR established in Part III, Part IV and the operational requirements specified in the facility's approved Operations Protocol shall not be diverted for RWBR.
- b. The land application of RWBR shall not produce surface runoff or ponding.
- c. All setback distances shall be consistent with the distances outlined in the Reuse Technical Manual.
- d. Land application sites shall not be frozen or saturated when applying RWBR.

- e. A daily log noting the volume of RWBR distributed to each approved application site shall be maintained on-site by the permittee and made available to the Department upon request. The volume of RWBR to be distributed shall be determined through the use of a totalizing flow meter, or other means of accurate flow measurement.
- f. Any vehicle used to transport and/or distribute RWBR shall be appropriately marked. The vehicle shall not be used to transport water or other fluid that does not meet all limitations and requirements as specified in this permit for water diverted for RWBR, unless the tank has been emptied and adequately cleaned prior to the addition of the RWBR.
- g. The permittee shall post Access Control and Advisory Signs in accordance with the requirements of the Reuse Technical Manual.
- h. There shall be no cross-connections to potable water systems.
- i. All RWBR piping, pipelines, valves, and outlets shall be appropriately color coded, tagged or labeled to warn the public and employees that the water is not intended for drinking. Worker contact with RWBR shall be minimized.
- j. The issuance of this permit for the use of RWBR shall not be considered as a waiver of any applicable federal, state or local rule, regulation or ordinance.

## **F. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS**

### **1. General Requirements**

- a. The Permittee has developed an industrial pretreatment program pursuant to the General Pretreatment Regulations 40 CFR Part 403 and N.J.A.C. 7:14A-1 et seq. The Permittee shall implement and enforce its approved pretreatment program to prevent the introduction of pollutants into its system which would:
  - i. interfere with attainment of the effluent limitations contained in the permittee's NJPDES permit;
  - ii. pass through the treatment works and impair the water quality of the receiving stream; or
  - iii. affect sludge quality so as to interfere with the use or management of the municipal sludge.
- b. The Permittee shall comply with the public participation and notification requirements, including but not limited to, those specified in N.J.A.C. 7:14A-19.10, and 40 CFR Part 25.
- c. The Permittee shall secure and maintain sufficient resources and qualified personnel to carry out the program implementation procedures described in this permit.

### **2. Identify and Locate Industrial Users**

- a. The Permittee shall update its inventory of indirect users at a frequency and diligence adequate to ensure proper identification of indirect users subject to pretreatment standards, appropriate characterization of the nature of their discharges, and correct designation of indirect users as categorical, significant/major, or other regulated. At a minimum, this inventory shall be updated annually and shall be included in the Pretreatment Program 40 CFR Part 403 Annual Report.
- b. The Permittee shall notify an indirect user of pretreatment standards and requirements within thirty (30) days of the determination of the indirect user being subject to regulation under the pretreatment program.

**3. Program Modifications**

- a. The Permittee shall notify the Bureau of Pretreatment and Residuals (BPR) of all substantial industrial pretreatment program (IPP) modifications, as defined under 40 CFR 403.18(b), and comply with the program modification requirements under N.J.A.C. 7:14A-19.9. The Permittee must await formal approval from the BPR before implementing substantial program modifications.
- b. For non-substantial program modifications, the Permittee shall provide to the BPR the information required under N.J.A.C. 7:14A-19.9(b). The Permittee, as required by 40 CFR 403.18(d)(1), must submit this information to the BPR at least 45 days prior to implementation. Modifications that are not considered substantial are deemed approved unless the Department notifies the Permittee within 45 days that the modifications are not approved.

**4. Develop Local Limits**

- a. The Permittee has developed and shall enforce local limits as required by N.J.A.C. 7:14A-19.7.
- b. The Permittee shall submit a written technical evaluation of the need to revise local limits as required under N.J.A.C. 7:14A-19.7(d).
- c. The written technical evaluation required in b. above shall be submitted: within 6 months from the effective date of this document.

**5. Issue IPP Permits**

- a. The Permittee must issue an individual IPP Permit to those facilities which are classified as "Significant Industrial Users" (SIUs) as defined in the Passaic Valley Sewerage Commissioners Rules and Regulations.
- b. These individual IPP Permits must contain the minimum requirements as specified under N.J.A.C. 7:14A-19.8(b).
- c. The Permittee shall issue a draft IPP Permit to a newly identified (i.e. currently discharging) IU within 180 days of identifying that IU.
  - i. New IUs shall receive an IPP Permit prior to commencement of discharge.
  - ii. The Permittee shall issue or reissue the IPP Permits, in absence of litigation and/or enforcement action(s) initiated by the Permittee, within one hundred and eighty (180) days of the expiration date of the IPP Permit previously issued to an existing industrial user.

**6. Perform Compliance Monitoring and Inspections**

- a. The Permittee shall randomly inspect indirect users and randomly sample and analyze indirect user effluents at a frequency commensurate with the character, consistency, and volume of the contribution. However, the frequency of sampling shall be adequate to determine the compliance status of the indirect user exclusive of self-monitoring data submitted by the user. Specifically, the frequency of inspection and sampling of all significant industrial users (SIU), as defined by Passaic Valley Sewerage Commissioners, shall be no less than once per year for inspection and no less than once per year for sampling. Also, in accordance with N.J.A.C. 7:14A-19.6(a)1, facilities which have an IPP permit from the POTW but do not meet the POTW's definition of SIU i.e., "other regulated IUs"), and are not CIUs, must be inspected by the POTW once per year and must be sampled by the POTW at least once every three (3) years.

- b. Sample collection and analysis and the gathering of other compliance data shall be performed with sufficient care to produce evidence admissible in judicial enforcement proceedings.

**7. Take Enforcement Actions**

- a. The permittee shall take enforcement actions based upon indirect users' noncompliance in accordance with its approved enforcement response plan.

**8. Perform Data Management and Record Keeping**

- a. The Permittee shall develop and maintain a data management system which includes industrial user inventory, characterization of discharge, compliance status, IPP permit status, and enforcement actions.
- b. The Permittee shall retain for a minimum of five (5) years all records of monitoring activities and results (whether or not such activities are required by this permit) and shall make such records available to EPA and the State upon request.

**9. Notification Requirements**

- a. The Permittee shall notify its significant industrial users in writing of their obligation to comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA).

**10. Pretreatment Annual Report**

- a. The Permittee shall submit a report annually to the Bureau of Pretreatment and Residuals describing the Permittee's pretreatment activities for the twelve (12) month period from August 1 through July 31. In the event that the Permittee is not in compliance with any conditions or requirements of this permit, the Permittee shall also include the reason for noncompliance and state how and when the Permittee shall comply with such conditions and requirements.
- b. Submit the Annual Pretreatment Program Report: by September 1 of each year beginning from the effective date of the permit (EDP). (Effective: 3/1/2005)
  - i. a summary of analytical results of the priority pollutant scans performed on the Delegated Local Agency's (DLA) influent, effluent, and sludge;
  - ii. a discussion of upset, interference, or pass through incidents, if any, at the DLA treatment plant(s) which the Permittee knows or suspects were caused by indirect users of the DLA system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the indirect user(s) responsible;
  - iii. an updated list of the Permittee's industrial users including their names and addresses, and a list of deletions and additions. The Permittee shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to Federal categorical standards and which set(s) of standards are applicable; significant/major non-categorical IUs (as defined by the DLA); and other regulated non-categorical industries. The Permittee shall characterize the compliance status of each industrial user with respect to the discharge limitations and reporting requirements;
  - iv. a summary of the inspection and sampling activities conducted by the Permittee during the period covered by the annual report to gather information and data regarding industrial users;

- v. a summary of the compliance and enforcement activities during the period covered by the annual report. The summary shall include administrative and legal/judicial actions initiated by the permittee during the period noted;
- vi. a description of any significant changes in operating the pretreatment program which differ from the information in the Permittee's approved DLA pretreatment program including, but not limited to, changes concerning:
  - (1) the program's administrative structure
  - (2) local industrial discharge limitations
  - (3) monitoring program or monitoring frequencies
  - (4) Legal authority or enforcement policy
  - (5) funding mechanisms
  - (6) resource requirements
  - (7) staffing levels;
- vii. a summary of the annual pretreatment funding, including salaries (as a lump sum), analytical costs for both in-house and contract analyses, equipment costs, and other expenditures associates with implementation of the pretreatment program. The Permittee must also provide a manpower estimate in full-time equivalents (FTEs);
- viii. a summary of public participation activities to involve and inform the public. This shall include a copy of the annual publication of significant non-compliance, if such publication was needed to comply with N.J.A.C. 7:14A-19.10(b); and
- ix. other information as required and described in the NJDEP 403 Annual Report Guidance.
- x. Two copies of the Pretreatment Program Annual Report shall be submitted to the BPR in the form prescribed in that guidance. The reports shall be submitted to:
  - NJDEP
  - Mailcode 401-02B
  - Bureau of Pretreatment and Residuals
  - 401 East State Street
  - P.O. Box 420
  - Trenton, NJ 08625-0420

### **11. CWEA Annual Report**

- a. The Permittee must submit information required by N.J.A.C. 7:14A-19.6(c), (d) and (e) pertaining to the implementation of the DLA's approved pretreatment program.
- b. Submit the CWEA Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP).
- c. Two copies of this report shall be submitted to:
  - NJDEP, Mailcode 401-02B
  - Bureau of Pretreatment and Residuals
  - 401 E. State Street
  - P.O. Box 420
  - Trenton, N.J. 08625-0420.

### **12. Grace Period Annual Report**

- a. The permittee must submit the information required by N.J.A.C. 7:14A-19.6(h) and (i) pertaining to implementation of the DLA's approved pretreatment program.
- b. Submit the Grace Period Annual Report by March 1 of each year beginning from the effective date of the permit (EDP).
- c. Two copies of this report shall be submitted to:  
NJDEP  
Mailcode 401-02B  
Bureau of Pretreatment and Residuals  
401 East State Street  
P.O. Box 420  
Trenton, NJ 08625-0420.

## **G. CONDITIONS FOR MODIFICATION**

### **1. Notification requirements**

- a. The permittee may request a minor modification for a reduction in monitoring frequency for a non-limited parameter when four consecutive test results of "not detected" have occurred using the specified QL.

### **2. Causes for modification**

- a. Pursuant to N.J.A.C. 7:14A-6.2(a)(10)(iii), the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.
- b. The permittee may request a minor modification to eliminate the monitoring requirements associated with a discharge authorized by this permit when the discharge ceases due to changes at the facility.

## **H. Custom Requirement**

### **1. Re-evaluation of Section (A) Power Supply of Emergency Plan**

- a. PVSC shall re-evaluate section section (A) Power Supply of their Emergency Plan required in accordance with N.J.A.C. 7:14A-6.12(d)3i(1) to determine if any modifications need to be considered in consideration of recent region wide power outages, and submit the evaluation and any such modifications to the Department for review.

### **2. Bacterial Indicator Sample Requirement**

- a. The permittee is authorized to hold the bacterial indicator samples (fecal coliform) in a bottle prior to testing for permit limitation compliance reporting purposes for a time period not to exceed the travel time in the outfall pipe (in minutes) calculated using the following equation:

$$(25.069 \text{ million gallons} \times 24 \text{ hours/day} \times 60 \text{ mins/hour}) / (\text{flow rate in MGD}).$$

### **3. Percent Removal Waiver Options**

- a. Part III of the DMR for Outfall DSN 001A contains two options for the percent removal requirement for CBOD5 and TSS. Option 1 applies when the influent flow is less than [To be determined] MGD where the 85% removal requirement is applicable. Option 2 applies during wet weather. This is defined as a period when the influent flow reaches or exceeds the designated flow of (To be determined) MGD, as a daily average flow. When this condition occurs the permittee shall report the percent removal value under "Option 2". For whichever option is not applicable, the permittee shall report "Code = N". For example, if Option 1 is applicable, then the permittee shall report "Code = N" under Option 2.

PASSAIC VALLEY SEWERAGE COMM, Newark

Permit No.NJ0021016  
DSW090003 Surface Water Renewal Permit Action

## NOTES AND DEFINITIONS

### Combined Sewer Management

#### A. NOTES

**1. These notes are specific to this permit.**

- a. The permit conditions in the CSO section apply only to the combined sewer system and related discharges.

**2. CSO related resources are listed below with a link to the current webpage.**

- a. NJDEP's CSO main website and related links can be found at <http://www.nj.gov/dep/dwq/cso.htm>.
- b. EPA's Combined Sewer Overflows Principal Guidance Documents can be found at <http://cfpub.epa.gov/npdes/cso/guidedocs.cfm>.
- c. The Nine Minimum Control requirements from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and [http://cfpub.epa.gov/npdes/cso/ninecontrols.cfm?program\\_id=5](http://cfpub.epa.gov/npdes/cso/ninecontrols.cfm?program_id=5).
- d. The Nine elements of a Long Term Control Plan from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and <http://cfpub.epa.gov/npdes/cso/ltplan.cfm>.
- e. EPA's Post Construction Compliance Monitoring Guidance document can be found at [http://www.epa.gov/npdes/pubs/final\\_cso\\_pccm\\_guidance.pdf](http://www.epa.gov/npdes/pubs/final_cso_pccm_guidance.pdf).
- f. [EPA's Guidance: Coordinating Combined Sewer Overflow \(CSO\) Long-Term Planning with Water Quality Standards Reviews \(PDF\)](#).
- g. EPA's Capacity, management, operation and maintenance (CMOM) guidance document can be found at [http://www.epa.gov/npdes/pubs/cmom\\_5.pdf](http://www.epa.gov/npdes/pubs/cmom_5.pdf).
- h. Dry-Weather Deposition and Flushing for Combined Sewer Overflow Pollution Control: <http://nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=30000821.PDF>.
- i. Combined sewer overflow control (manual): <http://nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=30004MAO.PDF>.
- j. EPA's Storm Water and Combined Sewer Overflows Publications can be found at <http://water.epa.gov/polwaste/wastewater/StormwaterPubs.cfm>.

#### B. DEFINITIONS

**1. These definitions are specific only to this permit.**

- a. "Dry weather overflow (DWO)" means a combined sewer overflow that cannot be attributed to a precipitation event, including snow melt, within the hydraulically connected system. DWOs can include flows from one or more of the following: domestic sewage, ground water infiltration, commercial and industrial wastewaters, and

any other non-precipitation event related flows (e.g., discharge of tidal infiltration and/or any connections downstream of the regulator to the outfall pipe).

- b. “Green Infrastructure” means methods of stormwater management that reduce wet weather/stormwater volume, flow, or changes the characteristics of the flow into combined or separate sanitary or storm sewers, or surface waters, by allowing the stormwater to infiltrate, to be treated by vegetation or by soils; or to be stored for reuse. Green infrastructure includes, but is not limited to, pervious paving, bioretention basins, vegetated swales, and cisterns.
- c. “Hydraulically connected system” means the entire collection system that conveys flows to one Sewage Treatment Plant (STP). On a case-by-case basis, the permittee, in consultation with the Department, may segment a larger hydraulically connected system into a series of smaller inter-connected systems, based upon the specific nature of the sewer system layout, pump stations, gradients, locations of CSOs and other physical features which support such a sub area. A hydraulically connected system could include multiple municipalities, comprised of both combined and separate sewers.

### **C. NINE MINIMUM CONTROL REQUIREMENTS**

- 1. Proper operation and regular maintenance programs for the sewer system and the CSOs.**
- 2. Maximum use of the collection system for storage.**
- 3. Review and modification of pretreatment requirements to assure CSO impacts are minimized.**
- 4. Maximization of flow to the POTW for treatment.**
- 5. Prohibition of CSOs during dry weather.**
- 6. Control of solid and floatable materials in CSOs.**
- 7. Pollution prevention.**
- 8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.**
- 9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.**

### **D. NINE ELEMENTS OF THE LONG TERM CONTROL PLAN**

- 1. Characterization, Monitoring, and Modeling of the Combined Sewer Systems.**
- 2. Public Participation.**
- 3. Consideration of Sensitive Areas.**

- 4. Evaluation of Alternatives.**
- 5. Cost/Performance Considerations.**
- 6. Operational Plan.**
- 7. Maximizing Treatment at the Existing POTW Treatment Plant.**
- 8. Implementation Schedule.**
- 9. Post-Construction Compliance Monitoring Program.**

## **SPECIFIC REQUIREMENTS: NARRATIVE**

### **Combined Sewer Management**

#### **A. MONITORING REQUIREMENTS**

##### **1. CSO Monitoring Requirements**

- a. All monitoring shall be conducted as specified in Part III.
- b. All monitoring frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- c. Discharges shall be directly monitored or predicted using a DEP approved up-to-date model.

#### **B. RECORDKEEPING**

##### **1. CSO Recordkeeping Requirements**

- a. The permittee shall identify the Combined Sewer System (CSS) complaint, maintenance, inspection, and repair documentation forms and related tracking forms and/or systems and specify how, where and when this documentation will be maintained.
- b. The permittee shall retain records of all monitoring information, including 1) all calibration and any other methods of monitoring which may be employed, maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.
- c. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.
- d. The permittee shall retain records to document implementation of the Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) requirements in Sections F. and G., and shall utilize this information when preparing and submitting progress reports required in Section D, including residential complaints, inspection records, maintenance records. This information shall be made available to the Department upon request.

#### **C. REPORTING**

## 1. CSO Reporting Requirements

- a. The permittee shall submit all required monitoring results to the Department on the forms provided by the Department. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. The permittee shall summarize the information for the total quantity of Solids/Floatables removed from ALL outfalls on the MRF for the first CSO outfall only. This information needs to be reported on the MRF only when the Solids/Floatables solid waste is measured for disposal. For the months when no Solids/Floatables are disposed of, the permittee shall report 'NODI'.
- c. The permittee shall report Precipitation from a rain gauge representative of the area on the MRF for the first CSO outfall only.
- d. The permittee shall report Duration of Discharge on the MRF for each CSO outfall as a whole day for any day when a discharge occurs.
- e. Any MRFs in paper format shall be submitted to the following addresses.

NJDEP  
Mail Code - 401-02B  
Division of Water Quality - Office of Permit Management  
P.O. Box 420  
Trenton, New Jersey 08625-0420

- f. Electronic data submissions shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.
- g. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- h. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- i. Monitoring results shall be submitted in accordance with the current Monitoring Report Form Manual and any updates thereof.
- j. If there are no CSO discharges during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

## D. SUBMITTALS

### 1. CSO Submittal Requirements

- a. The permittee shall correct all deficiencies cited by the Department and submit a revised approvable document within 30 days of notification of the deficiencies by the Department.
- b. All reports submitted to the Department pursuant to the requirements of this permit shall comply with the signatory requirements of N.J.A.C. 7:14A-4.9., and contain the following certification.
  - i. "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."
- c. Since multiple municipalities/permittees own separate portions of the hydraulically connected sewer system, the permittee shall work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected sewer system to ensure that the NMC & LTCP activities are being developed and implemented consistently. The permittee shall identify their joint and separate responsibilities with all other appropriate municipalities/permittees in the hydraulically connected sewer system regarding implementation of the NMCs and LTCPs.

The permittee shall summarize its construction related activities, as well as those reported to them by the other permittees in their service communities, and notify all parties of any construction related activities in the hydraulically connected collection system on a quarterly basis. The permittee shall make these construction related activities available publically on their website.

- d. The permittee shall submit all information required by or related to this permit via email or other electronic format acceptable to the Department to [NJCSOProgram@dep.state.nj.us](mailto:NJCSOProgram@dep.state.nj.us) and to the permittee's enforcement inspector. The Department cannot accept any file larger than 20 megabytes (MB). Any submission larger than that must be broken into files less than 20MB and sent separately.

## **2. Updated Nine Minimum Controls Submittal Requirements**

- a. The permittee shall submit GPS latitude and longitude coordinates in degrees-minutes-seconds (at a minimum to the tenth of a second accuracy) for all CSO regulators and discharge outfalls owned/operated by the permittee: on or before EDP + 4 months. This data shall be submitted in accordance with N.J.A.C. 7:1D-Appendix A, and NJ GIS protocol at <http://www.state.nj.us/dep/gis/standard.htm>.
- b. The permittee shall submit a PDF of a sewer map depicting the actual locations of the separate and combined sanitary sewers, storm sewers, CSO regulators and outfalls owned/operated by the permittee: on or before EDP + 4 months. This map shall identify flow direction and manhole invert elevations.

- c. The permittee shall submit proof that signs were installed for each CSO: on or before EDP + 6 months, in accordance with Section F.8. The proof shall include all items listed below.
  - i. Photographs of both sides of sign installation area from the land and water sides.
  - ii. A chart listing the distance from the shoreline.
  - iii. The physical street address/location of the sign for each CSO.

### **3. Long Term Control Plan (LTCP) Submittal Requirements**

- a. The Department encourages a single LTCP to be developed and submitted on behalf of all of the permittees in a hydraulically connected sewer system. If the STP and the hydraulically connected municipalities work cooperatively to develop and implement a single LTCP, the permittee may request an extension of time to the LTCP compliance due dates.
- b. The permittee shall develop an approvable LTCP that will include the elements contained in Section G. The LTCP shall consist of the following steps and be submitted according to the schedule below.
  - i. Step 1a – System Characterization Workplan for the LTCP - In accordance with Section G.1., the permittee shall submit an approvable system characterization workplan: on or before EDP + 3 months.
  - ii. Step 1b - In accordance with G.1., G.2. and G.3., the permittee shall submit the System Characterization Report, the Public Participation Process, and Consideration of Sensitive Areas of the LTCP: on or before EDP + 12 months.
  - iii. Step 2 - Development and Evaluation of Alternatives for the LTCP - In accordance with Sections G.2. through G.5. and G.9., the permittee shall submit an approvable Development and Evaluation of Alternatives Report on or before EDP + 24 months.
  - iv. Step 3 - Selection and Implementation of the LTCP: In accordance with Sections G.2. and G.6. through G.9., the permittee shall submit an approvable Selection and Implementation of Alternatives Report: on or before EDP + 36 months.
  - v. Upon Department approval of the LTCP, the permittee shall begin implementation of the LTCP in accordance with the schedule contained therein.
- c. In accordance with Section G.9., the permittee shall submit an approvable baseline Compliance Monitoring Program (CMP) work plan: on or before EDP + 3 months.
- d. In accordance with Section G.9. and the approved work plan, the permittee shall submit an approvable baseline CMP Report and data: on or before EDP + 12 months.

### **4. CSO Progress Report Submittal Requirements**

- a. The permittee shall submit Progress Reports: within twenty-five (25) days after the end of every quarter beginning from the effective date of the permit (EDP).
- b. The Progress Reports shall be prepared in accordance with the following requirements.

- i. The Progress Reports shall follow the outline structure of the permit requirements in Sections F. and G.
- ii. The Progress Reports shall include a summary of all required information, CSO control measures implemented by the permittee to comply with the NMCs, a prioritized schedule for additional CSO control measures to be implemented, and the effectiveness of the implemented CSO control measures, pursuant to this permit for the previous calendar quarter. The first Progress Report shall include a summary of all CSO control measures implemented to date and the effectiveness of those control measures.
- iii. Each Progress Report must include a verification that the Operation and Maintenance Manual, including the SOPs, Asset Management Plan and Emergency Plan, have been updated in accordance with this permit and amended annually, as necessary.
- iv. Each Progress Report shall contain a detailed discussion of, and document compliance with, the continued implementation of the NMCs and the manner in which all owners/operators of the hydraulically connected collection system participated in the development of the LTCP, including information regarding the development and status of the telephone hotline/website pursuant to Section F.8.
- v. Upon Departmental approval of the LTCP, the permittee shall begin implementation of the CSO control measures in accordance with the schedule in the approved LTCP.

## **E. FACILITY MANAGEMENT**

### **1. CSO Discharge Requirements**

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee shall not discharge foam or cause foaming of the receiving water that 1) forms objectionable deposits on the receiving water, 2) forms floating masses producing a nuisance, or 3) interferes with a designated use of the waterbody.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The permittees discharges shall not exhibit a visible sheen.

### **2. Interstate Environmental Commission (IEC)**

- a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations."

### **3. CSO Discharge Monitoring and Reporting Effective Dates**

- a. Monitoring Report Form (MRF) Requirements.

- i. The monitoring and reporting conditions contained in PART III apply for the full term of this permit action.

## **F. NINE MINIMUM CONTROL REQUIREMENTS**

### **1. Proper Operation and Regular Maintenance Program Requirements**

- a. The permittee shall continue to implement and update annually, an Operations & Maintenance (O&M) Program and corresponding Manual, including an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12, to ensure that the treatment works, including but not limited to collection system, the CSO outfalls, solids/floatables facilities, regulators, and related appurtenances which are owned/operated by the permittee are operated and maintained in a manner that achieves compliance with all terms and conditions of this permit.
- b. The permittee shall operate the treatment works using a licensed operator in accordance with N.J.S.A. 58:11-66(a), N.J.A.C. 7:14A-6.12(b) and N.J.A.C. 7:10A.
- c. The permittee shall provide adequate operator staffing for the treatment works,
- d. The permittee shall provide documentation that ensures that employees are properly trained to perform the operation and maintenance duties required and to follow the Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual. This shall include a current training program for the purpose of informing new employees and maintaining training levels for current employees in regards to the CSO O&M Program and corresponding Manual, including safety related concerns.
- e. The permittee shall implement an O&M Program & corresponding Manual that includes, at a minimum, the following.
  - i. A directory of appropriate O&M staff, including a description of their individual responsibilities and emergency contact information.
  - ii. A description of the permittee's Fats, Oils and Grease (FOG) Program.
  - iii. An updated characterization of the entire collection system owned/operated by the permittee that conveys flows to the treatment works. The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:
    - Passaic Valley Sewerage Commissioners Interim Service Area Drainage and Land Use Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, Appendix B – Combined Sewer Overflow Drainage Area and Control Information – Towns of Harrison and Kearny, and Borough of East Newark, prepared by Elson T. Killam Associates, dated February 1996.
    - Passaic Valley Sewerage Commissioners Interim Sewer System Inventory and Assessment Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, prepared by Elson T. Killam Associates, dated February 1996.

- Passaic Valley Sewerage Commissioners CSO Characterization Study – Modeling Study, prepared by HydroQual, dated December 2003.

A complete list of studies performed by all CSO permittees in PVSC's hydraulically connected system is summarized in Appendix C at the end of this permit.

This characterization shall include a spreadsheet (the spreadsheet shall be completed no later than at the time of the first quarterly Progress Report), organized by CSO outfall, as appropriate, of the capacity, dimensions, age, type of material, and specific location of:

- CSO outfalls;
- Tide gates;
- Solids/floatables controls;
- Regulators;
- Catch basins;
- gravity lines and force mains, including size, length and direction of flow;
- Manholes, including invert elevations of all gravity sewers inlets and outlets;
- Pump stations;
- Significant Industrial Users (SIUs); and
- Specific locations that have historically experienced the following: blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, overflows or related incidences.

- f. The permittee shall delineate the characterization information required in Section F.1.e.iii., on a GIS map, as applicable, pursuant to N.J.A.C. 7:1D-Appendix A and shall follow the NJ GIS protocol at <http://www.state.nj.us/dep/gis/standard.htm>. This map shall be completed on or before the first annual update of the O&M Program and Manual.
- g. The permittee shall review its rules, ordinances, and its sewer use agreements with its customer municipalities and revise them within 4 months of the EDP if necessary to require the customer municipalities to:
  - i. operate and maintain their treatment works,
  - ii. identify Infiltration and Inflow (I/I) and reduce where appropriate, and
  - iii. identify and eliminate interconnections and cross-connections in storm sewers.
- h. The permittee shall also include Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual for the operation, inspections, and scheduled preventative maintenance in accordance with the appropriate manufacturer's recommendations and equipment manuals at a minimum, to ensure that the entire collection system that is owned/operated by the permittee that conveys flows to the treatment works will function properly. At a minimum the SOPs shall contain detailed instructions for system operations, such as frequency of inspections, regular maintenance, and the timely repair, and documentation of such information, of the entire collection system that conveys flows to the treatment works. These SOPs shall include procedures to:
  - i. Ensure that the entire collection system owned/operated by the permittee that conveys flows to the treatment works functions at all times in such a way as to not result in

- sewage overflows including to basements, streets and other public and private areas, or bottlenecks/constrictions that limit flow in specific areas and prevent the downstream STP treatment capacity from being fully utilized, in accordance with Section F.4.
- ii. Ensure that the storage and conveyance of combined sewage to the STP is maximized in accordance with Sections F.2 and F.4.
  - iii. Ensure that the discharges from SIUs contributing to the CSOs are minimized to the greatest extent practicable in accordance Section F.3.
  - iv. Ensure there will be no dry weather overflows from any CSO in accordance with Section F.5.
  - v. Conduct a visual inspection program, of sufficient scope and frequency of the CSS, to provide reasonable assurance that unpermitted discharges, obstructions, damage, and DWOs will be discovered.
  - vi. Ensure the solids/floatables appurtenances will be maintained and the solids/floatables will be removed from the CSO discharge and disposed of properly at such frequency so as not to cause obstructions of flow for any future CSO discharges, in accordance with Part II of this permit and Section F.6.
  - vii. Prevent the intrusion upstream of the regulators of receiving waters due to high tides and/or receiving water flooding into the entire collection system owned/operated by the permittee that conveys flows to the treatment works.
  - viii. Provide a gravity sewer and catch basin cleaning schedule.
  - ix. Provide a system for documenting, assessing, tracking, and addressing residential complaints regarding blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, or related incidents.
  - x. Remove within one (1) week of the permittee becoming aware, any obstructions due to debris, Fats, Oils and Greases, and sediment buildup, or other foreign materials in the collection system owned/operated by the permittee.
  - xi. Require immediate corrective action(s) to repair damage and/or structural deterioration, address unpermitted discharges, and eliminate DWOs of the entire collection system owned/operated by the permittee that conveys flows to the treatment works.
  - xii. Provide for ongoing infiltration and inflow (I/I) reduction strategies through the identification of I/I sources and the prioritization and implementation of I/I reduction projects.
  - xiii. Identify the equipment currently owned, operated and maintained for investigating and maintaining the CSS and, at a minimum, reference the appropriate equipment manuals.
  - xiv. Provide procedures whereby wet weather flows are maximized for conveyance to the STP and discharges from CSOs are minimized.

- i. The permittee shall incorporate an Asset Management Plan as part of the overall O&M strategy. This plan shall include an infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, that ensures the entire collection system owned/operated by the permittee that conveys flows to the treatment works is perpetually and proactively managed with the appropriate resources (capital, staffing, training, supplies, equipment) allocated in the permittee's budget as prepared and submitted to Department of Community Affairs. The Asset Management Plan shall be completed no later than at the time of the first quarterly Progress Report.
- j. The permittee shall also include in the O&M Program and corresponding Manual, an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12(d). The Emergency Plan shall provide for, to the maximum extent possible, uninterrupted treatment works operation during emergency conditions using in-house and/or contract based services. The Emergency Plan shall include Standard Operating Procedures (SOPs), which ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events (including 100 and 500 year storm events) and extended periods of no power, (e.g., 7 days and 14 days).
- k. The permittee shall amend the O&M Program & Manual no less frequent than annually to reflect updated information and changes in the characterization, design, construction, operations, maintenance, Emergency Plan, and SOPs as listed in Section F.1. and include verification that the O&M Program and corresponding Manual has been prepared and updated in accordance with the submittal requirements in Section D.4.

## **2. Maximum use of the collection system for storage**

- a. The permittee shall use the entire collection system owned/operated by the permittee for in-line storage of sewage for future conveyance to the STP when sewer system flows subside by ensuring that the sewage is retained in the sewer system to the extent possible to minimize CSO discharges (volume, frequency and duration), while not creating or increasing sewage overflows, including to basements, streets and other public and private areas.
- b. The permittee shall minimize the introduction of sediment and obstructions in the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Sections F.1. and F.7.
- c. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Section F.1.
- d. The permittee shall identify and implement minor modifications, based on the ongoing evaluations from the characterization required under Section F.1. to enable the entire collection system owned/operated by the permittee that conveys flows to the treatment works to store additional wet weather flows to reduce any sewage overflows until downstream sewers and treatment facilities can adequately convey and treat the flows.

## **3. Review and modification of pretreatment requirements to assure CSO impacts are minimized**

- a. The permittee shall determine the locations, associated CSO outfalls and discharge nature of the Significant Industrial Users (SIUs) for the entire collection system which is owned/operated by the permittee; determine and prioritize the potential environmental impact of these SIUs by CSO outfall; include this information in the characterization portion of the

O&M Program and corresponding Manual as required in Section F.1. This information shall be updated annually in the Progress Report in accordance with Section D.4.

- b. The permittee shall require that SIUs investigate ways to minimize their dischargers during wet weather and report their findings to the permittee.
- c. When and where necessary, the permittee shall establish agreements with SIUs or ordinances specifying that the SIUs (especially for batch discharges, non-continuous dischargers) should restrict discharges to the greatest extent practicable during wet weather periods.

#### **4. Maximization of flow to the POTW for treatment**

- a. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works and treatment plant to maximize the conveyance of wastewater to the STP for treatment.
- b. The permittee shall evaluate and implement low cost alternatives for increasing flow to the STP in accordance with i. and ii. below.
  - i. Capacity evaluations of the entire collection system owned/operated by the permittee that conveys flows to the treatment works in accordance with Section F.1.e.iii. to determine the maximum amount of flow that can be stored and transported.
  - ii. Identification of other activities conducted and/or planned to further maximize flow to the POTW.

#### **5. Prohibition of CSOs during dry weather**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the prohibition of discharges from CSOs during dry weather at this time.

#### **6. Control of solids/floatables in CSOs**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to control solids/floatables from CSOs at this time.

#### **7. Implementation of Pollution Prevention Measures**

- a. The permittee shall continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned/operated by the permittee that conveys flows to the treatment works. Unless demonstrated to the Department to be impracticable measures shall include, but not be limited to, the following:
  - i. Implementation of a regular street cleaning program.
  - ii. Retrofitting of existing storm drains to meet the standards in Appendix B, where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating or chip sealing with asphalt

emulsion or a thin base of hot bitumen) or alterations of facilities owned/operated by the municipality. For exemptions to this standard see “Exemptions” listed in Appendix B.

- iii. Implementation of stormwater pollution prevention rules and ordinances.
- iv. Implementation of solid waste collection, and recycling ordinances.
- v. Implementation of public education programs.
- vi. Enforcement of illegal dumping regulations.
- vii. Revision as necessary of applicable rules, ordinances and sewer use agreements to address the reduction of inflow and infiltration (I/I) into the collection system where feasible.

**8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to ensure that the public receives notification of CSO occurrences and impacts at this time.

**9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls**

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to characterize CSO impacts and controls at this time.

**G. LONG TERM CONTROL PLAN REQUIREMENTS:**

**1. Characterization, Monitoring and Modeling of the Combined Sewer System**

- a. The permittee and other hydraulically connected communities, shall submit an updated characterization study as per D.3.a., that will result in a comprehensive characterization of the CSS developed through records review, monitoring, modeling and other means as appropriate to establish the existing baseline conditions, evaluate the efficacy of the CSO technology based controls, and determine the baseline conditions upon which the LTCP will be based. The characterization shall include a thorough review of the entire collection system that conveys flows to the treatment works, including areas of sewage overflows, including to basements, streets and other public and private areas, to adequately address the response of the CSS to various precipitation events; identify the number, location, frequency and characteristics of CSOs; and identify water quality impacts that result from CSOs. Ambient in-stream monitoring shall be performed in accordance with the guidance document entitled: *To Be Determined*.

The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:

- Passaic Valley Sewerage Commissioners Interim Service Area Drainage and Land Use Report for the Towns of Harrison and Kearny, Borough of East Newark, and

Cities of Newark and Paterson, Appendix B – Combined Sewer Overflow Drainage Area and Control Information – Towns of Harrison and Kearny, and Borough of East Newark, prepared by Elson T. Killam Associates, dated February 1996.

- Passaic Valley Sewerage Commissioners Interim Sewer System Inventory and Assessment Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, prepared by Elson T. Killam Associates, dated February 1996.
- Passaic Valley Sewerage Commissioners CSO Characterization Study – Modeling Study, prepared by HydroQual, dated December 2003.

A complete list of studies performed by all CSO permittees in PVSC's hydraulically connected system is summarized in Appendix C at the end of this permit.

- b. The major elements of the sewer system characterization are noted below.
- i. Rainfall Records--The permittee shall examine the rainfall record as per Section F.9. for the geographic area of its existing CSS using sound statistical procedures and best available data. The permittee shall evaluate flow variations in the receiving water body to correlate between CSOs and receiving water conditions.
  - ii. Combined Sewer System Characterization—the permittee shall evaluate sewer system records, field inspections gathered from the O&M Characterization required under Section F.1. (and other previous relevant studies), and other activities necessary to understand the number, location and frequency of overflows and their location relative to sensitive areas and to pollution sources in the collection system, such as SIUs.
  - iii. CSO Monitoring - Using all available information, including the information gathered from Section F.9., the permittee shall develop and/or update a previously existing, comprehensive, representative monitoring program that measures the frequency, duration, flow rate, volume and pollutant concentration of CSO discharges and assesses the impact of the CSOs on the receiving waters. The monitoring data summary may utilize existing data from previous studies, and must include necessary CSO effluent and ambient in-stream monitoring for pathogens (including current and recreational standards for bacteriological indicators (e.g., fecal coliform, Enterococcus and E. Coli)). This ambient baseline monitoring requirement may also satisfy the baseline monitoring requirement in Section G.9. A representative sample of overflow points can be selected that is sufficient to allow characterization of CSO discharges, their water quality impacts and to facilitate evaluation of control plan alternatives.
  - iv. Modeling – the permittee may employ NJDEP or EPA approved models, which include appropriate calibration and verification with field measurements, to aid in the characterization. If models are used they shall be identified by the permittee along with an explanation of why the model was selected and used in the characterization. The permittee should base its choice of a model on the characteristics of the entire collection system that conveys flows to the treatment works (including flows from other hydraulically connected municipal sewer systems), the number and location of overflow points, and the sensitivity of the receiving water body to the CSO discharges. The sophistication of the model should relate to the complexity of the system to be modeled and to the information needs associated with evaluation of CSO control options and water

quality impacts. Because of the iterative nature of modeling sewer systems, CSOs, and their impacts, monitoring and modeling efforts are complementary and should be coordinated with other affected entities.

- v. The permittee shall identify sensitive areas where CSOs occur. These areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, bathing beaches, public drinking water intakes or their designated protection areas, and shellfish beds.

## **2. Public Participation Process**

- a. The permittee shall recertify/update the Public Participation Plan in accordance with D.3.a. The permittees may use information from the previous submittals:
  - Passaic Valley Sewerage Commissioners Public Participation Report, prepared by Hatch Mott Macdonald, dated April 2007.

A complete list of studies performed by all CSO permittees in PVSC's hydraulically connected system is summarized in Appendix C at the end of this permit.

Implementation shall actively involve the affected public throughout each of the 3 Steps of the LTCP process. The affected public includes rate payers (including rate payers in the separate sewer sections), industrial users of the sewer system, persons who reside downstream from the CSOs, persons who use and enjoy the downstream waters, and any other interested persons.

- b. The permittee shall invite members of the affected/interested public to establish a supplemental CSO Team to work with the permittee's assigned staff from Section F.1.

## **3. Consideration of Sensitive Areas**

- a. The permittee's LTCP shall give the highest priority to controlling overflows to sensitive areas in accordance with D.3.a. Sensitive areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, bathing beaches, public drinking water intakes or their designated protection areas, and shellfish beds.
- b. The LTCP shall comply with the following requirements.
  - i. Prohibit new or significantly increased CSO overflows.
  - ii. Eliminate or relocate CSO overflows that discharge to sensitive areas wherever physically possible and economically achievable, except where elimination or relocation would provide less environmental protection than additional treatment.
  - iii. Where elimination or relocation is not physically possible and economically achievable, or would provide less environmental protection than additional treatment, provide the level of treatment for remaining CSO overflows deemed necessary to meet WQS for full protection of existing and designated uses.

#### 4. Evaluation of Alternatives

- a. The permittee shall evaluate a range of CSO control alternatives, in accordance with D.3.a., that will provide for attainment of water quality standards using either the Presumption Approach or the Demonstration Approach (as described in Sections G.4.f. and G.4.g).
- b. The permittee shall submit, as per Section D.3. iii., the Evaluation of Alternatives Report that will enable the permittee, in consultation with the Department, the public, owners and/or operators of the entire collection system that conveys flows to the treatment works, to select the alternatives to ensure the CSO controls will meet CWA requirements, ensure CSO discharges do not cause exceedances of any water quality criteria, will be protective of the existing and designated uses in accordance with N.J.A.C. 7:9B, give the highest priority to controlling CSOs to sensitive areas and address minimizing impacts from SIU discharges.
- c. The permittee shall select either the Demonstrative or Presumptive Approach for each group of hydraulically connected CSOs, and identify each CSO group and its individual discharge locations.
- d. The Evaluation of Alternatives Report shall include a list of control alternative(s) evaluated for each CSO.
- e. The permittee shall evaluate a range of CSO control alternatives predicted to accomplish the requirements of the CWA. In its evaluation of each potential CSO control alternative, the permittee shall use NJDEP approved hydrologic, hydraulic and water quality models. The permittee shall utilize the models to simulate the existing conditions and conditions as they are expected to exist after construction and operation of the chosen alternative(s). The permittee shall evaluate the practical and technical feasibility of the proposed CSO control alternative, and water quality benefits of constructing and implementing various remedial controls and combination of such controls and activities which shall include, but not be limited to the controls below.
  - i. Green infrastructure (which allows for greater removal of load/flow per gallon captured).
  - ii. Increased storage capacity in the collection system.
  - iii. STP expansion and/or storage at the plant (an evaluation of the capacity of the unit processes must be conducted at the STP resulting in a determination of whether there is any additional treatment capacity available at the STP). Based upon this information, the permittee shall determine (modeling may be used) the amount of CSO discharge reduction that would be achieved by utilizing this additional treatment capacity while maintaining compliance with all permit limits.
  - iv. I/I reduction in the entire collection system that conveys flows to the treatment works to free up storage capacity or conveyance in the sewer system and/or treatment capacity at the STP, and feasibility of implementing in the entire system or portions thereof.
  - v. Sewer separation.
  - vi. CSO discharge treatment.

- vii. CSO related bypass of the secondary treatment portion of the STP in accordance with N.J.A.C. 7:14A-11.12 Appendix C, II C.7.
- f. The “Presumption” Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides:

A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

- i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. These four overflow events shall be calculated over a 60 month rolling average, provided that the Department may allow up to two additional overflow events per year. For the purpose of this criterion, an ‘event’ is:
- In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.
  - In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.
- ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis.
- iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section G.4.f.ii.

Combined sewer overflow remaining after implementation of the NMCs and within the criteria specified in Section G.4.f.ii. and iii., shall receive minimum treatment in accordance with the items below.

- Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.).
- Solids and floatables disposal.
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

- g. The “Demonstration” Approach, in accordance with N.J.A.C. 7:14A-11 Appendix C provides.

A permittee may demonstrate that a selected control program, though not meeting the criteria specified under the Presumption Approach above, is adequate to meet the water quality-based requirements of the CWA.

The permittee must demonstrate each of the following below.

- i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs.
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment.
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable.
- iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

## 5. Cost/Performance Considerations

- a. The permittee shall submit in accordance with the submittal requirements at Section D.3.b.iii. the cost/performance considerations that demonstrate the relationships among proposed control alternatives that correspond to those required in accordance with Section G.4. This shall include an analysis to determine where the increment of pollution reduction achieved in the receiving water diminishes compared to the increased costs. If the permittee chooses to pursue the “Presumption Approach” of ‘no more than an average of four discharge events per year’, the permittee is not required to conduct this analysis for the other number of events (i.e. 0, 7, 10, 20). This analysis, often known as “knee of the curve”, shall be among the considerations used to help guide selection of controls.

In accordance with Section G.1.a., the permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as

- Cost and Performance Analysis Report for Domestic Treatment Works, prepared by Malcolm Pirnie, dated March 2007.
- Passaic Valley Sewerage Commissioners CSO Long Term Control Plan Cost and Analysis Report Volume 1 and Volume 2, prepared by Hatch Mott Macdonald, dated April 2007.

A complete list of studies performed by all CSO permittees in PVSC’s hydraulically connected system is summarized in Appendix C at the end of this permit.

## **6. Operational Plan**

Upon Department approval of the final LTCP and throughout implementation of the approved LTCP as appropriate, the permittee shall modify the O&M Program and Manual, in accordance with D.3.a., to address the final LTCP CSO control facilities and operating strategies, including but not limited to, maintaining Green Infrastructure, staffing and budgeting, inflow/infiltration, and emergency plans.

## **7. Maximizing Treatment at the Existing STP**

The LTCP shall include the maximization of the removal of pollutants during and after each precipitation event at the STP, in accordance with D.3.a., ensuring that such flows receive treatment to the greatest extent practicable utilizing existing tankage for storage, while still meeting all permit limits.

## **8. Implementation Schedule**

- a. The permittee shall submit a construction and financing schedule, in accordance with D.3.a., for implementation of NJDEP approved LTCP CSO controls. Such schedules may be phased based on the relative importance of the adverse impacts upon water quality standards, the permittee's financial capability, and other water quality related infrastructure improvements, including those related to stormwater improvements that would be connected to CSO control measures.
- b. Upon Department approval of the LTCP, the permittee shall begin implementation of the LTCP in accordance with the schedule contained therein.
- c. In accordance with Section D.3.b.iv the permittee shall submit an implementation schedule, including yearly milestones, which considers the below.
  - i. Adequately addressing areas of sewage overflows, including to basements, streets and other public and private areas.
  - ii. CSO overflows that discharge to sensitive areas as the highest priority.
  - iii. Use impairment of the receiving water.
  - iv. The permittee's financial capability including consideration of such factors as below.
    - Median household income.
    - Total annual wastewater and CSO control costs per household as a percent of median household income.
    - Overall net debt as a percent of full market property value.
    - Property tax revenues as a percent of full market property value.
    - Property tax collection rate.
    - Unemployment.
    - Bond rating.
  - v. Grant and loan availability.

- vi. Previous and current residential, commercial and industrial sewer user fees and rate structures.
- vii. Other viable funding mechanisms and sources of financing.
- viii. Resources necessary to design, construct and/or implement other water related infrastructure improvements as part of an overall Asset Management Plan.

## **9. Compliance Monitoring Program (CMP)**

The monitoring information collected from the ambient baseline monitoring phase of the CMP, in accordance with D.3.a., will be compared to subsequent CMP events during and after LTCP implementation to evaluate the effectiveness of implemented CSO controls.

- a. The permittee shall implement a CMP, adequate to verify ambient baseline and existing conditions, the effectiveness of CSO controls, compliance with water quality standards, and protection of designated uses. This CMP shall be conducted before, during and after implementation of the LTCP and shall include a work plan to be approved by the Department that details the monitoring protocols to be followed, including the following necessary monitoring below.
  - i. Ambient in-stream monitoring performed in accordance with the guidance document entitled: *To Be Determined*.
  - ii. Discharge frequency for each CSO (days/hours per month).
  - iii. Duration of each discharge (event) for each CSO (start and stop times for each calendar day).
  - iv. Quality of the flow discharged from each CSO, which shall include pathogen monitoring at a minimum.
  - v. Rainfall monitoring in the vicinity of each CSO/municipality.
  - vi. Characterization monitoring and modeling of the CSS in accordance with Section G.1.

The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:

- Passaic Valley Sewerage Commissioners Interim Service Area Drainage and Land Use Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, Appendix B – Combined Sewer Overflow Drainage Area and Control Information – Towns of Harrison and Kearny, and Borough of East Newark, prepared by Elson T. Killam Associates, dated February 1996.
- Passaic Valley Sewerage Commissioners Interim Sewer System Inventory and Assessment Report for the Towns of Harrison and Kearny, Borough of East Newark,

and Cities of Newark and Paterson, prepared by Elson T. Killam Associates, dated February 1996.

- Passaic Valley Sewerage Commissioners CSO Characterization Study – Modeling Study, prepared by HydroQual, dated December 2003.

A complete list of studies performed by all CSO permittees in PVSC's hydraulically connected system is summarized in Appendix C at the end of this permit.

- b. For the Demonstration Approach, the above monitoring must be ongoing every year upon LTCP approval to document trends in water quality due to CSO discharges. The results must be submitted in the Progress Reports required in Section D.4.
- c. For the Presumption Approach, the above monitoring may be reduced, with prior Departmental approval, during construction/implementation of the CSO controls.

Masterfile #: 8439

PI #: 46756

RWBR Approval Status List

The permittee is only authorized to utilize RWBR for the specific category, type and location that has been approved in the table below.

RWBR Category	Specific RWBR Type	Location	Status
PA	Spray Irrigation (Golf Course)	None	Not Approved
PA	Spray Irrigation (Athletic Fields, Playgrounds)	None	Not Approved
PA	Spray Irrigation (Residential Lawns)	None	Not Approved
PA	Vehicle Washing	None	Not Approved
PA	Hydroseeding/Fertilizing	None	Not Approved
PA	Decorative Fountains	None	Not Approved
PA	Toilet Flushing	None	Not Approved
RA-LA	Sod Irrigation	None	Not Approved
RA-LA	Spray Irrigation within a fenced perimeter or otherwise restricted area	None	Not Approved
<b>RA-LA</b>	<b>Spray Irrigation within a fenced perimeter or otherwise restricted area (Without NH3 + NO3)</b>	<b>Locations (if any) shall be listed in the Annual Reuse Report</b>	<b>Approved</b>
RA-LA	Spray Irrigation (not fenced or restricted area)	None	Not Approved
<b>RA-CM</b>	<b>Street Sweeping</b>	<b>PVSC's Sewer Service Area</b>	<b>Approved</b>
RA-CM	Dust Control	None	Not Approved
<b>RA-CM</b>	<b>Fire Protection</b>	<b>Locations (if any) shall be listed in the Annual Reuse Report</b>	<b>Approved</b>
RA-CM	Vehicle Washing (at STP or DPW)	None	Not Approved
RA-CM	Composting	None	Not Approved
<b>RA-IS</b>	<b>Sanitary Sewer Jetting</b>	PVSC Sewer Service Area	<b>Approved</b>
<b>RA-IS</b>	<b>Non-Contact Cooling Water</b>	<b>Locations (if any) shall be listed in the Annual Reuse Report</b>	<b>Approved</b>
<b>RA-IS</b>	<b>Boiler Makeup Water</b>	<b>Locations (if any) shall be listed in the Annual Reuse Report</b>	<b>Approved</b>
RA-IS	Road Milling	None	Not Approved
RA-IS	Hydrostatic Testing	None	Not Approved
RA-IS	Parts Washing	None	Not Approved
<b>RA-IS</b>	<b>STP Washdown</b>	<b>PVSC's Facilities</b>	<b>Approved</b>

Categories:

PA Public Access  
RA-LA Restricted Access-Land Application and Non-Edible Crops  
RA-CM Restricted Access--Construction and Maintenance Operations  
RA-IS Restricted Access--Industrial Systems

Abbreviations:

NH3 - Ammonia  
NO3 - Nitrate  
STP - Sewage Treatment Plant  
DPW - Dept. of Public Works

### Annual Reuse Report

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

- (1) The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;  
R = \_\_\_\_\_ gallons
- (2) The total wastewater discharged (D) by the facility in the previous calendar year;  
D = \_\_\_\_\_ gallons
- (3) The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows:  

$$\%R = R/(R+D), \text{ expressed as a percent;}$$
%R = \_\_\_\_\_ percent
- (4) The total wastewater that was reused for **each reuse type** in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

RWBR Usage Table

RWBR Category	Specific RWBR Type	Location	Flow (gallons)

Attach additional pages as necessary.

- (5) An update to the correlation between Total Suspended Solids and Turbidity, if necessary;  
Correlation = \_\_\_\_\_

- (6) Submit a completed copy of this form to:

For paper copies:  
Mail Code 401 – 02B  
Division of Water Quality  
Bureau of Surface Water Permitting  
P.O. Box 420  
Trenton, NJ 08625-0420

For electronic copies:  
[ben.manhas@dep.state.nj.us](mailto:ben.manhas@dep.state.nj.us)

**Annual Reuse Report - SAMPLE**

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

- (1) The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;  
R = \_\_\_\_\_ gallons
- (2) The total wastewater discharged (D) by the facility in the previous calendar year;  
D = \_\_\_\_\_ gallons
- (3) The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows:  

$$\%R = R/(R+D), \text{ expressed as a percent;}$$
%R = \_\_\_\_\_ percent
- (4) The total wastewater that was reused for **each reuse type** in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

RWBR Usage Table

RWBR Category	Specific RWBR Type	Location	Flow (gallons)
	<i>For Example:</i>		
<i>RA-CM</i>	<i>Street Sweeping</i>	<i>Local Township</i>	<i>42,000</i>
<i>RA-IS</i>	<i>Sanitary Sewer Jetting</i>	<i>Facility Sewer Service Area</i>	<i>15,000</i>
<i>RA-IS</i>	<i>STP Washdown</i>	<i>Sewage Treatment Plant</i>	<i>43,000</i>
		<i>Grand Total (R)</i>	<i>100,000</i>

Attach additional pages as necessary.

- (5) An update to the correlation between Total Suspended Solids and Turbidity, if necessary;  
Correlation = \_\_\_\_\_
- (6) Submit a completed copy of this form to:
  - For paper copies:
    - Mail Code 401 – 02B
    - Division of Water Quality
    - Bureau of Surface Water Permitting
    - P.O. Box 420
    - Trenton, NJ 08625-0420
  - For electronic copies:
    - [ben.manhas@dep.state.nj.us](mailto:ben.manhas@dep.state.nj.us)

## **Appendix B**

### Design Standards for Storm Drain Inlets

Grates in pavement or other ground surfaces, such as roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels and stormwater basin floors used to collect stormwater from the surface into a storm drain or surface water body, shall meet the following standards:

1. The New Jersey Department of Transportation (NJDOT) bicycle safe grate standards described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996).
2. A grate where each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is not greater than 0.5 inches across the smallest dimension.
3. For curb-openings inlets, including curb-opening inlets in combination inlets, the clear space in the curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches or be no greater than two (2.0) inches across the smallest dimension.

The following exemptions apply:

1. Where each individual clear space in the curb opening in existing curb-opening inlets do not have an area of more than nine (9.0) square inches.
2. Where the review agency determines that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets.
3. Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:
  - a. A rectangular space four and five-eighths inches long and one and one-half inches wide (this option does not apply for outfall netting facilities); or
  - b. A bar screen having a bar spacing of 0.5 inches.
4. Where flows are conveyed through a trash rack that has parallel bars with one inch (1") spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8.
5. Where the Department determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet the standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

## **Appendix C**

### **LIST OF STUDIES** **PVSC and Hydraulically Connected Sewer Systems**

#### **PVSC:**

- Passaic Valley Sewerage Commissioners Interim Service Area Drainage and Land Use Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, Appendix B – Combined Sewer Overflow Drainage Area and Control Information – Towns of Harrison and Kearny, and Borough of East Newark, prepared by Elson T. Killam Associates, dated February 1996.
- Passaic Valley Sewerage Commissioners Interim Sewer System Inventory and Assessment Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, prepared by Elson T. Killam Associates, dated February 1996.
- Passaic Valley Sewerage Commissioners CSO Characterization Study – Modeling Study, prepared by HydroQual, dated December 2003.
- Passaic Valley Sewerage Commissioners Public Participation Report, prepared by Hatch Mott Macdonald, dated April 2007.
- Cost and Performance Analysis Report for Domestic Treatment Works, prepared by Malcolm Pirnie, dated March 2007.
- Passaic Valley Sewerage Commissioners CSO Long Term Control Plan Cost and Analysis Report Volume 1 and Volume 2, prepared by Hatch Mott Macdonald, dated April 2007.

#### **Bayonne:**

- Combined Sewer Overflow Characterization Study and Work Plan, prepared by Hatch Mott MacDonald, dated February 14, 2003.
- Combined Sewer Overflow Discharge Characterization Study, Volume I – Final Monitoring Report, prepared by Hatch Mott MacDonald, dated November 2005.
- Combined Sewer Overflow Discharge Characterization Study, Volume II – Supplemental Data, prepared by Hatch Mott MacDonald, dated November 2005.
- Combined Sewer Overflow Discharge Characterization Study, Rainfall Monitoring Report, prepared by HydroQual, Inc. and Hatch Mott MacDonald, dated August 2, 2006.
- CSO Long Term Control Plan, Cost & Performance Analysis Report, Volume 2 – Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.
- CSO Long Term Control Plan, Cost & Performance Analysis Report, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.

#### **Jersey City:**

- Jersey City Municipal Utilities Authority Combined Sewer System Modeling Study, prepared by Malcolm Pirnie, Inc., dated July 2007.
- Jersey City Municipal Utilities Authority Cost and Performance Analysis Report, prepared by Malcolm Pirnie, Inc., dated April 2007.
- Jersey City MUA Public Participation Report, as prepared through the NJCSO Group, prepared by Hatch Mott MacDonald, dated April 2007.

- Jersey City Municipal Utilities Authority CSO Long Term Control Plan, Cost and Performance Analysis Report, Volume 2, Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.
- JCMUA Rainfall and CSO Monitoring Study, Volume 1 of 3, Volume 2 of 3 and Volume 3 of 3, prepared by Malcolm Pirnie, Inc., dated November 2005.
- Combined Sewer Overflow Discharge Characterization Study – JCMUA Combined Sewer System Monitoring Program Supplemental Proposal and Work Plan, prepared by Malcolm Pirnie, Inc., dated December 2004.
- Combined Sewer Overflow Discharge Characterization Study - JCSA Monitoring Proposal and Work Plan, prepared by Malcolm Pirnie, Inc., dated July 1996.
- Combined Sewer Overflow Discharge Characterization Study - Sewer System Inventory and Assessment Report, prepared by Malcolm Pirnie, Inc., dated July 1996.
- Combined Sewer Overflow Discharge Characterization Study - Service Area Drainage and Land Use Report, prepared by Malcolm Pirnie, Inc., dated July 1996.

### **North Bergen:**

- North Bergen MUA Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- North Bergen Municipal Utilities Authority CSO Long Term Control Plan, Cost & Performance Analysis Report, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- North Bergen Municipal Utilities Authority CSO Long Term Control Plan, Cost & Performance Analysis Report, Volume 2, Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Final Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study, Supporting Laboratory Data, prepared by Hatch Mott MacDonald, dated March 2005.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 2 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated June 2003.
- North Bergen Municipal Utilities Authority CSO Characterization Study Group 1 – Dry Weather Water Quality and Quantity Monitoring Report, prepared by Hatch Mott MacDonald, dated March 2003.
- Combined Sewer Overflow Characterization Study, Quality Assurance/Work Plan, for the North Bergen Municipal Utilities Authority, prepared by Hatch Mott MacDonald, dated November 2002.
- North Bergen Township Sewer Mapping and Flow Monitoring Study, prepared by Metcalf & Eddy, December 1992.

### **Newark:**

- City of Newark Department of Water and Sewer Utilities Cost and Performance Evaluation of CSO Control Technologies, March 6, 2008
- City of Newark Department of Water and Sewer Utilities Cost and Performance Evaluation of CSO Control Technologies, March 29, 2007
- Public Participation Report for the City of Newark Department of Water and Sewer Utilities Division of Sewers and Water Supply, March 2007
- City of Newark CSO Long Term Control Plan Cost and Performance Analysis Report Volume 2 – Technical Guidance Manual, December 2006
- Interim Report for the Public Participation Program for the City of Newark Department of Water and Sewer Utilities Division of Sewers and Water Supply, July 2005
- Combined Sewer Modeling Study: Final Report for the City of Newark Department of Water and Sewer Utilities Division of Sewers and Water Supply, April 2005

**Harrison:**

- Cost & Performance Analysis Report, CSO Long Term Control Plan, Appendix E, prepared by Town of Harrison, dated April 1, 2007.
- Cost & Performance Analysis Report, CSO Long Term Control Plan, Appendix F-1 thru Appendix F-8, prepared by Town of Harrison, dated April 1, 2007.
- Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.

**Kearny:**

- Town of Kearny, Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- Town of Kearny, CSO Long Term Control Plan, Cost and Performance Analysis Report, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- Town of Kearny, CSO Long Term Control Plan, Cost and Performance Analysis Report, Volume 2 – Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.
- CSO Characterization Study – Modeling Report, submitted by the Passaic Valley Sewerage Commissioners on behalf of the Towns of Harrison and Kearny, Borough of East Newark, and the City of Paterson, prepared by HydroQual, Inc., dated December 2003.
- Combined Sewer Overflow Discharge Characterization Study - Final CSO Monitoring Report for the Towns of Harrison and Kearny, Borough of East Newark, and City of Paterson, submitted on behalf of the above municipalities by the Passaic Valley Sewerage Commissioners, prepared by Elson T. Killam Associates, dated April 2002.
- Combined Sewer Overflow Discharge Characterization Study - Final Rainfall Monitoring Study Report for the Towns of Harrison and Kearny, Borough of East Newark, and City of Paterson, submitted on behalf of the above municipalities by the Passaic Valley Sewerage Commissioners, prepared by Elson T. Killam Associates and HydroQual, Inc., dated April 2002.
- Combined Sewer Overflow Discharge Characterization Study - Final Quality Assurance/Work Plan for the Towns of Harrison and Kearny, Borough of East Newark, and City of Paterson, submitted on behalf of the above municipalities by the Passaic Valley Sewerage Commissioners, prepared by Elson T. Killam Associates, dated November 1997.
- Passaic Valley Sewerage Commissioners Interim Service Area Drainage and Land Use Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, Appendix B – Combined Sewer Overflow Drainage Area and Control Information – Towns of Harrison and Kearny, and Borough of East Newark, prepared by Elson T. Killam Associates, dated February 1996.
- Passaic Valley Sewerage Commissioners Interim Sewer System Inventory and Assessment Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, prepared by Elson T. Killam Associates, dated February 1996.

**East Newark:**

- Borough of East Newark Public Participation Report as prepared through the NJ CSO Group, prepared by Hatch Mott Macdonald, dated April 2007.

**Paterson:**

- City of Paterson, Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- City of Paterson, Combined Sewer System, Cost and Performance Analysis, prepared by Schoor DePalma in conjunction with HydroQual, Inc., dated March 2007.

- City of Paterson, Combined Sewer System, Cost and Performance Analysis, Appendix Sections A – E, Appendix Section F (TGM Analysis), CSO Areas 001/003/005/006/007/010/013, prepared by Schoor DePalma in conjunction with HydroQual, Inc., dated March 2007.
- City of Paterson, Combined Sewer System, Cost and Performance Analysis, Appendix Section F (TGM Analysis), CSO Areas 014/015/016/021/022/023/024/025/026, prepared by Schoor DePalma in conjunction with HydroQual, Inc., dated March 2007.
- City of Paterson, Combined Sewer System, Cost and Performance Analysis, Appendix Section F (TGM Analysis), CSO Areas 027/028/029/030/031, Appendix sections G – M, prepared by Schoor DePalma in conjunction with HydroQual, Inc., dated March 2007.
- City of Paterson, CSO Long Term Control Plan, Cost and Performance Analysis Report, Volume 2 – Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.
- CSO Characterization Study – Modeling Report, submitted by the Passaic Valley Sewerage Commissioners on behalf of the Towns of Harrison and Kearny, Borough of East Newark, and the City of Paterson, prepared by HydroQual, Inc., dated December 2003.
- Combined Sewer Overflow Discharge Characterization Study - Final CSO Monitoring Report for the Towns of Harrison and Kearny, Borough of East Newark, and City of Paterson, submitted on behalf of the above municipalities by the Passaic Valley Sewerage Commissioners, prepared by Elson T. Killam Associates, dated April 2002.
- Combined Sewer Overflow Discharge Characterization Study - Final Rainfall Monitoring Study Report for the Towns of Harrison and Kearny, Borough of East Newark, and City of Paterson, submitted on behalf of the above municipalities by the Passaic Valley Sewerage Commissioners, prepared by Elson T. Killam Associates and HydroQual, Inc., dated April 2002.
- Combined Sewer Overflow Discharge Characterization Study - Final Quality Assurance/Work Plan for the Towns of Harrison and Kearny, Borough of East Newark, and City of Paterson, submitted on behalf of the above municipalities by the Passaic Valley Sewerage Commissioners, prepared by Elson T. Killam Associates, dated November 1997.
- Passaic Valley Sewerage Commissioners Interim Service Area Drainage and Land Use Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, Appendix A – Combined Sewer Overflow Drainage Area and Control Information – City of Paterson, prepared by Elson T. Killam Associates, dated February 1996.
- Passaic Valley Sewerage Commissioners Interim Sewer System Inventory and Assessment Report for the Towns of Harrison and Kearny, Borough of East Newark, and Cities of Newark and Paterson, prepared by Elson T. Killam Associates, dated February 1996.