State of New Jersey

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Water Pollution Management Element
Bureau of Surface Water and Pretreatment Permitting
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 292-4860 / Fax: (609) 984-7938

SHAWN M. LATOURETTE
Commissioner

Via Email Only
May 9, 2023

Hanifa Johnson, Executive Director
Joint Meeting of Essex and Union Counties
500 South First Street
Elizabeth City, New Jersey 07202

Re: Draft Surface Water Renewal Permit Action
Categories: A – Sanitary Wastewater
CSM – Combined Sewer Management
NJPDES Permit No. NJ0024741
Joint Meeting of Essex and Union Counties
Elizabeth City, New Jersey 07202, Union County

Dear Hanifa Johnson:

Enclosed is a **draft** NJPDES permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. The Joint Meeting of Essex & Union Counties (JMEUC) operates and maintains the Edward P. Decher Secondary Wastewater Treatment Facility (WWTF) and discharges treated and disinfected, domestic wastewater, industrial wastewater into the Arthur Kill, classified as SE3 waters, which is a tributary to the NY/NJ Harbor Complex Basin. JMEUC has a NJPDES flow value of 85 million gallons per day (MGD) and is designed to treat a peak hydraulic capacity of 180 million gallons per day (MGD), although flows reaching 220 MGD may be processed during significant wet weather events. The JMEUC service area is primarily comprised of separately sewered areas, with the only confirmed combined sewer area in the system being located within the City of Elizabeth (City), which is a customer community. The City is served by a combined sewer collection system (CSS) which is hydraulically connected to JMEUC WWTF. This subject renewal permit action is issued to JMEUC. The Department also proposes to issue a NJPDES DSW permit NJ0108782 to the City to authorize discharges from their Combined Sewer Overflow (CSOs) outfalls. JMEUC does not own or operate any CSO outfalls.

This renewal permit serves to assess the permittees' compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. This renewal permit also serves to implement the requirements of the coordinated Long Term Control Plan which was due on October 1, 2020. In addition, this renewal permit requires permit conditions to address the effects of climate change.

Notice of this draft permit action will appear on the Division of Water Quality's website at www.nj.gov/dep/dwq, in the *Star Ledger* and in the May 17, 2023 *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 on July 14, 2023. As detailed in the *DEP Bulletin* and aforementioned newspaper, written comments on the draft document must be submitted in writing to Susan Rosenwinkel, Assistant Director, Mail Code 401-02B, Division of Water Quality, Water Pollution Management Element, P.O. Box 420, Trenton, NJ 08625-0420 or via email to Susan.Rosenwinkel@dep.nj.gov by the close of the public comment period. Comments via e-mail are also acceptable and can be sent to Josie.Castaldo@dep.nj.gov.

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. Specific information regarding the draft document may be obtained from Josie Castaldo of the Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860. Take notice that the Department will be holding a non-adversarial virtual public hearing to afford the public an opportunity to be heard on this proposed action consistent with N.J.A.C. 7:14A-15.12. Details are provided within the public notice as attached. 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 Josie Castaldo either by phone at (609) 292-4860 or email at Josie.Castaldo@dep.nj.gov.

Sincerely,

Robert D. Hall

Robert Hall
Environmental Specialist 3
Bureau of Surface Water and Pretreatment Permitting

Enclosures

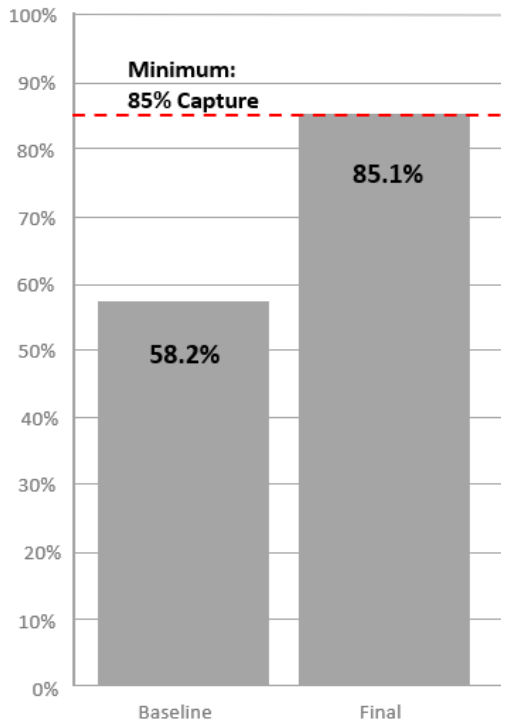
c: Permit Distribution List
Masterfile #: 14696; PI #: 46512

EXECUTIVE SUMMARY

Joint Meeting of Essex and Union Counties CSO Permit

In 2015, the NJDEP issued a CSO permit to the Joint Meeting of Essex and Union Counties (JMEUC). The permit required JMEUC to create a single, coordinated Long Term Control Plan (LTCP) with the City of Elizabeth (City). The LTCP has been reviewed by the NJDEP and is being incorporated into this permit.

Through the LTCP, JMEUC and the City will comply with the CSO policy through the Presumption Approach of elimination or capture of an average minimum of 85% of the annual average combined sewage collected in the system during wet weather. Collection system modeling, as required by the 2015 CSO permit and summarized in the LTCP, demonstrate that the City's system is currently at 58.2% capture. The projects proposed in the LTCP and proposed in this permit, which include both gray and green infrastructure, are projected to reach 85.1% capture for the City. The projects incorporated in this permit are projected to achieve 65.9% capture in the next five years, or by the end of this permit cycle. Planned projects later in the schedule include the Upper Westerly Interceptor Upgrade and the Morris Avenue Siphon Upgrade, which will result in attainment of 85% capture. Subsequent CSO permits, issued every five years, will include requirements to implement the next five years of CSO projects as detailed in the LTCP.



This permit builds upon the Public Participation requirements in the 2015 CSO permit through inclusion of a new section called Public Engagement. Specifically, this section includes robust requirements pertaining to Environmental Justice through solicitation of input by overburdened communities, notably in the siting of green infrastructure projects.

This permit also includes specific requirements pertaining to climate change such as the required preparation of a Vulnerability Analysis as part of an Emergency Plan to ensure the effective operation of the treatment works and facilities under emergency conditions, including those due to climate change. Floodproofing, climate change, and resiliency are incorporated in the design of CSO projects. Finally, upon completion of the projects set forth in the Implementation Schedule of this permit, JMEUC and the City will evaluate compliance with the percent capture goal of this permit and implement Adaptive Management as well as any factors related to climate change, as necessary.

Table of Contents for the Draft Permit

List of Acronyms

ACR	Acute to Chronic Ratio
AL	Action Level
AML	Average Monthly Limitation
BMP	Best Management Practices
BPJ	Best Professional Judgement
CAP	Capacity Assurance Program
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWEA/CWA	Clean Water Enforcement Act/Clean Water Act
Department	New Jersey Department of Environmental Protection
DGW	Discharge to Groundwater
DMR	Discharge Monitoring Report
DRBC	Delaware River Basin Commission
DSN	Discharge Serial Number
DSW	Discharge to Surface Water
EDP/M	Effective Date of the Permit/Permit Modification
EEQ	Existing Effluent Quality
ELG	Effluent Limitation Guideline
g/d or g/day	Grams per Day
IEC	Interstate Environmental Commission
IPP	Industrial Pretreatment Program
kg/d or kg/day	Kilograms per Day
LTA	Long Term Average
MA1CD10 or 1Q10	Minimum average one day flow with a statistical recurrence interval of ten years
MA7CD10 or 7Q10	Minimum average seven consecutive day flow with a statistical recurrence interval of ten years
MA30CD5 or 30Q5	Minimum average 30 consecutive day flow with a statistical recurrence interval of five years
mg/L	Milligrams per Liter
MDL	Maximum Daily Limitation
MGD	Million Gallons per Day
MRF	Monitoring Report Form
NAICS	North American Industry Classification System
NPDES/NJPDES	National/New Jersey Pollutant Discharge Elimination System
NJR	New Jersey Register
PCB	Polychlorinated Biphenyls
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
RPMF	Reasonable Potential Multiplying Factor
RTR	Residuals Transfer Report
RQL	Recommended Quantification Levels
RWBR	Reclaimed Water for Beneficial Reuse
SIC	Standard Industrial Classification
SIU	Significant Indirect User
SQAR	Sludge Quality Assurance Regulations
SWQS	Surface Water Quality Standards
TMDL	Total Maximum Daily Load
TR	Total Recoverable
TRIR	Toxicity Reduction Implementation Requirements
USEPA TSD	USEPA Technical Support Document for Water Quality Based Toxics Control (EPA/505/2-90-001, March 1991)
µg/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	Ultraviolet
WCR	Wastewater Characterization Report
WER	Water Effects Ratio
WLA	Wasteload Allocation
WWTP	Wastewater Treatment Plant
WQBEL	Water Quality Based Effluent Limitation

List of CSO Acronyms

CMP	Compliance Monitoring Program
CSM	Combined Sewer Management
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
DEAR	Development and Evaluation of Alternatives Report
DWO	Dry Weather Overflow
FCA	Financial Capability Analysis
I/I	Infiltration/Inflow
H&H	Hydrologic and Hydraulic
LTCP	Long Term Control Plan
MHI	Median Household Income
NJIB	New Jersey Infrastructure Bank
NJHDG	New Jersey Harbor Dischargers Group
NMC	Nine Minimum Controls
O&M	Operation and Maintenance
PCCMP	Post Construction Compliance Monitoring Program
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RI	Residential Indicator
S/F	Solids/Floatables
SOPs	Standard Operating Procedures
SRF	State Revolving Fund
TWA	Treatment Works Approval

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

PUBLIC NOTICE

Notice is hereby given that the New Jersey Department of Environmental Protection (Department) proposes to renew the New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) Permit NJ0108782 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:

Permittee	Facility
Joint Meeting of Essex and Union Counties 500 South First Street City of Elizabeth, New Jersey 07202	Joint Meeting of Essex and Union Counties 500 South First Street City of Elizabeth, New Jersey 07202 Union County
City of Elizabeth 50 Winfield Scott Plaza City of Elizabeth, New Jersey 07201	City of Elizabeth 50 Winfield Scott Plaza City of Elizabeth, New Jersey 07201 Union County

Combined Sewer Overflows (CSOs) are discharges from Combined Sewer Systems (CSSs). 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. These subject NJPDES permit renewals are issued to the above referenced permittees and serve to assess compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

Joint Meeting of Essex and Union Counties (JMEUC) owns and operates a Wastewater Treatment Facility (WWTF) which treats wastewater collected in a 65 square mile service area in northern New Jersey, which includes the City of Elizabeth as a customer community. The JMEUC service area is primarily comprised of separately sewered areas, with the only confirmed combined sewer area in the system being located within the City of Elizabeth. JMEUC does not own or operate any CSO outfalls.

The City of Elizabeth provides wastewater and stormwater collection and conveyance services to about 137,300 people within its municipal boundaries, which encompasses approximately 12.3 square miles in Union County, New Jersey. This collection and conveyance system consists of an extensive network of intercepting sewers, sewer mains, manholes, catch basins, pump stations, overflow control facilities, and drainage channels. The City of Elizabeth does not own or operate any wastewater treatment plant facilities. All dry weather sewage from the city owned sewer system is conveyed to and treated at the JMEUC WWTF. Except for flows from sewers directly connected to the JMEUC trunk sewers, wastewater is collected and conveyed by two City-owned intercepting sewers serving the easterly and westerly portions of the City of Elizabeth. These intercepting sewers flow to the Trenton Avenue Pumping Station (TAPS), which is the City's main pumping station, and its force main discharges flows to the JMEUC incoming trunk sewer approximately 1,300 feet upstream of the wastewater treatment facilities.

The City of Elizabeth owns and operates a Combined Sewer System including twenty-nine (29) CSO outfalls. These outfalls discharge combined sewage into various waterbodies during wet weather periods when the combined sewage flows exceed the conveyance capacity of the collection system and/or capacity of JMEUC WWTF. During wet weather conditions, combined sewage is conveyed through the city interceptors to the TAPS and pumped to the JMEUC WWTF for treatment. Excess flows are discharged through the City's 29 CSO outfalls

into the Arthur Kill (classified as SE3(C2)), Newark Bay (classified as SE3(C2)), and Elizabeth River (classified as FW2-NT(C2) and SE3(C2)). These water bodies are located within the NY/NJ Harbor Complex Basin and are tributaries to the Lower New York Bay.

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.

A draft NJPDES permit renewal has been prepared for this facility based on the administrative record which is on file at the offices of the Department, located at 401 East State Street, Trenton, New Jersey. It is available for inspection, by appointment, Monday through Friday, between 8:30 A.M. and 4:00 P.M. Appointment for inspection may be requested through the Office of Records Access. Details are available online at www.nj.gov/dep/opra, or by calling (609) 341-3121. Copies of the draft permits are available on the Department's Division of Water Quality website at www.nj.gov/dep/dwq.

Comments may be submitted in writing to Susan Rosenwinkel, Assistant Director, Water Pollution Management Element, or Attention: Comments on Public Notice at Mail Code 401-02B, Division of Water Quality, Bureau of Surface Water and Pretreatment Permitting, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period. Comments via email are also acceptable and can be sent to dwq_bswp@dep.nj.gov. All persons, including the applicant, who believe that any condition of these draft documents is inappropriate or that the Department's decision to issue these draft documents is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period. Specific information regarding the draft documents may be obtained from Josie Castaldo of the Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860 or via email at Josie.Castaldo@dep.nj.gov.

Take notice that the Department will be holding a non-adversarial virtual public hearing to solicit public comment on the draft permits for the permittees listed above on June 12, 2023 from 10:00 AM to 12:00 PM, then again from 6:00 PM to 8:00 PM (or end of testimony, whichever comes first). This hearing will be conducted virtually via the Department's video conferencing software (i.e., Microsoft Teams). A link and a telephone number to the virtual public hearing will be provided on the Department's NJPDES Division of Water Quality website (https://www.nj.gov/dep/dwq) the morning of the hearing. The hearing shall be held before a Hearing Officer designated by the Department. The applicant and other interested persons will have the opportunity to present and submit information on the proposed actions. The purpose of this hearing is to provide the public with an opportunity to be heard on these proposed draft permit actions where both verbal and written statements will be given equal weight.

The comment period will close on July 14, 2023 at 11:59 PM.

The Department will respond to all significant and timely comments upon issuance of the final documents. The permittee and each person who has submitted written comments will receive notice of the Department's permit decision.

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

FACT SHEET

Masterfile #: 14696 **PI #:** 46512

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 NJPDES Surface Water Renewal Permit Action through an application received January 15, 2020.

1 Name and Address of the Applicant:

Joint Meeting of Essex and Union Counties
500 South First Street
Elizabeth City, New Jersey 07202

2 Name and Address of the Facility/Site:

Joint Meeting of Essex and Union Counties
500 South First Street
Elizabeth City, New Jersey 07202
Union County

3 NJPDES CSO Permit and Policy Background:

The Joint Meeting of Essex & Union Counties (JMEUC) operates and maintains the Edward P. Decher Secondary Wastewater Treatment Facility (WWTF) which is designed to treat a peak hydraulic capacity of 180 million gallons per day (MGD), although flows reaching 220 MGD may be processed during significant wet weather events. The JMEUC Treatment District covers a 65 square mile service area in northern New Jersey, which includes the City of Elizabeth (City) as a customer community. The City is served by a combined sewer collection system (CSS) which is hydraulically connected to JMEUC WWTF. This subject renewal permit action is issued to JMEUC.

CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. New 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 waterbody. However, during periods of rainfall or rainfall with 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 Combined Sewer Overflows (CSO) outfalls to nearby streams, rivers, or other water bodies.

Historically, the control of CSOs has proven to be extremely complex. 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 (Federal CSO Control Policy) on April 9, 1994, which remains the current national framework for control of CSOs. The Department incorporated the Federal CSO Control Policy verbatim into its regulations at N.J.A.C. 7:14A-11 – Appendix C so CSO controls are also required by the NJPDES Regulations. The Federal CSO Control Policy and NJPDES Regulations establish procedures for 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. In the Wet Weather Quality Act of 2000, Congress amended the Clean Water Act to incorporate the Federal CSO Control Policy. As amended, the Clean Water Act requires that all permits, orders and decrees issued to regulate combined system overflows must comply with the Federal CSO Control Policy. 33 U.S.C.

1342(q)(1). The Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C include Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) conditions.

CSOs can contain 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.

JMEUC does not own or operate any CSOs. Combined sewage that drains to the collection system can cause large spikes in influent flow levels to the sewage treatment plant when certain precipitation conditions (i.e. heavy rain) occur. While the majority of the collection system is served by a combined sewer system in the City, a portion of the collection system consists of separate sewers (i.e., a separate pipe for stormwater and a separate pipe for sewage). Combined sewage that drains to the collection system can cause large spikes in influent flow levels to the sewage treatment plant when certain precipitation conditions (i.e. heavy rain) occur. While the majority of the collection system is served by a combined sewer system in the City, a portion of the collection system consists of separate sewers (i.e., a separate pipe for stormwater and a separate pipe for sewage).

The NJPDES permit issued to the permittee on March 12, 2015 and effective on July 1, 2015 (2015 NJPDES CSO permit) required submission of a LTCP consistent with the Federal CSO Control Policy and NJPDES Regulations. This permit was subsequently modified for certain conditions as identified within this fact sheet. The City and JMEUC submitted a single, coordinated LTCP dated October 2020. This subject permit action serves to incorporate CSO control strategies to achieve a minimum wet weather percent capture value as outlined in the CSO LTCP.

JMEUC discharges treated and disinfected domestic wastewater with industrial contribution into the Arthur Kill (classified as SE3(C2) waters). This water body is located within the NY/NJ Harbor Complex Basin and is a tributary to the Lower New York Bay. The existing facility has a NJPDES flow value of 85 MGD on an annual average and currently discharges a monthly average flow of approximately 60.8 MGD.

4 Climate Change and Environmental Justice:

A. Climate Change:

The State of New Jersey and the Department are working to address and mitigate the impacts of climate change. Climate change, a result of rising atmospheric levels of carbon dioxide and other greenhouse gases, is causing significant direct and secondary changes in New Jersey's environment. Many of these changes are projected to worsen in coming years. These climate changes include increases in temperature, increases and variability in precipitation, frequency and intensity of storms, sea-level rise, ocean acidification, and associated impacts to both natural and built environments, ecological systems, human health, and the economy. Additional information is available here: https://www.nj.gov/dep/climatechange/.

The State of New Jersey is working to reduce and respond to climate change, including through enhanced water infrastructure resilience measures. This NJPDES permit requires measures to prepare for and respond to the effects of climate change, including: Adaptive Management provisions, the preparation of an Emergency Plan (including Vulnerability Analysis and Asset Management requirements), and annual precipitation analyses over the life of the permit. The requirements of this permit may be modified or updated at the discretion of the Department as technology, information, and legal or regulatory requirements relating to climate change continue to develop.

B. Environmental Justice:

Pursuant to New Jersey's Environmental Justice Law, N.J.S.A. 13:1D-157, et seq., it is the policy of the State that all residents, regardless of income, race, ethnicity, color, or national origin, have a right to live, work, learn, and recreate in a clean and healthy environment, and that no community should bear a disproportionate share of the adverse environmental and public health consequences that accompany the State's economic growth. To further the promise of environmental justice, it is the policy of the State that all New Jersey communities, and especially

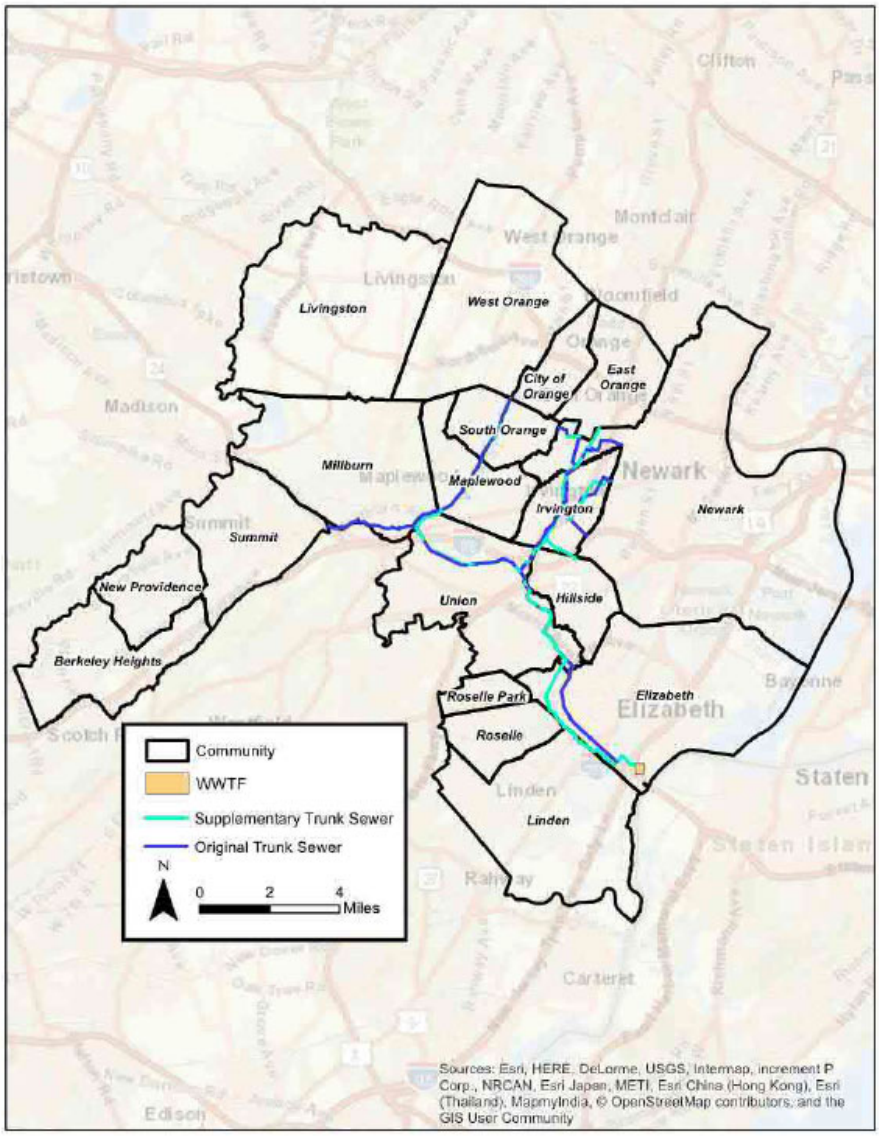
those disproportionately affected by environmental and public health stressors, must have a meaningful opportunity to participate in decision-making that affects their environment, communities, homes, and health.

Consistent with the objectives of the Environmental Justice Law and, as required by the Federal CSO Control Policy and NJPDES Regulations, the NJPDES permit has been subjected to an extensive public participation process throughout the three steps of the LTCP process which has continued as part of the preparation of this renewal permit. This is summarized and described in the CSM requirements in Part IV.G.2 where the goal is to continue meaningful engagement and opportunities in permitting decisions. Prior to issuance of this draft NJPDES permit, the Department held stakeholder sessions on the topics of Public Engagement, Environmental Justice, Climate Change and CSO Metrics on December 7, 2021, January 13, 2022, February 10, 2022 and February 17, 2022, respectively. A stakeholder meeting was also held on October 6, 2022 regarding permitting concepts. In addition, the Department is holding a public hearing for this NJPDES permit as detailed within the public notice with a 60-day public comment period consistent with N.J.A.C. 7:14A-15.10.

5 Facility Description:

A. Overview of Hydraulically Connected System:

JMEUC owns and operates a WWTF which treats wastewater collected in a 65 square mile service area in northern New Jersey, which includes the City of Elizabeth (City) as a customer community. The JMEUC trunk sewer system collects wastewater from a service area which includes eleven member (owner) communities and four customer communities. The JMEUC service area is primarily separately sewered areas, with the only confirmed combined sewer area in the system located within the City of Elizabeth (City). However, a major external connection to the City's combined sewer system consists of a 42" diameter storm sewer from the Borough of Roselle Park. Refer to Figure 2-1 below from the LTCP which shows the locations of the trunk sewer system, communities served, and the WWTF:



Note: Only portions of Newark, Berkeley Heights, Linden, Roselle and Livingston are within the service area of JMEUC.

Figure 2-1: Municipalities Served by JMEUC

The City provides wastewater and stormwater collection and conveyance services to about 137,300 people within its municipal boundaries, which encompasses approximately 12.3 square miles in Union County, NJ. This collection and conveyance system consists of an extensive network of intercepting sewers, sewer mains, manholes, catch basins, pump stations, overflow control facilities, and drainage channels. The City does not own or operate any wastewater treatment plant facilities. Wastewater flows are conveyed to the JMEUC WWTF.

All dry weather sewage from the City owned sewer system is conveyed to and treated at the JMEUC WWTF. Except for flows from sewers directly connected to the JMEUC trunk sewers, wastewater is collected and conveyed by two City-owned intercepting sewers serving the easterly and westerly portions of the City, respectively. These intercepting sewers flow to the Trenton Avenue Pumping Station (TAPS), which is the City's main pumping station, and its force main discharges flows to the JMEUC incoming trunk sewer approximately 1,300 feet upstream of the wastewater treatment facilities.

The City discharges combined sewage into the Arthur Kill (classified as SE3(C2) waters), Newark Bay (classified as SE3(C2) waters), and Elizabeth River (classified as FW2-NT(C2) and SE3(C2) waters). These water bodies are located within the NY/NJ Harbor Complex Basin and are tributaries to the Lower New York Bay.

B. WWTP Overview:

The facility is classified as a major discharger by the Department in accordance with the USEPA rating criteria. The facility's NJPDES flow value is 85 MGD. Please note that the flow value of 75 MGD was used for calculation of WQBELs and the effluent loading limitations. The higher flow value of 85 MGD was included at the request of the permittee in the 1996 permit and is used to better allow the facility to deal with wet weather flows. This POTW has a delegated pretreatment program. Sanitary wastewater conditions are covered under Category A of this permit.

Sanitary wastewater is processed through the following units:

1. Coarse bar screens
2. Fine screens
3. Grit chambers
4. Primary clarifiers
5. Aeration tanks
6. Secondary clarifiers
7. Chlorine contact tanks
8. Dechlorination unit

Primary and secondary sludges are combined in gravity thickeners, supplemented by gravity belt thickeners, followed by anaerobic digestion and centrifuge dewatering. The dewatered residuals generated are removed for final use or disposal to an approved residuals management site. All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residual treatment. All applicable conditions for residual management can be found in NJPDES Residual General Permit (Category S4G – Sludge Quality Category 4) Authorization No. NJG0198153 under the Master Permit NJPDES No. NJ0088315. If there are questions regarding the general permit, please contact the Bureau of Ground Water, Residuals, and Permit Administration at (609) 984-4428.

This permit does not authorize in-plant bypass discharges through the following emergency bypass points: 1) an in plant primary overflow weir which discharges, after disinfection, to the Arthur Kill and 2) a bypass at the Army Corps of Engineers pump station to the Elizabeth River. Any discharge from the two identified unpermitted bypass points is a violation of the regulations at N.J.A.C. 7:14A-2.1 and will be subject to appropriate enforcement action.

All applicable conditions for stormwater management can be found in the NJPDES Basic Industrial Stormwater General Permit (Category 5G2) Authorization No. NJG0122696 under the Master Permit NJPDES No. NJ0088315. If there are any questions regarding the NJPDES Discharge to Stormwater (DST) permit, contact the Bureau of Nonpoint Pollution Control at (609) 633-7021.

C. Implementation of Additional Conveyance and Treatment for Trenton Avenue Pumping Station (TAPS):

CSOs can be reduced by increasing the capture and conveyance of wet weather combined sewer flow that is directed to the existing wastewater treatment plant instead of flowing to CSO outfalls. As outlined in the LTCP, an interim plan was developed and evaluated to modify the operation of the existing Trenton Avenue Pumping Station (TAPS) to pump at the estimated peak hydraulic capacity of the existing facility (approximately 55 million gallons per day (MGD)). This represents an increase of 19 MGD over the current peak pumping rate of 36 MGD, as defined by the flow limit in the contractual agreement between the City of Elizabeth and JMEUC. In addition to a change in the contractual agreement between the City and JMEUC, upgrades to TAPS to improve the reliability of the facility to pump at the higher rate are also required.

In order to avoid stressing the plant during large wet weather events, the use of real time controls (RTC) enables higher flows to be pumped from TAPS without increasing peak flow rates for these large events above current levels. This will result in increased capture of combined sewer flows with no changes to the TAPS force main,

trunk sewers or WWTF required, because the existing force main, trunk sewers and WWTF can accept and treat flow at the increased TAPS pumping rate with RTC. Changes to the JMEUC NJPDES permit were incorporated in a permit modification dated May 1, 2020 to allow the permittee to accept additional wet weather flows from TAPS.

In early 2022, the City initiated trunk sewer level sensing and real-time control system for the TAPS Phase 1 increased pumping project. With this program, the system-wide average annual overflow volume was estimated to be reduced by approximately 175 million gallons, using the 2018 hydraulic model setup as noted on page 5-9 in the LTCP. The modeling showed that with the control rules implemented, the total volume of flow conveyed to the JMEUC WWTF could be increased without impacting the peak flow.

6 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:	Arthur Kill	Receiving River Basin:	NY/NJ Harbor
Via:	Outfall pipe	WMA (b):	07
Classification (a):	SE3 (C2)	Watershed:	Elizabeth River
Latitude:	40° 38’ 16.7” N	Subwatershed:	Arthur Kill waterfront (below Grasselli)
Longitude:	74° 11’ 49.7” W	HUC 14 (c):	02030104050120
County:	Union	Water Quality Impairments (d):	Benzo[A]Pyrene (PAHs); Heptachlor Epoxide; Hexachlorobenzene; and [Chlordane, DDT, Dieldrin, Dioxin, and PCBs] in Fish Tissue
Municipality:	The City of Elizabeth		
Outfall Description			
Outfall Configuration:	Single-port diffuser	Submerged Pipe Characteristics:	The outfall is located 10 feet (3.5 meters) below the surface at mean tide).
Applicable Receiving Water Dilution Factors			
Acute:	6.8		
Chronic:	17.5		

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 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

As per the SWQS at N.J.A.C. 7:9B, the designated uses for the Saline Estuary 3 (SE3) receiving waters are:

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, the subwatershed containing this segment of the Arthur Kill is impaired for benzo[a]pyrene (PAHs); heptachlor epoxide; hexachlorobenzene; and [chlordane, DDT, dieldrin, dioxin, and PCBs] in fish tissue. These pollutants were not found to be discharged in the effluent. Monitoring requirements have been retained in this permit. Refer to Section 8.B.14 of the Fact Sheet for more details regarding the monitoring requirements for these parameters.

7 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.

8 Summary of Permit Conditions for Category A:

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 SWQS (N.J.A.C. 7:9B)
3. New Jersey's 2018/2020 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. EEQ limitations in accordance with N.J.A.C. 7:14A-13.8
10. Pretreatment Program Requirements for Local Agencies (N.J.A.C. 7:14A-19)

In accordance with N.J.A.C. 7:14A-13.5, WQBELs are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey 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 CWA, 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 TSD 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.

WET is expressed as a minimum as percent effluent.

Loading limitations (kg/day or g/day) are calculated by multiplying the flow value of 75 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 parameters listed in Part III if site specific conditions indicate the applicability of such a modification.

1. Flow:

   This permit action does not include a numerical limitation for flow. Monitoring conditions for **influent** and **effluent flow** are applied pursuant to N.J.A.C. 7:14A-13.13.

   Amendments to the CAP at N.J.A.C. 7:14A-22.16 were adopted in the May 15, 2017 issue of the New Jersey Register (49 NJR 1191(a)). A requirement to report the "12-month rolling average" for effluent flow is added to the DMR.

   Monitoring shall be on a **continuous** basis. The sample type shall be **metered**.

2. 5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):

   The **effluent $CBOD_5$** limitations are carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and are based on the Northeast Water Quality Management Plan and the definition of secondary treatment at 40 CFR 133.102(a) (4) (i) and (ii) and N.J.A.C. 7:14A-12.2 (c) 1. and 2. The concentration and equivalent loading limitations are 25 mg/L (7,100 kg/day) as a monthly average and 40 mg/L (11,355 kg/day) as a weekly average.

   The **$CBOD_5$ percent removal** limitation of 85% as a monthly average minimum for 'Option 1' and monitoring requirement as a monthly average minimum for 'Option 2' are carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and is based on the definition of secondary treatment at 40 CFR 133.102(a)(4)(iii) and N.J.A.C. 7:14A-12.2(c) 3. Refer to the Sanitary Wastewater Requirements in Part IV Section G.2 for more information regarding percent removal requirements under Options 1 and 2. Monitoring for **influent $CBOD_5$** is also required as monthly average and weekly average in order to calculate percent removal.

   The monitoring frequency of **once per day** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be a **24-hour composite.**

3. pH:

   The **effluent pH** limitations are carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and are based on the definition of secondary treatment at 40 CFR 133.102(c) and N.J.A.C. 7:14A-12.2 (f). The limitations are 6.0 as an instantaneous minimum and 9.0 as an instantaneous maximum. Monitoring for **influent pH** is also included as an instantaneous minimum and an instantaneous maximum.

   The monitoring frequency of **six per day** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab**.

4. Total Suspended Solids (TSS):

   The **effluent TSS** limitations are carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and are based on the Northeast Water Quality Management Plan and the definition of secondary treatment at 40 CFR 133.102(a) (4) (i) and (ii) and N.J.A.C. 7:14A-12.2 (c) 1. and 2. The concentration and equivalent loading limitations are 30 mg/L (8,519 kg/day) as a monthly average and 45 mg/L (12,779 kg/day) as a weekly average.

   The **TSS percent removal** limitation of 85% as a monthly average minimum for 'Option 1' and monitoring requirement as a monthly average minimum for 'Option 2' are carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and is based on the definition of secondary treatment at 40 CFR 133.102(a)(4)(iii) and N.J.A.C. 7:14A-12.2(c) 3. Refer to the Sanitary Wastewater Requirements in Part IV Section G.2 for more information regarding percent removal requirements under Options 1 and 2. Monitoring

for **influent TSS** is also required as monthly average and weekly average in order to calculate percent removal.

The monitoring frequency of **once per day** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be a **24-hour composite.**

5. Oil and Grease:

The **effluent oil and grease** limitations are carried froward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and are based on N.J.A.C. 7:14A-12.8(c). The concentration limitations are 10 mg/L as a monthly average and 15 mg/L as a daily maximum.

The monitoring frequency of **twice per month** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab**.

6. Ammonia (Total as N):

Ammonia-N in water exists in two forms: NH_3 and NH_4^+. As NH_3, ammonia-N is called "un-ionized"; as NH_4^+, ammonia-N is called "ionized". Generally, the un-ionized fraction is considered more toxic than the ionized fraction. The relative proportion that is found in each fraction is primarily dependent on the temperature and the pH of the solution. At a higher temperature and/or a higher pH, more ammonia-N exists in the un-ionized form as compared to a lower temperature and/or pH. Ammonia-N is usually measured as total ammonia-N, which includes both the ionized and the un-ionized fractions.

The current State Water Quality Standards (SWQS) set an instream limit on the concentration of un-ionized ammonia that may be allowed in the stream. The water quality criteria can be found at N.J.A.C. 7:9B-1.14. The criteria may be expressed as calculations dependent on instream temperature and pH. Where this is the case, the values for temperature and pH used to calculate the un-ionized ammonia criteria are those values that exist after any allowable mixing of the effluent and receiving water. There are criteria values for both acute and chronic toxicity effects. Permit limits to protect against the toxic effects of ammonia instream are based on the more stringent calculated LTA.

Limit Derivation:

The WLA was calculated by solving a series of simultaneous equations for the carbonate and ammonia equilibria according to the following methodology. It is assumed that there is complete and total mixing with the receiving stream. The input data in the solution of the equilibrium equations were derived from data obtained from the DMRs.

The final total ammonia-N WLA is calculated by mass balance from the instream un-ionized ammonia criteria. The effluent limitations are calculated using the procedures in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.6(a).

Carbonate Equilibrium: The simultaneous equilibrium (temperature corrected) for the first and second carbonate equilibrium for each pH value are solved to calculate the carbon species and the hydrogen ion concentrations. This is done separately for each stream, i.e. the effluent and the upstream receiving stream.

The downstream concentrations for the carbon fractions are then calculated by mass balance. The downstream final temperature is also calculated by mass balance.

The final downstream hydrogen ion concentration is then calculated by the carbonate equilibrium equations. The final pH is calculated from the final hydrogen ion concentration.

Equilibrium Equation:

$$\log K = -[A/T] + D - C \times T$$

C = 0.032786
D = 14.8435
A = 3404.71
T = Temperature in K

Ammonia-N Equilibrium: Using the final pH and the final temperature, the ammonia equilibrium of the final mixed stream is calculated.

Equilibrium Equation:

$$pK_a = 0.09018 + 2729.92/T$$

T= Temperature in K

The final total ammonia-N WLA is calculated by mass balance from the instream un-ionized ammonia criteria.

A "reserve capacity", or "margin of safety", is considered in setting the WLA in accordance with N.J.A.C. 7:15-7.1 and Section 4.2.1 of the USEPA TSD. In this permit, the Department has determined that the ammonia toxicity analysis is a subset of a parameter specific TMDL as identified in N.J.A.C. 7:15-7.1.

The effluent limitations are calculated using the procedures in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.6(a).

Data Input for Equilibrium Equations and Calculation Results:

	Summer (a)		Winter (a)		March/April (a)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Dilution Factor	6.8	17.5	6.8	17.5	-	-
Upstream pH (su)	0.70	0.50	0.73	0.60	-	-
Upstream temperature (°C)	7.40	7.40	7.45	7.30	-	-
Upstream alkalinity (mg/L)	25.00	25.00	17.42	17.42	-	-
Upstream salinity (ppt)	144.00	144.00	125.00	125.00	-	-
Upstream NH_3N (mg/L)	17.60	18.00	19.60	20.00	-	-
Effluent flow (MGD)	75.000	75.000	75.000	75.000	-	-
Effluent pH (su)	7.20	7.20	7.06	7.06	-	-
Effluent temperature (°C)	24.50	23.91	17.67	16.84	-	-
Effluent alkalinity (mg/L)	141.00	141.00	173.00	173.00	-	-
Effluent salinity (ppt)	0.50	0.50	0.56	0.60	-	-
Criteria: Un-ionized NH_3N (mg/L)	0.115	0.030	0.115	0.030	-	-
Criteria: Equivalent total NH_3N (mg/L)	13.88	3.44	25.18	7.72	-	-
Criteria: Reserve Capacity (%)	20	20	20	20	-	-
Criteria: Total NH_3-Reserve	11.10	2.75	20.14	6.18	-	-
Wasteload Allocation (WLA) (mg/L)	71.45	39.96	132.72	98.19	-	-
Maximum Data Value (MAX) from DMRs	28.00	26.00	29.00	26.00	-	-
Is MAX > WLA? If yes, then cause exists.	**NO**	**NO**	**NO**	**NO**	**-**	**-**
Coefficient of Variation	0.50	0.50	0.40	0.40	-	-
Number of Samples/Month	4.00	4.00	4.00	4.00	-	-
Long-Term Average (mg/L)	26.62	32.46	58.35	83.09	-	-
WQBEL avg. monthly (mg/L)	46.00	-	91.00	-	-	-
WQBEL max. daily (mg/L)	71.00	-	133.00	-	-	-

(a) Summer season spawning period is from May 1st through October 31st. Winter season non-spawning period is from November 1st through February 28/29th. Note: March/April criteria & limits are applicable only to the FW2-NT waters and to no other water classification.

Based on the analysis in the table above, the discharge of ammonia in the facility's effluent was not found to cause an excursion of the SWQS, and the calculated WQBELs shown above are not applicable. Therefore, the monitoring requirements as a monthly average and daily maximum for concentration and loading are carried forward from the existing permit.

The monitoring frequency of once per quarter is increased to **once per week.** The sample type shall be a **24-hour composite.**

7. Bacterial Indicator - Fecal Coliform:

The limitations are based on N.J.A.C. 7:14A-12.5(b) 1. and 2. The applicable limitations are 200 colonies per 100 milliliters as a monthly geometric average and 400 colonies per 100 milliliters as a weekly geometric average.

The monitoring frequency of **once per day** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab.**

8. Whole Effluent Toxicity (WET):

Section 101(a) of the 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 Department 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 Department has analyzed all available WET effluent data. The existing permit specifies a semi-annual monitoring requirement for acute WET. For this facility, the data set consists of 6 data points (1 detected and 6 non-detected) dated from April 2017 to December 2022. Based on the review of the applicable data set, the Department has concluded the following:

- A minimum acute toxicity value of LC50 = 89.8% was reported on the DMR forms. After review of the applicable data set, WET was found in quantifiable amounts in the effluent. 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 WLAs of 2.04 TU_as and 17.5 TU_cs 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 acute and chronic dilution factors of 6.8 and 17.5 respectively, from the water quality study titled, "Dilution Analysis and Evaluation of the Chlorine Produced Oxidants and Acute and Chronic Whole Effluent Toxicity Permit Limits for Joint Meeting of Essex and Union Counties", dated June 1998, submitted by Lawler, Matusky and Skelly Engineers. Consistent with the recommendations of section 2.3.3 of the USEPA 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 1.11 TU_as (i.e. an LC50 = 89.8 %). Since the maximum reported effluent data value does not exceed the applicable site specific WLA of 2.04 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 RPMF of 2.14 was based on the number of data values in the applicable database specified above (6 data values), a default 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 1.11 TU_as from the above cause analysis, results in a projected maximum data value of 2.23 TU_as. Since the projected maximum data value exceeds the applicable site specific WLA of 2.04 TU_as, the discharge has reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS.

WQBEL Derivation:

Since the discharge **was found** to have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS, a WQBEL has been calculated in accordance with N.J.A.C. 7:14A-13.6(a), 40 CFR 122.44(d), and USEPA's TSD.

To enable a comparison between acute and chronic WET limits, the acute WLA (WLA_a) was translated to equivalent chronic toxic units (WLA_{ac}) by multiplying the WLA_a by a default ACR of 10.

The acute and chronic WLAs were then converted to an acute LTA of 6.5501 TU_{ac}s and a chronic LTA (LTA_c) of 9.2301 TU_cs, using a default acute CV of 0.6, a default chronic CV of 0.6, and multipliers of 0.321 and 0.527 for the acute and chronic LTAs respectively. Those multipliers are based on the 99th percentile consistent with Response to Comments 13-74 through 13-89, 29 NJR 1861 and are found on Page 102 of the USEPA TSD. The resultant LTA values were evaluated and the more protective (e.g. lower) value selected for translation into a daily maximum WET limit using the applicable 99th percentile multiplier, as found on Page 103 of the USEPA TSD.

The daily maximum acute WET limit of 2.04 TU_as was then converted to a permit limitation expressed as an IC25. The resultant limitation is an IC25 = 4.9% effluent. Because the resultant chronic limitation is less than 10% and the equivalent LC50 limit is less than 100%, the applicable limit is an LC50 = 49%. It was determined that the calculated chronic toxicity limit would not be representative for 7-day survival and growth measurement of WET and that the acute toxicity would be a more appropriate measure. However, the Department has determined it is appropriate to keep the existing Action Level of LC50$\geq$50% effluent.

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 TRIR, in order to correct the toxicity problem should this value be exceeded. As a result, 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 CWA, 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 continue to 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 USEPA TSD. The requirements are necessary to ensure compliance with the applicable WET action level on its effective date 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 monitoring frequency of once per six months is increased to **once per quarter** to be consistent with N.J.A.C. 7:14A-14.2. The sample type shall be a **composite.**

9. Chlorine Produced Oxidants (CPO):

The WQBELs were calculated by the procedures set forth in the USEPA TSD. 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.

Using the steady state mass balance equation, WLAs were developed utilizing the applicable criteria specified in the New Jersey SWQS at N.J.A.C. 7:9B, pollutant specific upstream concentrations (when available), an effluent flow of 75 MGD and dilution factors from the water quality study titled, "Dilution Analysis and Evaluation of the Chlorine Produced Oxidants and Acute and Chronic Whole Effluent Toxicity Permit Limits for Joint Meeting of Essex and Union Counties", dated June 1998, submitted by Lawler, Matusky and Skelly Engineers.

For acute and chronic calculations, LTA values were developed using the 99th percentile multiplier and the more stringent results were utilized in calculating the MDL and AMLs. As per N.J.A.C. 7:14-A-13.14(a)2, limitations shall be expressed as concentration and mass loading. Refer to the table below for the input data and calculation results, and the Calculation Equations section of the fact sheet for additional reference.

Data Input and Calculation Results:

All concentration units in mg/L	Acute	Chronic
Upstream concentration, (Cup)	0.0	0.0
Effluent flow (cfs)	116.025	116.025
Predetermined Dilution Factors (Df)	6.8	17.5
Surface Water Quality Criteria, (Ci)	0.013	0.0075
Wasteload Allocation, (WLA)	0.088	0.131
Coefficient of Variation (CV)	0.6	0.6
WLA multiplier for LTA	0.321	0.527
Long Term Average, (LTA)	0.031	0.088
More stringent LTA	Acute	
LTA multiplier for MDL	3.114	
LTA multiplier for AML	1.108	
Maximum Daily Limitation, (MDL)	0.088	
Average Monthly Limitation, (AML)	0.031	

Since the previous permit limit was below 0.1 mg/L, the permit included language that the permittee was only required to demonstrate compliance with the enforceable permit levels of 0.1 mg/L (28.4 kg/day) as the monthly average and daily maximum concentration and equivalent loading. Therefore, it was never documented that the permittee complied with the existing limits of 0.036 mg/L (10.2 kg/day) as a monthly average and 0.088 mg/L (24.9 kg/day) as a daily maximum. Additionally, the reported effluent concentration was all <0.1 mg/L. Since the permittee never documented compliance with these WQBELs, no further antibacksliding nor anti-degradation analysis is required. Thus, this permit action proposes the newly calculated limitations of 0.031 mg/L (8.8 kg/day) as a monthly average and 0.088 mg/L (24.9 kg/day) as a daily maximum, in accordance with the federal and state anti-backsliding and anti-degradation regulations at 40 CFR Part 122.44 and N.J.A.C. 7:14A-13.19 and 40 CFR Part 131 and N.J.A.C. 7:9B-1.5(d). Note that 75 MGD was used to calculate the loading limits.

In September 2014, EPA codified the use of sufficiently sensitive test methods. Because of this rule update, the Department is removing the existing Recommended Quantitation Level in this permit as this level does not

comply with these regulatory changes. Due to adoption of the sufficiently sensitive test methods rule a new RQL for CPO of 0.02 mg/L has been developed which has been shown to be attainable using an EPA approved standard method. Specifically, the Department has determined that this RQL is routinely achievable using a handheld colorimetric test (DPD Colorimetric Method (4500-Cl G-11)) where this method is well described in the Standard Methods for the Examination of Water and Wastewater, available at www.standardmethods.org. This method is standard practice in testing for CPO and has been available for decades. Therefore, a RQL of 0.02 mg/L (5.7 kg/day) is included in Part III of the draft permit with explanatory language in the Sanitary Wastewater Requirements in Part IV Section A.1.d.

Since there is insufficient data to demonstrate that the permittee can meet the new limitation, a schedule to achieve compliance with the new limitations has been included in this permit. Refer to Section 8.L of this Fact Sheet for more details regarding the compliance schedule requirements for this parameter. In accordance with N.J.A.C. 7:14A-13.11, interim effluent limitations have been established based on the existing permit conditions, consistent with the antibacksliding conditions of N.J.A.C. 7:14A-13.19.

The monitoring frequency of **six per day** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab.**

10. Temperature:

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

The monitoring frequency of **six per day** for **influent** and **effluent temperature** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab.**

11. Dissolved Oxygen (DO):

The **effluent DO** limitation of 4.0 mg/L as a weekly average minimum is carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and Section 402(o) of the Federal Clean Water Act and is based on the Northeast Plan.

The monitoring frequency of **once per day** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab.**

12. Foam:

The narrative permit condition for foam is based on N.J.A.C. 7:14A-12.6.

13. Mercury:

The effluent limitations are carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44. The limits are based on the TMDLs established by the USEPA for the Arthur Kill of the NY/NJ Harbor Complex, dated July 26, 1994, as a Federal regulatory action in accordance with Section 304(l) of the 1987 Amendments to the Federal Clean Water Act (CWA). Additionally, the Phase 1 EEQ limitations developed from the TMDLs 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.

Note, as explained in the Sanitary Wastewater Requirements in Part IV Section G.1 of this permit, the Mercury limitations are applicable as follows:

- Option 1 - If on the day that the 24-hour composite sample for Mercury is collected, the 24-hour daily average flow value (the flow for that same period) is less than or equal to 85 MGD, then the permittee must comply with the loading limitation of 114 g/day as a monthly average. Monitoring requirements

are included as a monthly average for concentration and a daily maximum for concentration and loading.

- Option 2 - If on the day that the 24-hour composite sample for Mercury is collected, the 24-hour daily average flow value (the flow for that same period) is greater than 85 MGD, then the permittee must comply with the concentration limitation of 0.4 ug/L as a monthly average. Monitoring requirements are included as a monthly average for loading and a daily maximum for concentration and loading.

The monitoring frequency of **once per month** is carried forward from the existing permit and is consistent with N.J.A.C. 7:14A-14.2. The sample type shall be **grab.**

14. Toxic Pollutants:

The SWQS at N.J.A.C. 7:9B specify pollutant specific acute and chronic criteria for the protection of aquatic life and human health criteria for various toxic pollutants including Asbestos, and several Acids, Base/Neutrals, Metals, Pesticides, and Volatiles. In accordance with N.J.A.C. 7:14A-13.6(a), a WQBEL shall be imposed when the Department determines pursuant to N.J.A.C. 7:14A-13.5 that the discharge of a pollutant causes an excursion above a SWQS. 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 in accordance with the sufficiently sensitive testing methods as detailed in Section D of this Fact Sheet and the Sanitary Wastewater Requirements in Part IV Section A.1.c of this permit.

The New Jersey Water Pollution Control Act as amended (N.J.S.A. 58:10A-7b(3)), commonly called the CWEA and N.J.A.C. 7:14A-6.16(a), directs the Department to include effluent limitations in NJPDES permits issued to delegated POTWs with an approved pretreatment program. These 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 JMEUC WWTF that are discharged from the facility above detectable levels. JMEUC has an approved pretreatment program and is a delegated POTW. The following pollutants are regulated by the permittee on its users: **arsenic, cadmium, copper, chromium, total cyanide, lead, nickel, silver,** and **zinc.**

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all effluent data sets made available to the Department. The existing permit specifies monitoring requirements on the DMR for **copper, lead, nickel, silver,** and **zinc** and the data set utilized is during the time period of April 2017 to December 2022. The existing permit specifies monitoring requirements on the quarterly WCR for detected parameters of **chloroform, chromium, phenols,** and **tetrachloroethylene** and the data set utilized is during the time period of during the time period of July 2016 to December 2022. The existing permit specifies monitoring requirements on the annual WCR for detected parameters of **total cyanide** and **manganese** and the data set utilized is during the time period of July 2016 to December 2022. Monitoring requirements for all other toxic pollutants such as the various Acids, Base/Neutrals, Metals, Pesticides, and Volatiles is specified on the annual WCR and the data set utilized is during the time period of July 2016 to December 2022. Based on the review of the data sets, the Department has concluded the following:

- After review of the annual WCR data set, the Department has determined that priority pollutants, including **arsenic** and **cadmium** (which are regulated by the permittee on its users), were not found to be discharged in the effluent (except as noted below). These toxic pollutants do not have effluent limitations proposed in the draft permit at this time. However, monitoring requirements have been retained in this permit in accordance with N.J.A.C. 7:14A-13.5(k)3 and the need to reevaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of Section 3.1 of the USEPA TSD). Monitoring is based on the existing permit conditions and will continue to be on the annual WCR.

- At this time, insufficient data is available for **total cyanide** and **manganese** where the detected values were not comparable to their respective SWQS so cause to violate the SWQS is not demonstrated. Monitoring for the above parameters is based on the existing permit conditions and will continue to be on the annual WCR with a monitoring frequency of **once per year**. The sample type shall be a **24-hour composite** for manganese and **grab** for total cyanide. Monitoring for **free cyanide** is added to the annual WCR since the acute and chronic SWQS applies to free cyanide. The sample type shall be **grab.**

- After review of the quarterly WCR data set, **chromium** and **tetrachloroethylene** were not found to be discharged in quantifiable amounts in the effluent. These toxic pollutants do not have effluent limitations proposed in the draft permit at this time. However, monitoring requirements have been retained in this permit in accordance with N.J.A.C. 7:14A-13.5(k)3 and the need to reevaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of Section 3.1 of the USEPA TSD). Furthermore, certain parameters were found to be discharged in the effluent and are also noted below:

  - **Chromium** and **tetrachloroethylene** were not found to be discharged in quantifiable amounts in the effluent. These parameters are moved from the quarterly WCR to the annual WCR and the monitoring frequency is reduced from once per quarter to **once per year**. The sample type shall be a **24-hour composite** for chromium and **grab** for tetrachloroethylene.

  - **Phenols** was found to be discharged in quantifiable amounts in the effluent. However, the Department has eliminated the monitoring requirement for this parameter because there are no SWQS for phenols.

  - **Chloroform** was found to be discharged in quantifiable amounts in the effluent. Therefore, further analysis has been conducted on this pollutant.

- After review of the DMR data set, **silver** was not found to be discharged in quantifiable amounts in the effluent. Therefore, a CWEA limit is not required in accordance with N.J.A.C. 7-14A-6.16(a) and N.J.A.C. 7:14A-13.3(e) and the existing CWEA limits have been removed from the permit on the basis that new information has become available pursuant to N.J.A.C. 7:14A- 13.9(a) and 33 U.S.C. 1342(o)(2)(B)(i)). This parameter is moved from the DMR to the annual WCR and the monitoring frequency is reduced from once per month to **once per year**. The sample type shall be a **24-hour composite.**

- After review of the DMR data set, **copper, lead, nickel,** and **zinc** were found to be discharged in quantifiable amounts in the effluent. Therefore, further analyses have been conducted on these pollutants.

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 WLA.

Using the steady state mass balance equation, WLAs were developed utilizing the applicable criteria, pollutant specific upstream concentrations (when available), and dilution factors from the water quality study titled, "Dilution Analysis and Evaluation of the Chlorine Produced Oxidants and Acute and Chronic Whole Effluent Toxicity Permit Limits for Joint Meeting of Essex and Union Counties", dated June 1998, submitted by Lawler, Matusky and Skelly Engineers.

For the applicable pollutants (copper, lead, nickel, and zinc), the applied criteria is based on a WER of 1.0. For the applicable metals, 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. The site specific translator values were developed from the report titled, "Joint Meeting of Essex and Union Counties Effluent Metals Limits", dated June 2007 by Hydroqual. The site specific metal translators used in the analyses are listed in the table below:

Metal	Saline Water	
	Translator (acute)	**Translator (chronic)**
Copper	0.51	0.49
Lead	0.09	0.09
Nickel	0.69	0.68
Zinc	0.59	0.58

Quantified Pollutant Analysis Results:

Cause analyses were conducted on **chloroform**, **copper**, **lead**, **nickel**, and **zinc**. 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:

Table A

Effluent limitation analysis for the toxic pollutants with an effluent flow of 75 MGD based on the data set time period from April 2017 to December 2022.

Parameter	Number of data points	Coefficient of variation (CV)	Maximum reported data value (µg/L) **A**	Calculated instream WLA (µg/L) **B**	"Cause" Y = yes N = no **A > B ?**	Aquatic criteria LTA (µg/L)	Water Quality Based Limit, if applicable (µg/L)
Chloroform	(dt) = 16 (nd) = 13	0.31 (ca)	4.57	(a) = N/A (c) = N/A (h) = 36.750 (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) = 36,750 (hc) = N/A	MDL = 50,121 AML = 36,750 **(NOT APPLICABLE)**
Copper (1)	(dt) = 48 (nd) = 12	0.52 (ca)	29**	(a) = 53.72* (c) = 98* (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = 38.14** (c) = 114.16** (h) = N/A (hc) = N/A	MDL = 105 AML = 67 **(NOT APPLICABLE)**
Lead	(dt) = 7 (nd) = 53	0.6 (d)	5**	(a) = 1,428* (c) = 420* (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = 5,095** (c) = 2,461** (h) = N/A (hc) = N/A	MDL = 7,666 AML = 4,667 **(NOT APPLICABLE)**
Nickel	(dt) = 46 (nd) = 14	0.43 (ca)	19**	(a) = 435.2* (c) = 385* (h) = 29,750 (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = 263** (c) = 353** (h) = 29,750 (hc) = N/A	MDL = 631 AML = 422 **(NOT APPLICABLE)**
Zinc	(dt) = 48 (nd) = 12	0.27 (ca)	89**	(a) = 612* (c) = 1,418* (h) = 455,500 (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = 580** (c) = 1,804** (h) = 455,500 (hc) = N/A	MDL = 1,037 AML = 785 **(NOT APPLICABLE)**

Footnotes and Abbreviations:
(1) Copper Harbor Estuary criteria was utilized

(dt) = data values detected.	(a) = acute aquatic	(*) = Dissolved
(nd) = data values non-detected.	(c) = chronic aquatic	(**) = Total Recoverable
(d) = Default CV	(h) = human health non-carcinogen	LTA = Long Term Average
(ca) = Calculated from data set	(hc) = human health carcinogen	WLA = Waste Load Allocation
N/A = Not applicable	MDL = Maximum Daily Limit	AML = Average Monthly Limit

- Since the discharge of **chloroform** in the permittee's effluent **was not found** to cause or show reasonable potential to cause an excursion of the SWQS, new WQBELs based on showing cause to violate the SWQS are not proposed in the draft permit for this parameter 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 USEPA TSD).

    - This parameter is moved from the quarterly WCR to the annual WCR and the monitoring frequency is reduced from once per quarter to **once per year**. The sample type shall be **grab.**

- Since the discharge of **copper, lead, nickel,** and **zinc** in the permittee's effluent **was not found** to cause or show reasonable potential to cause an excursion of the SWQS, new WQBELs based on showing cause to violate the SWQS are not proposed in the draft permit for these parameters at this time. However, since this is a delegated facility and these parameters are limited on JMEUC users in their SIU permits, effluent limitations are required in accordance with N.J.A.C. 7-14A-6.16a) and N.J.A.C. 7:14A-13.3(e). Therefore, the existing CWEA limitations are carried forward from the existing permit in accordance with the anti-backsliding provisions at N.J.A.C. 7:14A-13.19 and are stated below:

CWEA Limitations (Parameters Limited on SIU Users):

The following effluent limitations based on the CWEA are expressed as WQBELs for concentration and EEQs for loading.

- For copper, the CWEA concentration and loading limitations are 63 µg/L (18 kg/day) as a monthly average and 105 µg/L (30 kg/day) as a daily maximum.
- For lead, the CWEA concentration and loading limitations are 4.7 mg/L (36.9 kg/day) as a monthly average and 7.4 mg/L (68.1 kg/day) as a daily maximum.
- For nickel, the CWEA concentration and loading limitations are 401 µg/L (34.1 kg/day) as a monthly average and 630 µg/L (59.6 kg/day) as a daily maximum.
- For zinc, the CWEA concentration and loading limitations are 831 µg/L (128 kg/day) as a monthly average and 1,037 µg/L (236 kg/day) as a daily maximum.

Consistent with the intent of 40 CFR 122.45(c) and N.J.A.C. 7:14A-13.14(b), monitoring data and limitations for toxic metals shall be expressed as total recoverable.

In satisfying the recommendations of section 3.1 of the EPA Technical Support Document, it is the Department's position that monitoring frequency requirements as specified in the permit will provide sufficient up-to-date data to re-evaluate the necessity for WQBELs upon renewal of the permit.

Because of the delegated status of the facility, effluent monitoring of at least annually for the priority pollutants as noted under N.J.A.C. 7:14A-4 et seq, Appendix A, Table II and III, molybdenum (Mo), ammonia (NH_3), and phosphorous (P), 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 CWEA.

For continuous discharges, N.J.A.C. 7:14A-13.15(a)3 states, "limitations on any pollutant or pollutant parameter where the monitoring frequency is once per month or less may be stated as a maximum daily limitation". The USEPA commented on this NJPDES regulation via a memo dated September 16, 2010 from Barbara A. Finazzo, Director, Division of Environmental Planning and Protection, USEPA-Region 2 to John Plonski, Assistant Commissioner for Water Resources Management, NJDEP.

USEPA noted in the memo that to ensure consistency with the federal regulations, New Jersey must establish permit limitations to provide both short-term and long-term controls to ensure SWQS are met.

Therefore, in situations where the monitoring frequency is once per month or less, as required by USEPA and consistent with Section 5.5.3 of the USEPA TSD, the statistical procedure is employed using n (number of samples) = 4 to derive the AML for acute, chronic and human health WQBEL calculations.

C. Influent and Effluent Monitoring Requirements:

In order to calculate percent removals, influent monitoring is required for $CBOD_5$ and TSS in accordance with N.J.A.C. 7:14A-6.5(b) and -11.2(a) 2. Refer to the Sanitary Wastewater Requirements in Part IV Section G.2 for more information regarding percent removal requirements under Options 1 and 2. Consistent with the intent of 40 CFR 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, molybdenum (Mo), ammonia (NH_3), and phosphorous (P), 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. Use of Sufficiently Sensitive Test Methods for Reporting:

When more than one test procedure is approved under this part for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136, 122.21(e)(3), and 122.44(i)(1)(iv).

An EPA-approved method is sufficiently sensitive where:

A. The method minimum level is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or

B. The method minimum level is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

C. The method has the lowest minimum level of the EPA-approved analytical methods.

When there is no analytical method that has been approved under 40 CFR part 136, required under 40 CFR chapter I, subchapter N or O, and is not otherwise required by the Department, the permittee may use any suitable method upon approval by the Department.

For questions regarding the applicability of the rule and whether or not the facility is complying with the target level of sensitivity, contact Stephen Seeberger of the Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860 or via email at Stephen.Seeberger@dep.nj.gov.

For questions regarding laboratory methodologies, certifications, or specifics relating to quantitation limits associated with individual test methods, contact the Office of Quality Assurance at (609) 292-3950 or via email at OQA@dep.nj.gov.

E. Reporting Requirements:

All data requested to be submitted by this permit shall be reported on the MRFs as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

Electronic Reporting Requirements

On October 22, 2015, the USEPA promulgated the final NPDES Electronic Reporting Rule (see Federal Register 80:204 p. 64064). This rule requires entities regulated under the CWA NPDES program to report certain information electronically instead of filing paper reports.

In accordance with this rule, all required monitoring results reported on MRFs shall be electronically submitted to the Department via the Department's Electronic MRF Submission Service. The following reports shall be electronically submitted to the Department via the Department's designated Electronic Submission Service, once available:

- Sewer overflow event non-compliance reports required by N.J.A.C. 7:14A-6.10
- POTW Pretreatment Program Annual Reports consistent with 40 CFR 403.12(i) and N.J.A.C. 7:14A-19.6(f)

Consistent with the provisions of the final rule, the permittee may seek a waiver from the mandatory electronic reporting of the above identified documents and reports for just cause. Such a request shall be made in accordance with the provisions of 40 CFR 127.15 and submitted to the Department at the address identified below:

NJDEP: Division of Water Quality
Mail Code 401-02B
Permit Administration Section
P.O. Box 420
401 E. State Street
Trenton, NJ 08625-0420

Consistent with this rule, the existing reporting requirements contained in the existing permit at Part IV have been removed and are now contained at Part II of the permit. Please refer to Part II of this permit action for further details regarding the new reporting requirements as a result of the Electronic Reporting Rule.

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 Environmental, Engineering and Permitting 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) and the applicable Water Quality Management Plan (N.J.A.C. 7:15).

The numerical value used for flow as a permit condition is consistent with the Northeast Water Quality Management Plan in accordance with N.J.A.C. 7:14A-15.4(b). Please note although that the facility's flow value is 85 MGD, the flow value of 75 MGD is used for the calculation of the WQBELs and effluent loading limitations. The higher flow value of 85 MGD was included at the request of the permittee in the renewal permit issued on June 28, 1996 and is used to better allow the facility to deal with wet weather flows.

I. Pretreatment Conditions:

The Department approved JMEUC's industrial pretreatment program on February 4, 1985. The Permittee is a local agency that owns or operates the 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 NJ0024741. 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 CWA 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 October 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 JMEUC.

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. PCB Sampling Requirements and PMP:

The USEPA 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 2018/2020 Integrated Water Quality Monitoring and Assessment Report (integrated report)* lists pollutants that are currently not meeting the surface water criteria in subwatersheds 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 by the date specified in the Department's determination letter.

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.

K. Reclaimed Water for Beneficial Reuse (RWBR):

This draft permit contains conditions allowing the JMEUC 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 the Sanitary Wastewater Requirements in Part IV Section D, 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 RWBR 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 the Sanitary Wastewater Requirements in Part IV Section D 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 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 RWBR" and USEPA 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, 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 RWBR" and USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the USEPA Manual, "Guidelines for Water Reuse", USEPA 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 RWBR" and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO3 + NH3) 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 RWBR." 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 RWBR."

2. Effluent Limitations and Monitoring Requirements for Distribution of RWBR 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 in the Sanitary Wastewater Requirements in Part IV Section D of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Where chlorine is utilized for disinfection, 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 RWBR" and USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" USEPA # 430/09-91-022, September 1991 and the USEPA Manual, "Guidelines for Water Reuse", USEPA 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 RWBR" and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO3 + NH3) 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 RWBR." 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 RWBR."

3. Effluent Limitations and Monitoring Requirements for Distribution of RWBR 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 the Sanitary Wastewater Requirements in Part IV Section D 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 RWBR" and the USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" USEPA # 430/09-91-022, September 1991 and the USEPA Manual, "Guidelines for Water Reuse", USEPA 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 RWBR".

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 RWBR".

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 RWBR".

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 Departments "Technical Manual for RWBR". 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 RWBR".

L. Compliance Schedule:

Since the permittee's effluent data indicates that they a may be unable to consistently comply with the final effluent limitations for CPO, a schedule of compliance is included in the permit, including interim deadlines for progress or reports of progress towards compliance with the conditions of this permit, in accordance with N.J.A.C. 7:14A-6.4(a). The compliance schedule for CPO is to allow the permittee sufficient time to achieve compliance with the newly established effluent limitations. This schedule is provided in consideration of the time it would require for the permittee to undertake steps needed to modify or install treatment facilities, operations or other required measures.

Beginning on EDP + 1 year and every subsequent year after, until the final effluent limitations become effective, the permittee must submit a progress report to the Department on the steps taken towards compliance with the final effluent limitations. The progress report must include but is not limited to the following information:

- Investigative work as to what type of treatment options or other means of compliance are considered;
- Decision on the chosen method of treatment;
- Progress on design, bidding and construction schedule;
- The permittee's intent to do studies indicated in the Sanitary Wastewater Requirements in Part IV Section C.2 of this permit (to obtain site specific hardness, translator and WER values, etc.).

1. Compliance Schedule for CPO:

   a. During the Initial and Interim phases, from the EDP to EDP + 36 months, the permittee shall comply with the specified interim effluent limitations for the above referenced parameter.
   b. During the Final phase, beginning EDP + 37 months, the permittee shall meet the final effluent limitations for the above referenced parameter.

9 Variances to Permit Conditions:

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

Procedures for modifying a WQBEL are found in the SWQS, N.J.A.C. 7:9B-1.8 and 1.9. If a WQBEL 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 Environmental Analysis, Restoration and Standards at (609) 633-1441.

10 Calculation Equations:

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) × [WLA multiplier (LTA)]

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

D. Maximum Daily Limitation: MDL = (LTA) × [LTA 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 USEPA TSD, page 103)

E. Average Monthly Limitation: AML = (LTA) × [LTA 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 USEPA TSD, page 103)

11 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 (4/2017 – 12/2022)	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (2)	MONITORING	
							Frequency	Sample Type
Flow, Effluent	MGD	Monthly Avg. Daily Max. 12 Month Rolling Average	60.8 180 --	MR MR --	MR MR MR	MR MR MR	Continuous	Metered
Flow, Influent	MGD	Monthly Avg. Daily Max.	55.75 89.83	MR MR	MR MR	MR MR	Continuous	Metered
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Effluent	kg/d	Monthly Avg. Weekly Avg.	2,755 4,119	7,100 11,355	7,100 11,355	7,100 11,355	1/Day	24-Hour Composite
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Effluent	mg/L	Monthly Avg. Weekly Avg.	11.93 16.35	25 40	25 40	25 40	1/Day	24-Hour Composite
$CBOD_5$ Influent	mg/L	Monthly Avg. Weekly Avg.	175 205	MR MR	MR MR	MR MR	1/Day	24-Hour Composite
$CBOD_5$ Percent Removal (minimum), Option 1 31)	%	Monthly Avg.	91.85	85	85	85	1/Day	Calculated
$CBOD_5$ Percent Removal (minimum), Option 1 (3)	%	Monthly Avg.	91.85	MR	MR	MR	1/Day	Calculated
pH, Effluent	SU	Instant. Min. Instant. Max.	6.1 7.8	6.0 9.0	6.0 9.0	6.0 9.0	6/Day	Grab
pH, Influent	SU	Instant. Min. Instant. Max.	5.8 8.1	MR MR	MR MR	MR MR	6/Day	Grab
Total Suspended Solids (TSS), Effluent	kg/d	Monthly Avg. Weekly Avg.	4,145 6,521	8,519 12,779	8,519 12,779	8,519 12,779	1/Day	24-Hour Composite
Total Suspended Solids (TSS), Effluent	mg/L	Monthly Avg. Weekly Avg.	17.54 24.51	30 45	30 45	30 45	1/Day	24-Hour Composite
TSS, Influent	mg/L	Monthly Avg. Weekly Avg.	178.01 202.33	MR MR	MR MR	MR MR	1/Day	24-Hour Composite
TSS Percent Removal (minimum), Option 1 (3)	%	Monthly Avg.	88.46	85	85	85	1/Day	Calculated
TSS Percent Removal (minimum), Option 2 (3)	%	Monthly Avg.	88.46	MR	MR	MR	1/Day	Calculated
Oil and Grease	mg/L	Monthly Avg. Daily Max.	2.08 5.8	10 15	10 15	10 15	2/Month	Grab

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (4/2017 – 12/2022)	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (2)	MONITORING	
							Frequency	Sample Type
Ammonia (Total as N)	kg/d	Monthly Avg. Daily Max.	3,500 6,631	MR MR	MR MR	MR MR	1/Week	24-Hour Composite
Ammonia (Total as N)	mg/L	Monthly Avg. Daily Max.	16.46 29	MR MR	MR MR	MR MR	1/Week	24-Hour Composite
Fecal Coliform (geometric mean)	# per 100mL	Monthly Avg. Weekly Avg.	45.10 99.51	200 400	200 400	200 400	1/Day	Grab
Acute Toxicity, LC50 *Mysidopsis bahia*	% Effluent	Minimum # det. / # N.D.	89.8 1/6	MR (4)	MR (4)	MR (4)	1/Quarter	Composite
Chlorine Produced Oxidants (CPO)	kg/d	Monthly Avg. Daily Max.	<10.93 <63.15	10.2 24.9	10.2 (5) 24.9 (5)	8.8 (5) 24.9 (5)	6/Day	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.1 <0.1	0.036 0.088	0.036 (5) 0.088 (5)	0.031 (5) 0.088 (5)	6/Day	Grab
Dissolved Oxygen (minimum)	mg/L	Weekly Avg. Daily Avg.	6.63 6.0	4.0 MR	4.0 MR	4.0 MR	1/Day	Grab
Temperature, Effluent	°C	Instant. Min. Monthly Avg. Instant. Max.	6.6 18.76 29	MR MR MR	MR MR MR	MR MR MR	6/Day	Grab
Temperature, Influent	°C	Instant. Min. Monthly Avg. Instant. Max.	4.5 18.36 31	MR MR MR	MR MR MR	MR MR MR	6/Day	Grab
Mercury, Total Recoverable, Option 1 (4)	g/d	Monthly Avg. Daily Max.	<42 <165	114 MR	114 (7) MR (7)	114 (7) MR (7)	1/Month	Grab
Mercury, Total Recoverable, Option 1 (4)	µg/L	Monthly Avg. Daily Max.	<0.5 <0.5	MR MR	MR (7) MR (7)	MR (7) MR (7)	1/Month	Grab
Mercury, Total Recoverable, Option 2 (4)	g/d	Monthly Avg. Daily Max.	<42 <165	MR MR	MR (7) MR (7)	MR (7) MR (7)	1/Month	Grab
Mercury, Total Recoverable, Option 2 (4)	µg/L	Monthly Avg. Daily Max.	<0.5 <0.5	0.40 MR	0.40 (7) MR (7)	0.40 (7) MR (7)	1/Month	Grab
Copper, Total Recoverable	kg/d	Monthly Avg. Daily Max.	2.20 8.20	18 30	18 (7) 30 (7)	18 (7) 30 (7)	1/Month	24-Hour Composite
Copper, Total Recoverable	µg/L	Monthly Avg. Daily Max.	9.44 29	63 105	63 (7) 105 (7)	63 (7) 105 (7)	1/Month	24-Hour Composite
Lead, Total Recoverable	kg/d	Monthly Avg. Daily Max.	0.86 1.5	36.9 68.1	36.9 (7) 68.1 (7)	36.9 (7) 68.1 (7)	1/Month	24-Hour Composite
Lead, Total Recoverable	µg/L	Monthly Avg. Daily Max.	1.25 5	4.7 7.4	4.7 (7) 7.4 (7)	4.7 (7) 7.4 (7)	1/Month	24-Hour Composite

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (4/2017 – 12/2022)	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (2)	MONITORING	
							Frequency	Sample Type
Nickel, Total Recoverable	kg/d	Monthly Avg. Daily Max.	1.28 22.78	34.1 59.6	34.1 (7) 59.6 (7)	34.1 (7) 59.6 (7)	1/Month	24-Hour Composite
Nickel, Total Recoverable	µg/L	Monthly Avg. Daily Max.	4.02 19	401 630	401 (7) 630 (7)	401 (7) 630 (7)	1/Month	24-Hour Composite
Silver, Total Recoverable	kg/d	Monthly Avg. Daily Max.	<1 <1	11.1 20.7	MR (7) -- (7)	MR (7) -- (7)	1/Year (8)	24-Hour Composite
Silver, Total Recoverable	µg/L	Monthly Avg. Daily Max.	<0.002 <0.002	40 70	MR (7) -- (7)	MR (7) -- (7)	1/Year (8)	24-Hour Composite
Zinc, Total Recoverable	kg/d	Monthly Avg. Daily Max.	11.57 20.53	128 236	128 (7) 236 (7)	128 (7) 236 (7)	1/Month	24-Hour Composite
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	50.07 89	831 1,037	831 (7) 1,037 (7)	831 (7) 1,037 (7)	1/Month	24-Hour Composite

Footnotes and Abbreviations:

MR Monitor and report only
(1) The "Initial" phase limitations and monitoring conditions are effective from the EDP until the EDP + 36 months and reflect a compliance schedule for CPO.
(2) The "Final" phase limitations and monitoring conditions become effective on EDP + 37 months.
(3) Refer to the Sanitary Wastewater Requirements in Part IV Section G.2 for more information regarding percent removal requirements under Options 1 and 2.
(4) The permittee shall maintain acute WET levels which meet the Action Level of LC50 $\geq$ 50%.
(5) The permittee shall utilize analytical methods for CPO that will ensure compliance with the specified RQL of 0.02 mg/L (5.7 kg/day).
(6) Refer to the Sanitary Wastewater Requirements in Part IV Section G.1 for more information regarding the mercury limitations under Options 1 and 2.
(7) The RQL for this parameter has been removed from the permit.
(8) This parameter is moved to the annual WCR.

12 Summary of Permit Conditions for Combined Sewer Management:

A. NJPDES CSO Permit Overview:

The existing NJPDES CSO Permit as issued to JMEUC on March 12, 2015 (2015 NJPDES CSO Permit) includes NMC and LTCP conditions, consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C, and also includes a requirement to submit an LTCP. This renewal permit serves to assess compliance with the enhanced NMC conditions and LTCP requirements as well as to incorporate CSO controls to meet a minimum wet weather percent capture with an implementation schedule.

B. Components of Nine Minimum Controls:

1. Proper Operation and Maintenance Programs for the Sewer System and CSOs

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the permittee to implement and update annually, an Operations & Maintenance (O&M) Manual including an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12. The O&M Manual is required in order to ensure that the treatment works, including but not limited to the collection system, CSO outfall, solids/floatables facility, regulators, and related appurtenances, that are owned/operated by the permittee, are operated and maintained in a manner to achieve compliance with all terms and conditions of this permit. Additionally, Part IV.F.1 required the permittee to characterize the entire collection system, delineate characterization information in GIS, create Standard Operating Procedures (SOPs) for operations, inspections and schedule preventative maintenance, including the development of an Emergency Plan, and an Asset Management Plan. The Asset Management Plan serves to demonstrate that 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.

Changes were incorporated to Part IV.F.1.h. of this section in a major permit modification dated May 1, 2020. Specifically, this condition was modified to clarify that a schedule regarding identification of infiltration and inflow (I/I) were most relevant as a LTCP measure and Part IV.G.4 was modified as well.

Renewal Permit Requirements for Operation and Maintenance

The existing 2015 NJPDES CSO permit included enhancements of the NMCs to clarify requirements consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11 Appendix C. Specifically, the CSM Requirements in Part IV.F.1 contains three (3) significant components as follows: (i) O&M Manual; (ii) Emergency Plan; and (iii) Asset Management Plan, which are being continued and further clarified in this permit renewal.

i. The O&M Manual provides system operators of POTWs with the comprehensive guidance, procedures, and the necessary technical references to efficiently operate their treatment works. Proper operation and maintenance includes the implementation of detailed SOPs and corrective/preventive maintenance SOPs within a structured maintenance program, adequate funding, effective management, adequate operator staffing, training and process controls.

ii. The Emergency Plan provides operators of POTWs with the comprehensive guidance and procedures to ensure the safe and effective operation of the treatment works during emergencies or disasters of man-made or natural origin.

iii. The Asset Management Plan is the process to ensure that there is sufficient investment in the CSO control strategy as well as the planned maintenance, needed repair, replacement, and upgrade of the infrastructure for the treatment works.

Additional detail on these three requirements is as follows:

i. O&M Manual

Given that the permittee is incorporating CSO control measures as part of the LTCP, revisions and updates of these components are appropriate. The permittee was and is still required to update the WWTP Operations & Maintenance (O&M) Manual and establish an Asset Management Plan which are required to be kept on-site. The Emergency Plan is also required to be kept on-site. Note that the CSM Requirements in Part IV.F.1 details the requirements related to the entire treatment works, including but not limited to the collection system, CSO outfall, solids/floatables facility, regulators, and related appurtenances including any green infrastructure which are owned/operated by the permittee, whereas the CSM Requirements in Part IV.G.6 outlines new CSO control measures that will require changes to the O&M Manual, Emergency Plan and Asset Management Plan.

In continuation of the enhancements of the NMCs, this renewal permit requires the permittee to maintain and perform regular updates to the Operations & Maintenance (O&M) Manual, on an annual basis. Also, this renewal permit builds upon the 2015 NJPDES CSO permit language to further clarify the requirement pertaining to the O&M Manual for the treatment works. To supplement and improve this permit condition, the Department is enhancing the requirements for the O&M Manual to address certain requirements for the permittee's treatment works. Specifically, to ensure that the treatment works and facilities are being operated and maintained to achieve compliance with the terms and conditions of the discharge permit, the O&M Manual must include, but is not limited to, the following details for the treatment works and facilities owned/operated by permittees:

- Normal operating positions, alternate operating positions;
- Start-up, shut-down, and draining procedures;
- Process control;
- Fail-safe features;
- Emergency operation procedures;
- Common operating and control problems;
- Out-of-service procedures;
- Instrumentation and controls descriptions; and
- Engineering design information.

The O&M Manual must provide the schedules and procedures pertaining to the preventative maintenance program and corrective maintenance procedures, or references to these procedures in the manufacturer's maintenance manuals for the treatment works' infrastructure. The permittee shall include in the O&M Program and corresponding Manual, a System Cleaning Program which is designed to ensure the entire collection system, including, but not limited to, outfalls and regulators, is sufficiently clean in order to function properly and minimize CSO-related street flooding which can include overflows to basements, streets and other public and private areas. Ensuring the entire collection system is sufficiently clean can be done through regular inspection and, if necessary, cleaning. Such inspection and cleaning should be done, such that within five years, the entire system has been covered where the length of the system shall be defined in linear feet/miles. Specifically, JMEUC's sewer system, as it pertains to the combined sewer system, consists of the incoming trunk sewer that begins approximately 1,300 feet upstream of the wastewater treatment facility. The System Cleaning Program shall also include an annual certification to be sent to NJDEP that a minimum of 20% of the system (by linear feet/miles) shall have been inspected and, if necessary, cleaned, within the last year. Alternatively, if less than 20% of the system has been completed within the last year, a statement of

how much of the system was inspected and, if necessary, cleaned, within the last year and a plan to ensure that 100% of the system is inspected and if necessary cleaned, by the expiration date of the permit.

ii. Emergency Plan

Additionally, this renewal permit enhances the requirements to maintain and perform regular updates to the Emergency Plan, as necessary. To ensure effective operation of the treatment works and facilities under emergency conditions, including those due to climate change, the Emergency Plan must include a Vulnerability Analysis. The Vulnerability Analysis is intended to estimate the degree to which the treatment works and facilities would be adversely affected by each type of emergency situation which could reasonably be expected to occur including, but not limited to, those emergencies caused by natural disaster; extreme weather events, including those as a result of climate change; civil disorder; strike; sabotage; faulty maintenance; negligent operation or accident. A Vulnerability Analysis shall include, but is not limited to, an estimate of the effects of such an emergency upon the following:

- Power supply;
- Communication;
- Equipment;
- Supplies;
- Personnel;
- Security; and
- Emergency procedures to be followed.

The Emergency Plan shall include SOPs which will ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events, which could be due to climate change, and extended periods of no power. The Department's Emergency Response Preparedness/Planning Guidance and Best Practices can be found at: https://www.nj.gov/dep/dwq/erp_home.htm.

iii. Asset Management Plan

Furthermore, this renewal permit enhances the requirements to maintain and perform regular updates to the Asset Management Plan, as necessary. An Asset Management Plan must incorporate detailed asset inventories, operation and maintenance tasks and a long-range financial planning strategy and to ensure that annual revenue reserves and reinvestment are sufficient to facilitate long-term viability of the treatment works and facilities. The Asset Management Plan must include, but not limited to, the following details:

- Asset inventory/mapping and condition assessment;
- Level of service;
- Criticality/prioritization assessment;
- Life-cycle costing; and
- Long-term funding strategy of the treatment works and facilities.

The Department's Asset Management Technical Guidance can be found at: https://www.nj.gov/dep/assetmanagement/pdf/asset-management-plan-guidance.pdf.

These enhanced permit conditions for all three components are included in the CSM Requirements in Part IV.F.1.

2. Maximum Use of the Collection System for Storage

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included permit conditions requiring use of the entire collection system owned/operated by the permittee to be used for in-line storage of sewage for future conveyance to the STP when sewer system flows subside. In summary, the 2015 NJPDES CSO permit required that the collection system be used to store as much flow as possible without causing CSO-related flooding and basement back-ups. This includes maintaining the ability of wastewater to flow freely into and through the system and continuing to evaluate the system for additional storage so that the collection system and STP convey and treat flows to meet the requirements of the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

Renewal Permit Requirements for Maximum Use of the Collection System for Storage

This renewal permit action continues the requirement for the maximum use of the collection system for storage so that the collection system can store as much flow as possible and minimize CSO discharges without causing CSO-related flooding. The renewal permit requires maintaining the ability of wastewater to flow freely into and through the system while also requiring the permittee to evaluate the system for additional storage so that the collection system and STP work together to convey and treat flows to meet the requirements of the Federal CSO Control Policy and NJPDES Regulations. These requirements can be categorized as follows:

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 (i.e. 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., Proper Operation and Regular Maintenance Program Requirements and F.7., Pollution Prevention.

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, to enable appropriate segments of the collection system owned/operated by the permittee to store additional wet weather flows to reduce any CSOs until downstream sewers and treatment facilities can adequately convey and treat the flows.

This condition is included in the CSM Requirements in Part IV.F.2.

3. Review and Modification of Pretreatment Requirements to Assure CSO impacts are Minimized

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding the review and modification of pretreatment requirements. Changes were incorporated to Part IV.F.7.c. of this section in a major permit modification dated May 1, 2020 to improve this language and to clarify the Department's expectations.

Renewal Permit Requirements for Pretreatment Requirements

To ensure consistency with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C, the Department has retained Part IV.F.3 in the renewal permit with language modifications to emphasize the prioritization of O&M measures. This language is as follows:

a. For the SIU dischargers upstream of any CSO outfall which is owned/operated by the permittee, the permittee shall: (1) determine the locations of the SIUs; (2) identify the CSO outfalls associated with each of the SIUs; and (3) determine the discharge volume and loading of SIU-permitted parameters for each SIU. In the case of a municipal permittee or non-delegated STP permittee, information to satisfy (1) and (3) shall be obtained from the delegated local agency that regulates the SIU or, if there is no delegated local agency, from the Department. This information shall be used to prioritize O&M activities in portions of the CSS affected by SIU discharges.

b. The permittee shall require SIUs upstream of any CSO outfall which is owned/operated by the Permittee to investigate ways to minimize their discharges during wet weather and report their findings to the permittee.

c. The permittee shall establish agreements with SIUs upstream of any CSO outfall which is owned or operated by the permittee or ordinances specifying that the SIUs (especially for batch discharges, non-continuous dischargers) should restrict discharges to the extent practical during wet weather periods.

This condition is included in the CSM Requirements in Part IV.F.3.

4. Maximization of Flow to the POTW for Treatment

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the operation and maintenance of the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize the conveyance of wastewater to the STP for treatment subject to existing capacity. The permittee was required to evaluate and implement alternatives for increasing flow to the STP. These alternatives included capacity evaluations of the entire collection system owned/operated by the permittee that conveys flows to the treatment works to determine the maximum amount of flow that can be stored and transported as well as the identification of other activities conducted and/or planned to further maximize flow to the POTW.

Renewal Permit Requirements for Maximization of Flow to the POTW for Treatment

The Department has determined that the existing permit condition related to Maximization of Flow to the POTW for Treatment is still applicable to ensure the ongoing operation of the system in an effective manner and to ensure that the CSO controls are properly implemented to address the Presumption Approach as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. However, this permit condition requires updates to reflect the work completed as part of the LTCP. As a result, this renewal permit action continues the requirement to maximize the conveyance of wastewater to the STP for treatment with wording modifications. This includes the operation and maintenance of the collection system to increase flow to the STP in order to convey and treat flows to meet the requirements of the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

This condition is included in the CSM Requirements in Part IV.F.4.

5. Prohibition of CSOs During Dry Weather

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit as issued to permittees who own/operate CSO outfalls includes a permit condition regarding the prohibition of dry weather overflows at Part IV.F.5 where the term "dry weather overflow" is defined within the permit as follows:

> "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 include the

following flows: domestic sewage, dewatering activities, commercial and industrial wastewater, ground water and tidal infiltration upstream of the regulator, and any other non-precipitation event related flows downstream of the regulator to the outfall pipe.

Groundwater infiltration and tidal infiltration originating downstream of the regulator are allowable sources of discharges from a CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances. Such use must be specifically approved by the Department."

Renewal Permit Requirements for Prohibition of CSOs During Dry Weather

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.5 is included in the existing permit as follows:

a. The permittee shall operate the system in such a way that it does not cause any dry weather overflow from the collection system owned/operated by other permittees in the hydraulically connected system.

This condition is included in the CSM Requirements in Part IV.F.5.

6. Control of Solid and Floatable Materials in CSOs

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit as issued to permittees who own/operate CSO outfalls includes a permit condition to incorporate requirements regarding the capture and remove solids/floatables which cannot pass through a bar screen having a bar or netting spacing of 0.5 inches or less. The permit further stipulates that this cannot be achieved by reducing the particle size of the solids/floatables. Captured debris shall be removed as necessary to ensure that there will be no flow restrictions during the next CSO discharge event and captured debris must be disposed of properly.

Renewal Permit Requirements for Control of Solid and Floatable Materials in CSOs

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.6 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

This condition is included in the CSM Requirements in Part IV.F.6.

7. Pollution Prevention

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding implementation and upgrade of pollution prevention measures to prevent and limit contaminants from entering the collection system owned/operated by the permittee that conveys flows to the treatment works. Further, the permittee is required to enforce rules and regulations on illegal connections and unauthorized discharges into the POTW. Finally, the permittee was required to submit a schedule to revise applicable rules, ordinances and sewer use agreements to address the reduction of I/I into the collection system in accordance with Part IV.F.1.h.

Changes were incorporated to Part IV.F.7 in a major permit modification dated May 1, 2020. Specifically, this condition was modified to clarify that a schedule regarding identification of infiltration and inflow (I/I) were most relevant as a LTCP measure and Part IV.G.4 was modified as well.

Renewal Permit Requirements for Pollution Prevention

The Department has determined that the existing permit conditions related to pollution prevention are still applicable as these conditions are reflective of good operating practices. In addition, some of these conditions are already required by other regulatory mechanisms (i.e., solid waste collection and recycling ordinances). NJPDES CSO permit language regarding Pollutant Prevention is consistent with the NJPDES MS4 permit, pursuant to N.J.A.C. 7:14A-24, as is applicable to those portions of the town that are separately sewered.

This condition is included in the CSM Requirements in Part IV.F.7 as follows:

a. The permittee shall to continue to encourage municipalities 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 A, where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating of chip sealing with asphalt emulsion or a thin base of hot bitumen) or alterations of facilities owned/operated by the permittee. Any exemptions to this standard are listed in Appendix A.
   iii. Implementation of stormwater pollution prevention rules and ordinances.
   iv. Implementation of solid waste collection and recycling ordinances.
   v. Implementation of public education programs.

b. The permittee shall enforce street litter ordinances and rules and regulations on illegal connections and unauthorized discharge(s) into the POTW.

This condition is included in the CSM Requirements in Part IV.F.7.

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

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit as issued to permittees who own/operate CSO outfalls includes two permit conditions regarding public notification. The first of these involves posting CSO Identification Signs at every CSO outfall. The permit specifies how the signs should be installed, the size of the signs and what the signs must display. The second set of permit conditions regarding public notification are related to informing the affected public of where CSOs may be occurring based on rainfall data. The permit lists measures that can be taken by the permittee in order to inform the public of CSOs, including by website.

Renewal Permit Requirements for Public Notification

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.8 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

This condition is included in the CSM Requirements in Part IV.F.8.

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

The 2015 NJPDES CSO permit as issued to permittees who own/operate CSO outfalls requires the permittee to monitor the CSO discharge events and record the date, "duration of discharge", rainfall, location of rain gauge, and quantity of solids/floatables removed for each CSO and discharge event. See also: https://www.nj.gov/dep/dwq/pdf/cso-quick-guide-dmr.pdf. Flow information can be assessed through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, where the required information shall be reported on the monitoring report form (MRF).

Renewal Permit Requirements for Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.9 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

This condition is included in the CSM Requirements in Part IV.F.9. See also the CSM Requirements in Part IV G.4. for a discussion of STP improvements that will result in a reduction of CSO discharges.

C. Components of Long Term Control Plan (LTCP):

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

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit requires the permittee to characterize their sewer system and CSO discharges as part of the LTCP. The purpose of this characterization was to review the entire collection system as well as to identify all CSO outfalls and water quality impacts from CSO outfalls. Major elements of the characterization include: 1) rainfall records, 2) any activity necessary to understand the CSO discharges including sensitive areas and pollution sources (such as Significant Industrial Users (SIUs)), 3) monitoring data from CSO discharges and ambient in-stream monitoring data for pathogens, 4) modeling, and 5) identification of sensitive areas. The 2015 NJPDES CSO permit also encouraged the use of previously submitted studies, when appropriate.

A work plan was required to be submitted by January 1, 2016, followed by a System Characterization Report to be submitted by July 1, 2018.

Summary of Compliance with 2015 Permit Requirement

The City of Elizabeth's (City) wastewater and stormwater collection and conveyance system consists of a complex network. Much of the City has combined sewers that collect and convey sanitary and stormwater flows in the same conduit. However, in certain areas, sanitary flows are conveyed in a separate (sanitary) sewer system connected to interceptors, while stormwater runoff is conveyed by separate storm sewers and drainage channels. The combined sewer system coverage represents approximately 52.3% of the total 12.3 square miles of land area within the City. However, in terms of sewer lengths, approximately 78% of the total 213 miles of pipe (including sewer mains, outfalls, interceptors, and force mains, but not building sewers and laterals) is comprised of combined sewers, while 18% is classified as separate storm sewers and 4% is classified as separate sanitary sewer. In general, the major facilities of Elizabeth sewer system include:

- Approximately 160 miles of combined gravity sewer mains and trunks, with an estimated 6,400 manholes and 3,300 inlets and catch basins associated with these lines.

- Approximately 9.5 miles of separate sanitary sewers, with about 310 manholes associated with these lines.
- Approximately 38 miles of separate storm sewers, with an estimated 700 manholes and 1,700 inlets and catch basins associated with these lines.
- Twenty-nine (29) permitted CSO outfall discharge points, 38 regulator and diversion structures, and associated solids/floatables control facilities and tide gate chambers.
- Two (2) intercepting sewer lines, totaling 6.6 miles: 4.3 miles for the Easterly Interceptor and 2.3 miles for the Westerly Interceptor.
- A total of 9 pumping stations: 3 sewage pumping stations and 6 stormwater pumping stations.
- Stormwater drainage ditches and channels that convey stormwater as well as combined sewer overflows in certain locations to receiving waters.

Except for flows from sewers directly connected to the JMEUC trunk sewers, wastewater is collected and conveyed by 2 City owned intercepting sewers serving the easterly and westerly portions of the City These intercepting sewers flow to the Trenton Avenue Pumping Station (TAPS), which is the City's main pumping station located along the west bank of the Elizabeth River in the southern end of the City and only separated from JMEUC by the New Jersey Turnpike. During wet weather conditions, a certain amount of combined sewage is conveyed through the interceptors to the TAPS and pumped to the JMEUC for treatment. Combined sewage flows over the allowable pumping rate and the collection system conveyance and storage capacities are diverted at regulator structures to the permitted CSO outfalls.

A work plan, entitled "Sewer System Characterization Work Plan: Quality Assurance Project Plan" dated December 2015 and revised June 2016, was submitted to the Department. Given the extent and complexity of the combined sewer system, the City performed a precipitation and sewer flow monitoring program to generate sufficient data on actual physical conditions that are needed to calibrate and validate a collection system hydrologic and hydraulic (H&H) model. Per the approved System Characterization QAPP, 40 continuous flow meters, 3 rain gauges, 2 tide gauges, 14 tide gate contact switches, and 2 groundwater level monitors were installed throughout the system for the monitoring period of August 22, 2015 through December 21, 2015. The 40 flow meter locations were distributed as follows: 14 meters on incoming combined sewers upstream of overflow control structures; 10 meters on overflow outfall lines; 6 meters along the Easterly Interceptor; 6 meters along the Westerly Interceptor; and 4 meters on storm sewer lines. The flow meters recorded the flow depth, velocity, and flow data in 5-minute intervals throughout the 4-month monitoring period. The installed rain gauge network provided adequate precipitation monitoring coverage to capture and characterize intense and spatially variable storm events across the overall sewershed. During the monitoring period, a total of 10 precipitation events occurred, varying in duration from 2.8 to 46 hours and in peak intensity from 0.07 to 0.76 inches per hour (in/hr). Various periods of dry weather conditions, defined as a minimum of 3 days of no precipitation following a rainfall exceeding 0.25 inches, or two days of no precipitation following a rainfall 0.25 inches or less, were captured within the monitoring period.

The System Characterization QAPP was followed by the submission of system characterization reports, namely, System Characterization Report for the City dated the June 27, 2018 and revised December 5, 2018, and the System Characterization Report for JMEUC dated June 27, 2018 and revised December 5, 2018. As part of the System Characterization Report, a hydrologic and hydraulic (H&H) computer model of the sewer system was created collaboratively by the City and JMEUC. The H&H model serves as the basic tool for evaluating alternatives and demonstrating compliance with certain regulatory criteria for CSO control. It was used to simulate the hydraulic performance, including overflow statistics, under the existing sewer system configuration and to evaluate the predicted performance under a range of CSO control alternatives. The characterization of the City's combined sewer system centers on generating, calibrating, and validating this detailed computer model of the collection system to assess the existing system's response to wet weather

events. As a result, the existing CSS performance relative to volume, frequency, and duration of overflows on a system-wide, annual average basis was simulated.

Subsequent to the DEAR submitted on June 28, 2019 (described below), evaluation and updates have been made to the original LTCP model to reflect the latest data available as well as current system understanding. Special attention was given to stormwater systems and their connections to combined sewer conduits. The Updated Model estimates the total overflow volume discharged annually from the existing combined sewer regulators on a system-wide basis as 866 million gallons (MG), which is a reduction of 202 MG from the value in the previous report. However, the volume flowing into the regulators during wet weather conditions also decreased, which results in a lower baseline percent capture performance level. When evaluating the combined sewer system performance under future baseline conditions, population projections through Year 2050 were evaluated and base sanitary flows to the system were increased accordingly. The performance of proposed CSO control alternatives were modeled with the future base sanitary flow conditions. The Department acknowledges these updates to the modeling and that the above values represent slightly more conservative baseline results.

Department's Determination on the existing Part IV.G.1

The information above was submitted to comply with the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement. This information was utilized to develop the H&H model which was then used to assess minimum wet weather percent capture.

The Department has determined that the permittee submitted sufficient information to comply with the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement. The Department approved the System Characterization Reports on March 5, 2019.

Renewal Permit Requirements for Characterization, Monitoring and Modeling of the Combined Sewer System

This renewal permit includes information in the CSM Requirements in Part IV.G.1 to inform the status of the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement; to acknowledge submittals received; and to highlight major report elements.

2. Public Participation

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit requires the permittee to engage in public participation and to submit a Public Participation Process report within 36 months from the effective date of the permit on July 1, 2018. The purpose of this requirement is to 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. The Public Participation Process Plan was required to include the following elements:

- Conduct outreach to inform the affected/interested public (during the development of the permittee's LTCP) through various methods which may include: public meetings, direct mailers, billing inserts, newsletters, press releases to the media, postings of information on the permittee's website, hotline, development of advisory committees, etc.; and

- Invite members of the affected/interested public to join a Supplemental CSO Team to work with the permittee's assigned staff, consultants and/or contractors.

Regarding the establishment of the Supplemental CSO Team, this team was required to work as an informal work group as a liaison between the general public and the decision makers for the permittee regarding the

planning and development of CSO control alternatives. As outlined in the 2015 NJPDES CSO permit, the goals of the Supplemental CSO Team could consist of the following elements:

- Meet periodically to assist in the sharing of information, and to provide input to the planning process;
- Review the proposed nature and extent of data and information to be collected during LTCP development;
- Provide input for consideration in the evaluation of CSO control alternatives; and
- Provide input for consideration in the selection of those CSO controls that will cost effectively meet the Clean Water Act (CWA) requirements

Summary of Compliance with 2015 Permit Requirement

The permittee conducted and participated in a broad range of activities to comply with Part IV.G.2 in order to implement a public participation process to actively involve the public. As stated within the LTCP, the project team endeavored to provide opportunities for public education and awareness as well as to gain feedback on CSO control alternatives. A report, entitled, "Public Participation Process Report" dated June 2018 and revised November 2018 was submitted to the Department and outlines public participation activities that were conducted to assist with the LTCP. This report was approved by the Department on February 7, 2019. Public participation activities between June 2018 and June 2019 are summarized in the "Development and Evaluation of Alternatives Report" dated June 2019.

The following is a summary of the major elements of the public participation process for the City and JMEUC:

- A Supplemental CSO Team was formed to provide input on the planning process and to serve as points of connection to the larger community. Much of the meetings have been informational in nature, exposing the members to the characteristics of the sewer systems, combined sewer overflows, the planning approach and the CSO Permit requirements, such as the public participation process. This educational effort assists in establishing an understanding of the LTCP issues and challenges for the team members so that they can indicate and facilitate discussions of these issues and challenges within their organizations, groups, and communities.
- Throughout development of the LTCP, many meetings were conducted (all presentation materials included in Appendix A of the LTCP). Most meetings included poll questions to solicit feedback electronically through an interactive web-based survey to allow anonymous responses and results in real-time. Dates of the meetings are as follows:
    - June 9, 2017
    - October 11, 2017
    - January 29, 2018
    - June 5, 2018
    - October 26, 2018
    - January 30, 2019
    - April 11, 2019
    - June 7, 2019
    - January 23, 2020
    - August 26, 2020
- Other public participation activities for the permittees include the following:

- Presentation to City Council and JMEUC board officials to review options for controlling CSOs and to obtain input on constituent outreach.

- Assistance to EPA in the pilot testing of their "CSO Model for Small Communities" through sharing of spatial and monitoring data namely flow metering precipitation and tidal time series data, and GIS databases of outfalls, sewer networks, manholes and drainage basins. The City also offered additional support to help EPA refine and calibrate the model for application in communities that do not have the resources to develop their own CSO model.

- As part of NJ CSO Group, an online CSO notification system has been developed (https://njcso.hdrgateway.com/) as a public information tool advising on the status of CSO occurrences in the City of Elizabeth and certain other communities participating in the NJ CSO Group. The website provides up-to-date information regarding where CSO discharges may be occurring or the likeliness of discharges occurring in the City of Elizabeth.

- The City of Elizabeth maintains a page on the Division of Engineering website (http://www.elizabethnj.org/engineering-division) which includes information on the CSO control plan, the municipal stormwater management plan, the stormwater pollution prevention plan, sewer system mapping, and a link to the CSO notification webpage. Informational handouts on CSOs, green infrastructure, and other educational information is also posted on the website.

- The JMEUC website also includes a public outreach section, which has information about water infrastructure, sewer rates, F.R.O.G. (fats, roots, oil, and grease), and scheduling of plant tours.

- The City of Elizabeth maintains a Twitter page followed by over 2,200 users and a Facebook page followed by over 9,700 users. With such a large following, the permittees may use these two social media platforms to post educational information about CSOs as well as to advertise any educational events or opportunities to provide input on the LTCP process and CSO alternatives.

- Rain garden installations at the urban green space at Trumbull Street and as part of the Kenah Field Park improvements are labeled with signs explaining the function and purpose of green infrastructure as a strategy in stormwater management.

- The permittees have been participating in various events to educate the public including working with school groups and community organizations as follows:

  - The City has been an active participant in semi-annual education events (Environmental Day and Estuary Day) hosted by Future City Inc., which aims to facilitate sustainable environmental and community development. At these events, the City hosts educational sessions for middle and high school students on the topics of combined sewers, green infrastructure, stormwater management, water quality, rainfall infiltration on different types of land surface, and the structure and function of rain gardens.

  - The City participates in the annual Union County Bio-Blitz event which is held to raise awareness among children and adults about nature conservation in County parks.

- News media can serve as a connector to various community sectors and the greater public, as it may be the primary source of information for certain constituents. News releases have been published by the City for notable CSO-related projects such as the urban green space and stormwater storage facilities at Trumbull Street and the rain garden which was installed as part of the Kenah Field Park improvements. A press release (enclosed in the Appendix C) was circulated in May 2017 for the Trumbull Street Flood Control project, which provides information to city residents and stakeholders on the purpose, methods, funding and design components of the project. The City Engineer also gave

an interview with *TAPintoElizabeth*, an online neighborhood news website, to explain the Trumbull Street project.

Department's Determination on the existing Part IV.G.2

Based on the above, the Department has determined that the permittee has conducted comprehensive public participation activities in compliance with Part IV.G.2.

Renewal Permit Requirements for Public Engagement

The Department is committed to active public outreach and engagement during the planning, design, and construction of CSO control projects. Future public participation should be designed to inform, educate and engage specific to implementation of the CSO control projects included in the Implementation Schedule. Future public participation should include the education of the public about the status of the program; document progress in implementing the program; and inform neighborhood residents before, during, and after construction. Public outreach and engagement are also critical to report on progress in reducing CSOs and improving water quality as a result of the program.

Renewal permit conditions regarding Public Outreach and Engagement specific to the CSO control projects specified in the CSM Requirements in Part IV.G.4 are as follows:

- The permittee shall conduct a public engagement process to inform, educate and engage members of the communities. The goal of this process is to generate participation and collect input from the interested public.

- The permittee shall continue to utilize the Supplemental CSO Team to serve as a liaison between the general public and the decision makers for the permittee regarding the implementation of the CSO control alternatives.

- The permittee is required to hold regular public meetings in order to:

    - Inform the interested public of the ongoing process of implementing the LTCP including reports of project status and its present impact on the local community.

    - Continue to identify areas of combined sewer related flooding.

    - Allow the interested public an opportunity to provide input on the siting of GI as required by the permit.

    - Engage the interested public in solutions they can implement to reduce CSOs. Examples may include an adopt-a-catch-basin program, rain barrels, water conservation, the removal of impervious surfaces, and the installation of green infrastructure projects.

- The frequency of meetings shall be determined by the milestones in the Implementation Schedule (See G.8.) and by input from the interested public. Meeting frequency may subsequently be adjusted based on documented attendance. Meetings should be held with accessibility for the interested public in mind. This may include varying start times and attendance options (availability of public transit or parking and virtual meetings), as fits the needs of the interested public.

- For each LTCP, permittees must designate one LTCP outreach coordinator. This coordinator (or any another person designated by the permittee) should be available to maintain regular communication with the interested public including, but not limited to:

- Maintain a website that acts as a clearinghouse for information regarding implementation of the LTCP.
    - The website should also encourage public engagement and include a platform for the interested public to sign up and attend any meetings.
    - The website should also post any progress reports required to be submitted by this permit.
    - The website must also list the construction status of any project identified in the Implementation Schedule in Section G.8. below.
- Engage the interested public in order to solicit individuals who are willing to become involved.
- Post meeting invitations (including dates and times) at least two weeks in advance.
- Post handouts or other meeting materials shortly after the meeting.
- Make data available on the amount of public feedback received including the number of meeting attendees.
- Any project identified in the Implementation Schedule in Section G.8. below must display signage indicating that the project is required by the LTCP.

- Public meetings should be live streamed and made available to the interested public for viewing afterwards.
- Outreach materials, including physical handouts and websites, should be produced in the language(s) appropriate to the majority of community demographics.
- The permittee should reach out to overburdened communities within combined sewer service areas (see the New Jersey Environmental Justice Mapping Tool at https://www.nj.gov/dep/ej/communities.html) in order to solicit representation and engagement.

3. Consideration of Sensitive Areas

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit includes a permit condition regarding Consideration of Sensitive Areas as part of the LTCP. Specifically, the permittee is required to give the highest priority of controlling CSOs to sensitive areas, consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. Sensitive areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters used for primary contact recreation (including but not limited to bathing beaches), public drinking water intakes or their designated protection areas, and shellfish beds. As a result, the permittee's LTCP was required to prohibit new or significantly increased CSOs and to eliminate or relocate CSOs that discharge to sensitive areas wherever physically possible and economically achievable. Additionally, where elimination or relocation is not physically possible and economically achievable, or would provide less environmental protection than additional treatment, the permittee is required to provide the level of treatment for the remaining CSOs deemed necessary to meet water quality standards for full protection of existing and designated uses.

Summary of Compliance with the 2015 Permit Requirement

In accordance with Part IV.D.3.b.iv of the existing NJPDES permit, the permittee was required to submit a Consideration of Sensitive Areas report within 36 months from the effective date of the permit. The permittee,

cooperatively with the NJ CSO Group submitted the "Identification of Sensitive Areas Report" dated June 2018. The report included a comprehensive review of online databases, correspondence with regulatory agencies, direct observations, and local environmental organizations to identify potential Sensitive Areas within the Study Area. For the purposes of this report, the Sensitive Areas Study Area (Study Area) includes the combined sewer service areas, including all receiving and adjacent downstream waters that may be potentially affected by CSOs, from the various combined sewer service areas of the NJ CSO Group. Affected waters include the Passaic River, Hackensack River, Newark Bay, Hudson River, Kill Van Kull, Arthur Kill, Raritan River or Raritan Bay as well as their tributaries within the Study Area of this report.

The Department issued findings in technical comment letters on September 20, 2019 and March 1, 2019 which subsequently resulted in revisions to the report on October 19, 2018, January 31, 2019, and March 29, 2019. The Department's findings included concurrence that there are no Outstanding National Resource Waters or National Marine Sanctuaries within the Study Area; there are no active surface water intakes used for drinking water in New Jersey in the vicinity of the CSO outfalls; and there are no operational shellfish beds in the vicinity of the CSO outfalls at this time.

The Department determined in its April 8, 2019 approval letter that the Identification of Sensitive Areas Report sufficiently addressed all review elements for the Consideration of Sensitive Areas as included in the existing NJPDES permit.

Renewal Permit Requirements for Consideration of Sensitive Areas

This renewal permit action requires CSO control measures to be implemented consistent with the Presumption Approach within the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

4. Evaluation of Alternatives

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit required the permittees to evaluate a range of CSO control alternatives to meet the requirements of the Clean Water Act (CWA) using either the Presumption Approach or the Demonstration Approach, as part of the LTCP. The CSO control alternatives that were specified in the 2015 NJPDES CSO permit included: green infrastructure; increased storage capacity in the collection system; STP expansion and/or storage at the plant; I/I reduction; sewer separation; treatment of the CSO discharge; and CSO related bypass of the secondary treatment of the STP. In the evaluation of each CSO control alternative, the permittee was required to use hydrologic, hydraulic and water quality models to simulate the existing conditions and the conditions after construction and operation of the chosen alternative(s). Subsequent to evaluating the CSO control alternatives, the permittees were required to choose an approach to ensure that the requirements of the CWA are met for each group of hydraulically connected CSOs.

The "Presumption Approach" is a program that presumes to provide an adequate level of control to meet the water quality-based requirements of the CWA. To utilize this approach, the permittee was required to demonstrate any of the following criteria:

- No more than an average of four overflow events per year from a hydraulically connected system;
- The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected during precipitation events on a hydraulically connected system-wide annual average basis; or
- The elimination or removal of no less than the mass of the pollutants identified as causing water quality impairment.

The "Demonstration Approach" is a program that does not meet the criteria of the Presumption Approach but demonstrates that a selected control program is adequate to meet the water quality-based requirements of the CWA. To utilize this approach, the permittee would be required to demonstrate each of the following:

- The planned control program is adequate to meet Water Quality Standards and protect designated uses unless water quality standards or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs;
- The CSO discharges remaining after implementation of the control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment;
- The planned control program will provide the maximum pollution reduction benefits attainable; and
- 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.

Changes were incorporated to Part IV.G.4 in a major permit modification dated May 1, 2020. Specifically, this condition was modified to clarify that requirements pertaining to the identification of infiltration and inflow (I/I) as originally included in Part IV.F.1.h were more relevant as a LTCP measure in Part IV.G.4.

Summary of Compliance with the 2015 Permit Requirement

Development and Evaluation of Alternatives Report (DEAR):

Prior to the submission of the LTCP, the permittees were required to submit a DEAR. The objective of the DEAR submission is to provide a comprehensive evaluation of CSO control alternatives that will enable the selection of alternatives to ensure the CSO controls will meet the Clean Water Act; will be protective of the existing and designated uses; give the highest priority to controlling CSOs to sensitive areas; and address minimizing impacts from SIU discharges. The DEAR is supported by several foundational studies as submitted by the permittee that culminated with the preparation of the LTCP.

The percent capture equation specified in Section 3.4.2 "Percent Capture Calculations" of the revised DEAR is as follows:

$$Percent\ Capture = \frac{(Total\ System\ Wet\ Weather\ Inflow - Total\ CSO\ Volume)}{(Total\ System\ Wet\ Weather\ Inflow)}$$

The DEAR provided sufficient analysis of the required CSO technologies and was approved by the Department on December 13, 2019.

Selected Alternatives in the LTCP:

The Evaluation of Alternatives is supported by several foundational studies as submitted by the permittees that culminated with the preparation of the LTCP. As described within the LTCP, the permittees state that LTCP recommendations are based upon information and evaluations performed during the earlier phases of the planning process, including the characterization of the receiving waters, hydraulic and water quality modeling, screening of CSO control technologies, development and evaluation of alternatives, public participation, and the nine minimum controls.

The selected plan involves a combination of different CSO control strategies, including sewer separation, off-line storage tanks, and green infrastructure, however maximizing conveyance to the existing wastewater treatment facilities and providing additional conveyance and treatment capacity is the primary strategy for CSO volume reduction. The LTCP states that the recommended plan is technically feasible, capable of meeting the control goals, cost-effective, and suitable to the community by mitigating difficult siting challenges and disruptive construction work. The components of the selected plan are outlined as follows:

1. Current and planned stormwater control projects
2. Increased conveyance from existing Trenton Avenue Pumping Station (TAPS)
3. New wet weather pumping station and force main to JMEUC

4. Regulator modifications and interceptor improvements for additional wet weather conveyance
5. New combined sewer flow treatment facility at the JMEUC WWTF
6. Selected sewer separation projects
7. Green infrastructure pilot program

Based on the evaluation findings, increased conveyance is an effective method to minimize CSOs as additional combined sewage can be treated at JMEUC. Additional conveyance from the TAPS up to 55 or 65 MGD with real time controls provides a significant reduction in total system-wide CSO volume. Although major pump station improvements programs would be required, this control alternative option has a low cost per gallon for CSO volume reduction and is expected to have minimal public impact and permitting constraints. Additional conveyance from the City's combined sewer system above this flow rate would necessitate construction of a new CSO treatment train at the JMEUC WWTF and new pumping and conveyance facilities for higher wet weather flows.

A listing of projects is as follows:

Project No.	Project Name	CSO Control Technology
-	Progress Street Stormwater Control Project	Completed stormwater control
-	Trumbull Street Stormwater Control Project	Completed stormwater control
-	South Street Flood Control Project	Completed stormwater control
-	Trenton Avenue Pumping Station - Phase 1 Upgrade	Completed increased conveyance from TAPS
1	Lincoln Avenue Stormwater Drainage Improvements	Current/planned stormwater control
2	South Second Street Stormwater Control	Current/planned stormwater control
3	CSO Basin 012 Sewer Separation	Select sewer separation
4	Atlantic Street CSO Storage Facility	Current/planned stormwater control
5	Park Avenue Stormwater Control	Current/planned stormwater control
6	Green Infrastructure Pilot Program	Green infrastructure pilot program
7	Trenton Avenue Pumping Station - Phase 2 Upgrade	Increased conveyance from TAPS
8	CSO Basin 037 Sewer Separation	Select sewer separation
9	Easterly Interceptor Improvements	Regulator modifications and interceptor improvements for additional conveyance
10	New Wet Weather Pump Station Force Main to JMEUC	New wet weather pump station and force main
11	New Wet Weather Pump Station	New wet weather pump station and force main
12	New CSO WWTF	New combined sewer flow treatment facility
13	Bridge Street Siphon Upgrade	Regulator modifications and interceptor improvements for additional conveyance
14	Palmer Street Branch Interceptor Upgrade	Regulator modifications and interceptor improvements for additional conveyance
15	Palmer Street Siphon Upgrade	Regulator modifications and interceptor improvements for additional conveyance
16	Lower Westerly Interceptor Upgrade	Regulator modifications and interceptor improvements for additional conveyance
17	Pearl Street Branch Interceptor Upgrade	Regulator modifications and interceptor improvements for additional conveyance
18	R027/028 Regulator Modifications	Regulator modifications and interceptor improvements for additional conveyance
19	R040 Regulator Modifications	Regulator modifications and interceptor improvements for additional conveyance
20	Upper Westerly Interceptor Upgrade	Regulator modifications and interceptor improvements for additional conveyance
21	Morris Avenue Siphon Upgrade	Regulator modifications and interceptor improvements for additional conveyance

Compliance with Wet Weather Percent Capture:

The LTCP states that the Presumption Approach has been selected as per Sections 4.8, 7, 11.1, 11.3, and 11.6. The minimum 85% wet weather capture requirement is specified in the Federal CSO Control Policy and the NJPDES permit at Part IV.G.4.f.ii. Percent capture was calculated using the following equation, where wet weather inflow is represented as the sum of base groundwater inflow, sanitary diurnal flow, and wet weather runoff from the contributing area:

$$Percent\ Capture = \frac{(Total\ System\ Wet\ Weather\ Inflow - Total\ CSO\ Volume)}{(Total\ System\ Wet\ Weather\ Inflow)}$$

The percent capture was calculated using two different approaches to defining the Total System Wet Weather Inflow:

(1) Percent capture at the inflow of the Trenton Avenue Pumping Station (TAPS), and
(2) Percent capture at the inflow of the Joint Meeting WWTF.

Table 4-6 below of the revised LTCP summarizes the results from the hydraulic model at two locations as the Baseline System-Wide Percent Capture Performance.

Table 4-6: Baseline System-Wide Percent Capture Performance

Item	Elizabeth system only, TAPS	Full JMEUC system
Total Wet Weather Inflow (MG)	2,150	6,650
Wet Weather Inflow Captured (MG)	1,250	5,750
CSO Volume (MG)	898	898
% Capture	58.2%	86.5%

For comparison, Table 7-7 below of the revised LTCP summarizes the results as the System-Wide Percent Capture after plan implementation:

Table 7-7: System-Wide Percent Capture After Plan Implementation

Item	Elizabeth system only, TAPS	Full JMEUC system
Total Wet Weather Flow (MG)	2,154	4,550
Wet Weather Flow Captured (MG)	1,832	4,228
CSO Volume (MG)	322	322
Percent Capture	85.1 %	92.9 %

Summary:

When evaluating the combined sewer system performance under future baseline conditions, population projections were evaluated and base sanitary flows to the system were increased accordingly. Under the future baseline conditions, a total overflow volume of 898 MG annually system-wide is estimated. The performance of proposed CSO control alternatives were modeled with the future base sanitary flow conditions as an input.

A summary of percent capture over time from Figure 9-2 of the revised LTCP is a follows where an Implementation Schedule is included in Part IV.G.8:

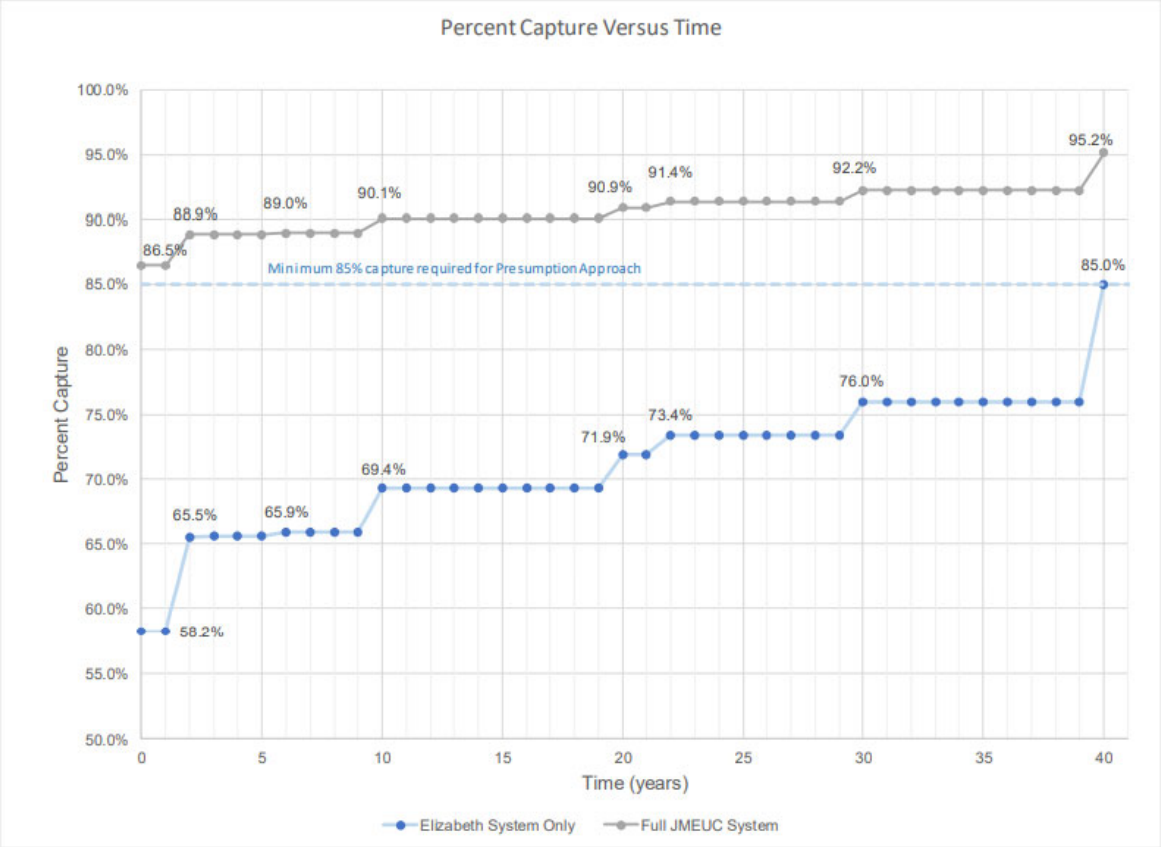


Figure 9-2: Percent Capture Metrics During Implementation Period

The permittee has submitted the required studies that form the basis of the Evaluation of Alternatives where these studies have been previously approved by the Department, as noted in the Contents of the Administrative Record. In addition, the permittee has selected the minimum 85% wet weather capture criteria of the Presumption Approach as a means of compliance with the Federal CSO Control Policy and the NJPDES permit at Part IV.G.4.f.ii. As described within the LTCP, this value will be met through the implementation of CSO control alternatives identified above.

Renewal Permit Requirements for Evaluation of Alternatives

This permit renewal includes an implementation schedule as well as specific requirements to track and assess compliance with the attainment of wet weather percent capture upon completion of the CSO control alternatives. In order to evaluate the performance of the CSO control measures, the permittees are required to demonstrate progress towards a value of 85% wet weather capture at the completion of CSO LTCP measures through the use of the hydrologic and hydraulic model. Please refer to Part IV.G.9 for compliance with this performance criteria.

This condition is included in the CSM Requirements in Part IV.G.4.

5. Cost/Performance

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit includes a permit condition regarding Cost/Performance as part of the LTCP. The Cost/Performance requirement is intended to demonstrate the relationships among proposed control alternatives that correspond to those required in Section G.4. This shall include an analysis to determine where the increment of pollutant reduction achieved in the receiving water diminishes compared to the increased costs. This analysis, often known as the "knee of the curve" analysis, is used in order to help guide the selection of controls. The permittee can use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the required information.

Summary of Compliance with 2015 Permit Requirement

As described in the Executive Summary of the LTCP, capital and operation and maintenance (O&M) cost estimates were prepared, accounting for the proposed control plan components, except for the already completed local stormwater projects. The objective was to balance the schedule for the LTCP implementation with the financial and economic capability of the permittees and ratepayers.

Renewal Permit Requirements for Cost/Performance

In accordance with Part IV.D.3.b. of the existing NJPDES permit, the permittee was required to develop an approvable LTCP. Only capital costs were evaluated for the purposes of the LTCP. The Department is requiring that the permittee complete all projects set forth in the Implementation Schedule included in Part IV.G.8.

This condition is included in the CSM Requirements in Part IV.G.5.

6. Operational Plan

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit included a permit condition regarding the Operational Plan as part of the LTCP in Part IV.G.6.

Summary of Compliance with the 2015 Permit Requirements

As described in Section 10 of the LTCP, entitled "Operational Plan," the City and JMEUC will expand and update their corresponding Operations and Maintenance Program and Manual accordingly as part of the LTCP operational plan, as the proposed CSO control facilities are implemented. The City and JMEUC will continue to review the O&M Program and Manual on an annual basis and make updates to reflect any additional operations and maintenance requirements for new system assets. Training will be provided where necessary, to ensure that staff are able to operate any new CSO control assets.

Renewal Permit Requirements for the Operational Plan

In accordance with N.J.A.C. 7:14A-6.12 of the NJPDES Rules, the permittee must maintain and operate the treatment works and facilities installed by the permittee to achieve compliance with the terms and conditions of the discharge permit. The rules provide that proper operation and maintenance includes, but is not limited to, effective performance; adequate funding; effective management; adequate staffing and training; regularly scheduled inspections and maintenance; and adequate laboratory/process controls.

As the CSO Control Measures are implemented in accordance with the implementation schedule, updates will need to be incorporated to the Operational Plan which includes the O&M Manual, Emergency Plan and Asset

Management Plan. These updates shall address effective performance; adequate funding; effective management; adequate staffing and training; regularly scheduled inspections and maintenance; and adequate laboratory/process controls. In addition, this shall include the operation and maintenance of green infrastructure.

In response to the Department's findings in the technical comment letter dated July 22, 2021, a revision to the LTCP dated October 2020 provided supplemental information to Section 10 of the LTCP. The supplemental information specified that revisions to the O&M manual will be made at least annually to reflect updated information and changes in the LTCP characterization, design, construction, operations, maintenance. These revisions will also include updates to the organization tables, staffing lists, and telephone lists. Finally, budget information will also be updated annually by replacing the proposed budget data with the current year's budget data.

As noted above, the permittee must maintain and operate the treatment works installed by the permittee to achieve compliance with the terms and conditions of the discharge permit pursuant to N.J.A.C. 7:14A-6.12. Part IV.F.1 (Proper Operation and Regular Maintenance Program Requirements) of the existing NJPDES permit, required the permittee to characterize the entire collection system, delineate characterization information in GIS, and create Standard Operating Procedures (SOPs) for operations, inspections, & scheduled preventative maintenance, including an Emergency Plan and incorporate an Asset Management Plan. In addition, Asset Management is the process to ensure that there is sufficient investment in the CSO control strategy as well as the planned maintenance, needed repair, replacement, and upgrade of the physical components of the infrastructure for the treatment works.

This condition has been updated as follows:

a. Throughout implementation of the LTCP as appropriate, the permittee shall modify the Operational Plan, including Operation & Maintenance (O&M) Manual, Emergency Plan, and Asset Management Plan in accordance with F.1., to address the LTCP CSO control facilities and operating strategies, including but not limited to: the implementation, operation, and maintenance of Gray and Green Infrastructure; staffing and budgeting; and I/I. Climate change resilience requirements shall also be considered in the update of these plans.

This condition is included in the CSM Requirements in Part IV.G.6.

7. Maximizing Treatment at the Existing STP

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit included a permit condition regarding Maximizing Treatment at the Existing STP as part of the LTCP. Specifically, this permit condition required a demonstration of the maximization of the removal of pollutants during and after each precipitation event at the STP to ensure that such flows receive treatment to the greatest extent practicable, utilizing existing tankage for storage, while still meeting all permit limits.

Summary of Compliance with 2015 Permit Requirements

The LTCP includes CSO control measures to demonstrate the maximization of the removal of pollutants during and after each precipitation event at the STP. These measures are designed to ensure that such flows receive treatment to the greatest extent practicable utilizing existing tankage for storage, while still meeting all permit limits.

JMEUC and the City have jointly selected projects to increase the pumping and treatment to JMEUC. As an example, the pumping capacity of the TAPS has been increased from 36 MGD to 55 MGD. These

improvements, as well as other improvements, will serve to significantly increase treatment quantity at JMEUC such that wet weather percent capture in the City will be increased.

Renewal Permit Requirements for Maximizing Treatment at the Existing STP

This renewal permit action identifies that adequate and effective CSO control measures are being implemented consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. However, this permit condition has been continued to ensure that construction of the new facility continues, and current practices are maintained to ensure compliance with the Presumption Approach as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. Part IV.G.7 is stated as follows:

a. The permittee shall continue to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize treatment at the hydraulically connected STP.

This condition is included in the CSM Requirements in Part IV.G.7.

8. Implementation Schedule

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit included a permit condition regarding the Implementation Schedule as part of the LTCP which requires the permittee to submit a construction and financing schedule for the implementation of Department approved LTCP CSO controls. This schedule may be phased on the relative importance of the adverse impacts upon water quality standards and designated uses, 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. The permittee is required to begin implementation of the LTCP in accordance with the set schedule. The implementation schedule is required to address yearly milestones for:

- Adequately addressing areas of sewage overflows, including to basements, streets and other public and private areas;
- CSO overflows that discharge to sensitive areas as the highest priority;
- Use impairment of the receiving water;
- The permittee's financial capability (factors shall include: 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, and bond rating);
- Grant and loan availability;
- Previous and current residential, commercial and industrial sewer user fees and rate structures;
- Other viable funding mechanisms and sources of financing;
- Resources necessary to design, construct and/or implement other water related infrastructure improvements as part of an Asset Management Plan.

Summary of Compliance with the 2015 Permit Requirement

The 2015 NJPDES CSO permit required submission of a LTCP with an Implementation Schedule.

Renewal Permit Requirements for Implementation Schedule

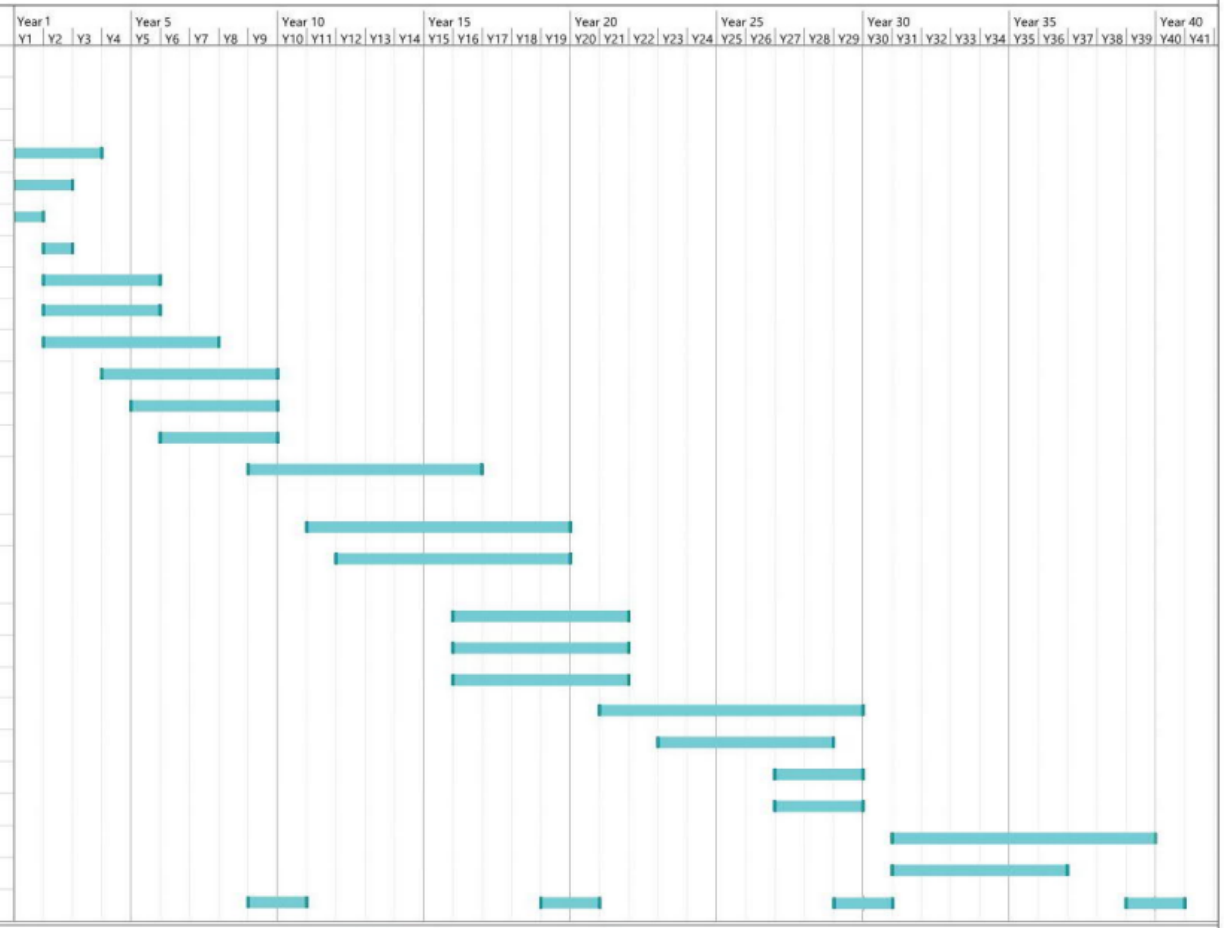
The Implementation Schedule as included in the LTCP is shown below:

City of Elizabeth and
Joint Meeting of Essex
and Union Counties (JMEUC)

Selection and Implementation of Alternatives Report
Long Term Control Plan Implementation Schedule

Combined Sewer Management Permit Compliance
October 2020

ID	Task Mode	Task Name	Project Duration (Years)
1		Progress Street Stormwater Control Project	Completed
2		Trumbull Street Stormwater Control Project	Completed
3		South Street Flood Control Project	Completed
4		South Second Street Stormwater Control	4
5		Lincoln Avenue Stormwater Drainage Improvements	3
6		Trenton Avenue Pump Station - Phase 1 Upgrade	2
7		CSO Basin 012 Sewer Separation	2
8		Atlantic Street CSO Storage Facility	5
9		Park Avenue Stormwater Control	5
10		Green Infrastructure Pilot Program	7
11		Trenton Avenue Pump Station - Phase 2 Upgrade	7
12		CSO Basin 037 Sewer Separation	6
13		Easterly Interceptor Improvements	5
14		New Wet Weather Pump Station Force Main to JMEUC	9
15		New Wet Weather Pump Station	10
16		New Combined Sewer Flow Treatment Facility at JMEUC WWTF	9
17		Bridge Street Siphon Upgrade	7
18		Palmer Street Branch Interceptor Upgrade	7
19		Palmer Street Siphon Upgrade	7
20		Lower Westerly Interceptor Upgrade	10
21		Pearl Street Branch Interceptor Upgrade	7
22		R027/028 Regulator Modifications	4
23		R040 Regulator Modifications	4
24		Upper Westerly Interceptor Upgrade	10
25		Morris Avenue Siphon Upgrade	7
26		Post Construction Compliance Monitoring	2



Project: City of Elizabeth & JME
Date: 09/14/2020

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

Page 1

Figure 9-1: Long Term Control Plan Implementation Schedule

The City of Elizabeth (City) provided the Department with additional information, including interim milestones and a revised Implementation Schedule, on May 5, 2023. The projects to be completed during this 5-year permit cycle are as follows:

Project Name	Activity Due Date (months from EDP)
Progress Street Stormwater Control Project	Completed
Trumbull Street Stormwater Control Project	Completed
South Street Flood Control Project	Completed
Trenton Avenue Pumping Station - Phase 1 Upgrade	Completed
Lincoln Avenue Drainage Improvements Project	Complete construction – EDP + 12 months
South Second Street Stormwater Control Project	Complete construction – EDP + 18 months
CSO Basin 012 Sewer Separation	Complete construction – EDP + 30 months
CSO Basin 037 Sewer Separation	Award detailed design contract – EDP + 48 months
Atlantic Street CSO Storage Facility	Complete construction – EDP + 60 months
Green Infrastructure Pilot Program	Solicit bids for construction – EDP + 60 months
Trenton Avenue Pumping Station – Phase 2 Upgrade	Complete detailed design – EDP + 60 months
Park Avenue Stormwater Control Project[1]	Select project alternative for detailed design – EDP + 30 months
	Award detailed design contract – EDP + 36 months

Footnotes:
[1]Schedule for Park Avenue Stormwater Control Project is contingent on an agreement resolving the Roselle Park storm sewer connection issue being reached in time frame noted. Represents a condition beyond Permittee's control.

The City's renewal permit requires that the City complete the above referenced projects based on the Implementation Schedule. Consistent with the LTCP and Part IV.G.8, the City is hereby required to attain a minimum wet weather percent capture value of 85%. The Department reserves the right to require the permittee to re-evaluate the Implementation Schedule at the end of this 5-year renewal permit action to determine if additional measures are needed in order to comply with 85%.

The City's sewer system conveys flow to the Trenton Avenue Pumping Station (TAPS) and then pumps to the JMEUC WWTF for treatment. JMEUC and the City's combined LTCP specifies a combination of CSO control strategies, including sewer separation, off-line storage tanks, and green infrastructure. However, maximizing conveyance to the JMEUC WWTF and providing additional conveyance and treatment capacity is the primary strategy for CSO volume reduction. A pre-existing contract between JMEUC and the City established a daily peak flow rate of 36 MGD that the City can convey to the JMEUC WWTF. During the development of the LTCP, JMEUC and the City executed a resolution to the contract which increased the daily peak flow rate that the City can convey to the JMEUC WWTF from 36 MGD to 55 MGD. This results in increased flows pumped to the JMEUC WWTF which would otherwise have been discharged untreated from CSO outfalls.

JMEUC shall continue to coordinate with the City to accept additional CSO flows to ensure that the City can attain the required projects set forth in the LTCP and explore revising additional agreements to accept additional flow.

This condition is included in the CSM Requirements in Part IV.G.8.

9. Compliance Monitoring Program

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit includes a permit condition regarding the Compliance Monitoring Program (CMP) which is a component of Part IV.G.1 as well as a separate component of the LTCP. The CMP consists primarily of ambient baseline monitoring to provide a present day evaluation or snapshot of ambient water quality conditions. The 2015 snapshot is to be used as a baseline to compare future evaluations in order to

assure the effectiveness of the CSO control measures. The CMP was required to include the following specific components: 1) ambient in-stream monitoring data, 2) discharge frequency, duration and quality data and 3) rainfall data.

Summary of Compliance with the 2015 Permit Requirement

1) Baseline Sampling - modeled after and intended to supplement the approved routine sampling program of the NJHDG which is a long-standing sampling effort;

2) Source Sampling - targets the major influent streams within the study area to establish non-CSO loadings, and coincides with the NJHDG and Baseline Sampling); and

3) Event Sampling - timed to coincide with rainfall to capture three discrete wet weather events over the course of the year on each segment of the NY-NJ Harbor complex impacted by CSOs.

A total of 23 baseline and source sampling events were completed. The goal of the event sampling was to capture three significant wet weather events (precipitation >0.5 inches in 24 hours) at each targeted location, which was completed across four sampling events (one set of samples was collected across two precipitation events because of sampling logistics). All samples collected were analyzed for fecal coliform and enterococcus; freshwater samples were also analyzed for E. coli.

The Department issued findings in the technical comment letter dated September 7, 2018 which subsequently resulted in a revision to the report on October 5, 2018. The primary goal of the baseline monitoring was to provide a snapshot to characterize the water quality conditions in the NY/NJ Harbor Area to represent baseline and existing conditions. The Department approved the CMP report on March 1, 2019. Specifically, in that letter, the Department determined that the data collection effort, in concert with the ongoing NJHDG monitoring, provided sufficient information for the purposes of data characterization for baseline and existing conditions. In addition, the Department's March 1, 2019 approval letter indicated that the report is not intended to assess attainment of the waterbody against water quality standards at N.J.A.C. 7:9B. Please refer to Part IV.G.1 regarding the Department's comments on hydraulic and hydrological modeling which is also a component of Part IV.G.9.

Renewal Permit Requirements for the Compliance Monitoring Program

The permittee shall implement a Compliance Monitoring Program **(**CMP) adequate to: verify baseline and existing conditions, the effectiveness of CSO control measure, compliance with water quality standards, and protection of designated uses. The portion of the CMP conducted during and after implementation of the LTCP is referred to as the Post Construction Compliance Monitoring Plan (PCCMP). The main elements of the PCCMP shall include:

- A process to determine whether the CSO control measures are meeting the interim required percent capture milestone set forth in the LTCP or the final required percent capture of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events is eliminated or captured for treatment on a system-wide annual average basis as defined in the Federal CSO Policy and N.J.A.C.7:14A-11, Appendix C. The PCCMP shall provide data to evaluate the effectiveness of the CSO control measures constructed during and after the implementation of the LTCP.

- A monitoring schedule, regulator monitoring locations, receiving water sampling locations, and rain gauge locations.

- The approach for analysis of the PCCMP data for assessing the performance of CSO control measures and for reporting progress to regulatory agencies and the general public. The PCCMP shall evaluate the

incremental reduction in overflow rates and volumes as the CSO control measures are placed into operation.

- A Public Notification System to notify the public of the occurrence of combined sewer overflows for each receiving water body.

The PCCMP shall include the implementation of a rainfall and hydraulic monitoring program, as well as a detailed analysis and evaluation of the CSO control measures' efficacy. Through a calibrated/validated hydrologic and hydraulic model, a continuous simulation for the system-wide annual average shall be run by the permittee to compare the remaining CSO discharge volume to baseline conditions and determine whether the CSO control measures have achieved the interim required percent capture or the final required percent capture. Note that any effort to recalibrate the hydrologic and hydraulic model shall be performed after consultation with the Department.

The PCCMP shall use the following steps to determine if the CSO control measures are meeting the interim required percent capture or the final required percent capture:

1) Collect flow monitoring for a 1-year period and rainfall data for a 1-year period during the effective NJPDES permit. Perform QA/QC on the data;

2) At the end of the effective NJPDES permit, update the hydrologic and hydraulic model to include all completed CSO control measures and any other modifications to the CSS since the hydrologic and hydraulic model was calibrated for the LTCP;

3) Calibrate and/or validate the updated hydrologic and hydraulic model, if needed, using the flow and rainfall data collected during the effective NJPDES permit. Any recalibration of the hydrologic and hydraulic model shall be approved by the Department; and

4) Perform continuous simulation using the updated hydrologic and hydraulic model for the system-wide annual average and calculate the percent capture to determine if the interim required percent capture or the final required percent capture is being achieved.

The permittee shall conduct interim post-construction compliance monitoring every five years as established in the LTCP. Such monitoring shall assess the projects and implementation schedule including attainment of percent capture milestones set forth in the LTCP. These projects shall be monitored and analyzed to determine if they are operating as intended and whether the implementation of projects under the LTCP are achieving the interim required percent capture milestones set forth in the LTCP. If the PCCMP determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent criteria, an evaluation must be included in the Adaptive Management Plan in accordance with H. below.

The permittee shall submit an Interim PCCMP Report on or before 54 months from the effective date of the permit (EDP). The report shall include:

- A statement setting forth the deadlines and other terms that the permittees were required to meet in the effective NJPDES permit;

- A summary of principal contacts with the Department during the effective NJPDES permit relating to CSOs or implementation of the LTCP;

- NJPDES permit violations, including but not limited to dry weather overflows;

- A summary of flow and hydraulic monitoring data collected by the permittees during the effective NJPDES permit;

- A description of the CSO control measures completed within the effective NJPDES permit and a projection of CSO control measure work to be performed during the subsequent renewal NJPDES permit;

- An evaluation of the effectiveness of the CSO control measures constructed in the effective NJPDES permit to determine if the interim required percent capture is achieved; and

- A summary of any proposed adjustments to the components of the LTCP.

A Final PCCMP Report shall be submitted to the Department within 30 months after the last LTCP project has been implemented. The single Interim or Final PCCMP Report shall evaluate and document the system-wide performance of the LTCP CSO control measures. The Report shall include an assessment of whether the control measures are meeting the final required percent capture and complying with water quality standards. The report shall include:

- A complete post-construction compliance monitoring period data summary and analysis;

- A reporting of all of the CSO control measures that have been constructed, implemented, and that are in operation;

- An evaluation of the CSO control measures' performance, and whether the controls meet the final required percent capture;

- A description of any actions that were needed to be implemented to meet the interim required percent capture or the final required percent capture; and

- An assessment of whether the control measures are complying with water quality standards.

These conditions are included in the CSM Requirements in Part IV.G.9.

10. Permittee's LTCP Responsibilities

Background of 2015 Permit Requirement

The NJPDES Permits for JMEUC and the City encourage collaboration among Permittees within a hydraulically connected sewer system for the development of the LTCP. Part IV.G.10 of the permit states the following:

a. The permittee is responsible for submitting an LTCP that addresses all nine elements in Part IV.G.

   Where multiple permittees own/operate different portions of a hydraulically connected CSS, the permittee is required to work cooperatively with all other permittees to ensure the LTCPs are consistent. The LTCP documents must be based on the same data, characterization, models, engineering and cost studies, and other information, where appropriate. Each permittee is required to prepare the necessary information for the portion of the hydraulically connected system that the permittee owns/operates and provide this information to the other permittees within the hydraulically connected system in a timely manner for LTCP submission.

Summary of Compliance with 2015 Permit Requirement

As noted in the LTCP in Section 2, JMEUC owns and operates a WWTF which treats wastewater collected in a 65 square mile service area in northern New Jersey. The JMEUC trunk sewer system collects wastewater from a service area which includes eleven member (owner) communities and four customer communities. The JMEUC service area is primarily separately sewered areas, with the only confirmed combined sewer area in the system located within the City of Elizabeth (City). However, a major external connection to the City's combined sewer system consists of a 42" diameter storm sewer from the Borough of Roselle Park. The City provides wastewater and stormwater collection and conveyance services encompasses approximately 12.3 square miles in Union County, New Jersey. This collection and conveyance system consists of an extensive network of intercepting sewers, sewer mains, manholes, catch basins, pump stations, overflow control facilities, and drainage channels. The City's owned sewer system conveys wastewater flows to the JMEUC WWTF.

Renewal Permit Requirements for Permittee's LTCP Responsibilities

As described in previous sections, the permittees have worked collaboratively throughout the LTCP process resulting in a single, coordinated LTCP. As a result, the objective of "Permittee's LTCP Responsibilities" has been satisfied and this requirement has been fulfilled with respect to preparation of the LTCP. However, the overall objective of this permit condition has been continued to ensure that CSO control measures are continued in a collaborative manner. This permit condition has been updated as follows:

a. The permittee is responsible for implementing CSO control measures to ensure compliance with the Federal CSO Control Policy and N.J.A.C. 7:14-11, Appendix C as outlined in the LTCP. Since multiple permittees own/operate different portions of a hydraulically connected CSS, the permittee is required to work cooperatively and provide the necessary information with all other permittees to ensure overall compliance. In addition, each permittee is required to institute necessary measures for the LTCP for the portion of the hydraulically connected system that the permittee owns/operates and provide this information to the other permittees for compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

This condition is included in the CSM Requirements in Part IV.G.10.

D. Renewal Permit Requirements:

1. Precipitation Trends

Since the issuance of the 2015 NJPDES CSO permit, the State has further studied the presently existing and likely future impacts of climate change specific to New Jersey and the Department issued the New Jersey Climate Science Report in 2020, an addendum in 2022, and will routinely update these materials as the science evolves, which are available at https://nj.gov/dep/climatechange/data.html. The State also assembled the Interagency Council on Climate Resilience to identify the measures necessary to promote the long-term mitigation, adaptation and resilience of New Jersey's economy, communities, infrastructure and natural resources, which was issued to build resilience to the impacts of climate change across public and private sectors, and issued the statewide Climate Change Resilience Strategy in 2021, which will be routinely updated as statewide resilience planning efforts advance. These materials are available at https://nj.gov/dep/climatechange/resilience.html.

As climate change will impact all of New Jersey's natural resources and their supporting infrastructure, management plans must be adaptive as conditions continue to evolve and new data becomes available. Adaptive management takes an iterative approach designed to expect and respond to uncertainty and variability of resources over time. By incorporating adaptive management and future conditions into planning and asset management, water resource managers, including those permitted by the Department, can best ensure that their systems and service to the public are best prepared for a changing climate.

The following information shall be submitted to the Department as part of the NJPDES permit renewal application:

- The permittee shall analyze and submit the annual precipitation depth obtained by the National Oceanic Atmospheric Administration (NOAA) at the Newark Liberty International Airport in order to determine the annual precipitation depth during the effective period of the permit.

- The permittee shall determine and submit the annual precipitation depth for each calendar year, such that by the end of the permit, the most recent five calendar years of data has been collected. The permittee shall compare this data to assumptions utilized in the development of the LTCP.

- This information shall be submitted to the Department with the NJPDES renewal application with an assessment of any change in precipitation trends. The Department will review this information and make a determination that Adaptive Management measures may need to be pursued in a subsequent permit action.

2. Adaptive Management Plan

An Adaptive Management Plan shall be submitted with the NJPDES permit renewal application if any of the following occurs:

i. An Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture as per Part IV.G.9.e; and/or
ii. A permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule; and/or
iii. The precipitation trends required in Part IV.H.1 above demonstrates a change in the assumptions used in the development of the LTCP.

If an Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture, the Adaptive Management Plan shall include:

i. Modified or additional CSO control measures that will be to achieve the interim required percent capture or the final required percent capture;
ii. A detailed analysis and a modified implementation plan and schedule of the CSO control measures; and
iii. Inclusion of any adaptive management modifications based on an Interim or the Final PCCMP Report.

If a permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule by incorporating new technologies, group similar control measures to reduce cost, increase wet weather, change the order of the control measures and/or accelerate the schedule. If such a request, the Adaptive Management Plan shall include:

i. A detailed analysis of the modified and/or new CSO control measures including verification that the interim required percent capture or the final required percent capture will be achieved; and
ii. A modified implementation plan and schedule of the CSO control measures.

Any additional CSO control measures that are determined to be necessary as a result of Adaptive Management will be required through a NJPDES permit action and will require a revision to the LTCP.

These conditions are included in the CSM Requirements in Part IV.H.

E. Progress Reports:

This renewal permit includes a compliance schedule for the submission of progress reports beginning on the effective date of the permit (EDP). The permittee must submit a progress report to the Department on February 1st and August 1st of each year to document the permittee's progress towards compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11 – Appendix C. The progress reports must include but are not limited to the following information:

- A summary of all CSO measures implemented and the effectiveness of those measures;
- Verification that the Operation & Maintenance Manual, Asset Management Plan and Emergency Plan have been updated annually including detail on the System Cleaning Program;
- A discussion of the continued implementation of the NMCs including maintaining the telephone hotline/website pursuant to Section F.8, and
- A list of any complaints received by the permittee regarding CSO related flooding including location and duration.

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

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*.

14 Contact Information

If you have any questions regarding this permit action, please contact Josie Castaldo, Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860.

15 Contents of the Administrative Record

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. [B]
2. 40 CFR Part 131, Federal Water Quality Standards. [B]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [B]
4. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A]
5. N.J.A.C. 7:14A-1 et seq., NJPDES Regulations. [A]
6. N.J.A.C. 7:9B-1 et seq., New Jersey SWQS. [A]
7. N.J.A.C. 7:15, Statewide Water Quality Management Planning Rules. [A]
8. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 et seq.
9. Pretreatment Program Requirements for Local Agencies (N.J.A.C. 7:14A-19).
10. N.J.S.A. 58:25-23 et/ seq., Sewage Infrastructure Improvement Act

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

1. Combined Sewer Overflows – Guidance for Long-Term Control Plan (EPA 832-B-95-002)
2. Combined Sewer Overflows – Guidance for Nine Minimum Controls (EPA 832-B-95-003)
3. Combined Sewer Overflows – Guidance for Screening and Ranking Combined Sewer System Discharges (EPA 832-B-95-004)
4. Combined Sewer Overflows – Guidance for Monitoring and Modeling (EPA 832-B-95-05)
5. Combined Sewer Overflows – Guidance for Financial Capability Assessment (EPA 832-B-95-006)
6. Combined Sewer Overflows – Guidance for Funding Options (EPA 832-B-95-007)
7. Combined Sewer Overflows – Guidance for Permit Writers (EPA 832-B-95-008)
8. Combined Sewer Overflows – Questions and Answers on Water Quality Standards and the CSO Program (EPA 832-B-95-009)
9. CSO Post Construction Compliance Monitoring Guidance (EPA 833-K-11-001)

Guidance Documents / Reports:

1. "Field Sampling Procedures Manual", published by the Department. [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. [A]
3. "USEPA TSD for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [B]
4. New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A]
5. Standard Compliance and Inspection (SCI) Reports conducted on October 28, 2015, January 24, 2017, April 12, 2018, March 14, 219, June 22, 2020, April 22, 2021, and May 17, 2022.
6. MRFs dated April 2017 through April 2022
7. "Joint Meeting of Essex and Union Counties Effluent Metals Limits", dated June 2007 by Hydroqual.
8. "Dilution Analysis and Evaluation of the Chlorine Produced Oxidants and Acute and Chronic Whole Effluent Toxicity Permit Limits for Joint Meeting of Essex and Union Counties", dated June 1998, submitted by Lawler, Matusky and Skelly Engineers.
9. Review of LTCP Financial Capability Assessment by Industrial Economics Incorporated dated March 15, 2023.

Permits / Applications:

1. NJPDES/DSW Permit Application dated January 14, 2020 and received January 15, 2020.
2. Existing Major Modification to NJPDES/DSW Permit NJ0024741, issued May 1, 2020 and effective June 1, 2020 to revise the percent removal requirement during wet weather conditions and clarify existing permit conditions related to the CSM portion of the permit.
3. Minor Modification to NJPDES/DSW Permit NJ0024741, issued October 9, 2015 and effective July 1, 2015.

4. Final Revoke and Reissue NJPDES/DSW Permit NJ0024741, issued March 12, 2015 and effective July 1, 2015
5. Draft Revoke and Reissue NJPDES/DSW Permit NJ0024741, issued November 22, 2013.
6. Stay to NJPDES/DSW Permit issued February 2, 2018, which serves to stay Part IV.F.1.h of the existing permit.
7. Stay to NJPDES/DSW Permit issued April 15, 2020, which serves to extend the LTCP submission date.

LTCP Report Submissions:

1. "System Characterization Work Plan" dated December 2015, revised June 2016.
2. "System Characterization Report" dated June 27, 2018, revised December 5, 2018.
3. "NJCSO Group Compliance Monitoring Program Quality Assurance Project Plan (QAPP)" dated December 31, 2015, revised February 19, 2016 and May 10, 2016
4. "NJCSO Group Compliance Monitoring Program Report" dated June 30, 2018, revised October 5, 2018.
5. "Public Participation Process Report" dated June 20, 2018, revised November 12, 2018.
6. "Identification of Sensitive Areas Report" dated June 2018, revised October 19, 2018, January 31, 2019 and March 29, 2019.
7. "Development and Evaluation of Alternative Report" dated June 28, 2019, revised October 2019.
8. "Selection and Implementation of Alternatives Report" dated October 2020, revised September 2021.

Correspondences:

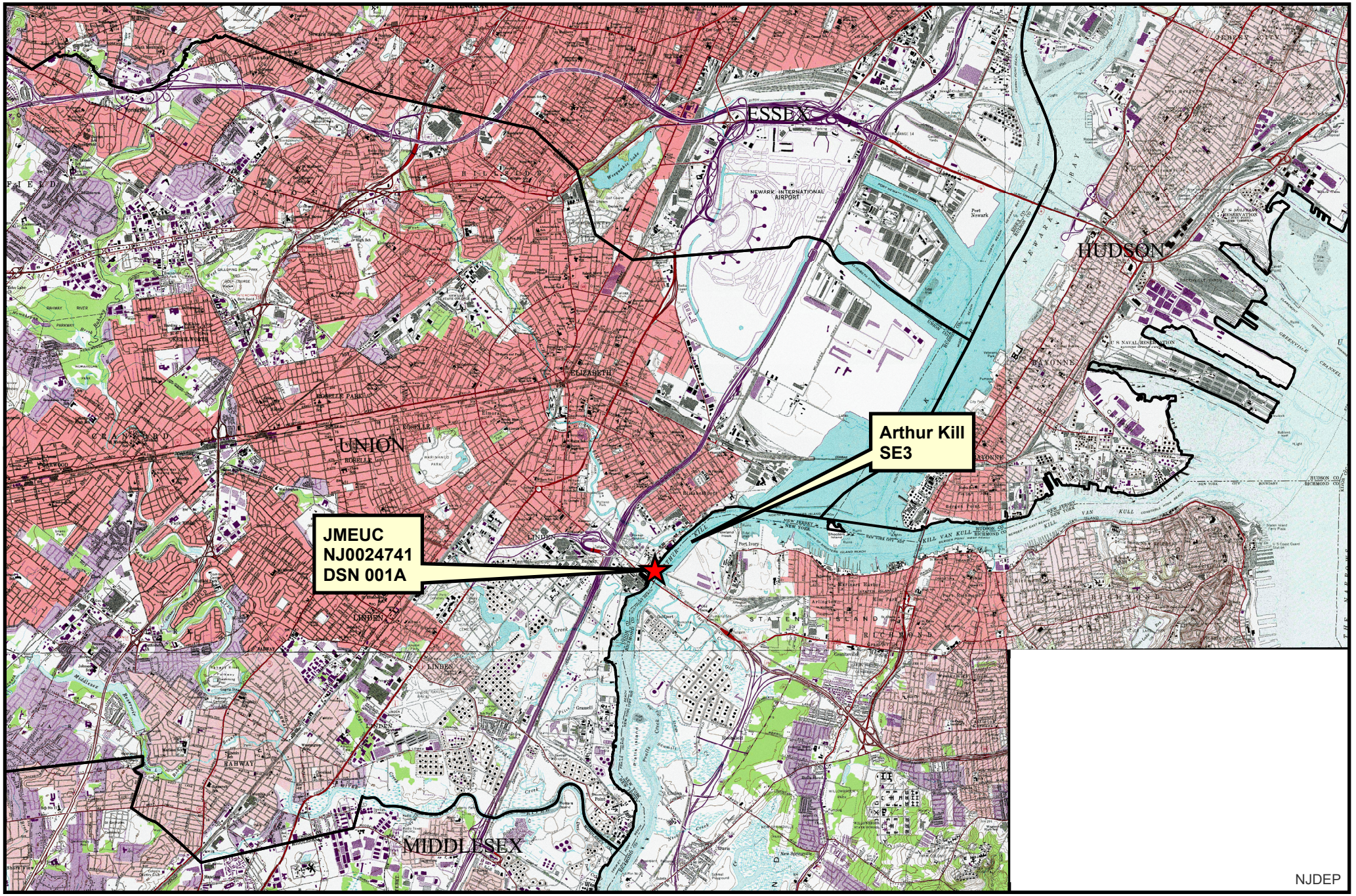
1. Technical Comments on the "System Characterization Work Plan" dated April 14, 2016 with the approval letter dated August 4, 2016.
2. Technical Comments on the "System Characterization Report" dated November 8, 2018 with the approval letter dated January 17, 2019.
3. Technical Comments on the "NJCSO Group Compliance Monitoring Program QAPP" dated January 22, 2016, with the approval letter dated February 24, 2016.
4. Technical Comments on the "NJCSO Group Compliance Monitoring Program Report" dated September 7, 2019, with the approval letter dated March 1, 2019.
5. Technical Comments on the "Public Participation Process Report" dated October 12, 2019, with the approval letter dated February 7, 2019.
6. Technical Comments on the "Identification of Sensitive Areas Report" dated September 20, 2018 and March 1, 2019, with the approval letter dated April 8, 2019.
7. Technical Comments on the "Development and Evaluation of Alternative Report" dated September 19, 2019 with the approval letter dated December 13, 2019.
8. Technical Comments on the "Selection and Implementation of Alternatives Report" dated July 22, 2021.
9. "Pre-draft Permit Review Considerations, Long-Term Control Plan, Proposed Implementation Schedule Interim Milestones" dated May 5, 2023, submitted by the City of Elizabeth.

Other:

1. Water Quality Based Effluent Limitation and End-Of-Pipe Limitation Analysis Calculation Sheets.
2. Whole Effluent Toxicity (WET) Calculation Sheets.

Footnotes:

[A] Denotes items that may be found on the Department's website located at "http://www.state.nj.us/dep/".
[B] Denotes items that may be found on the USEPA website at "http://www.epa.gov/".

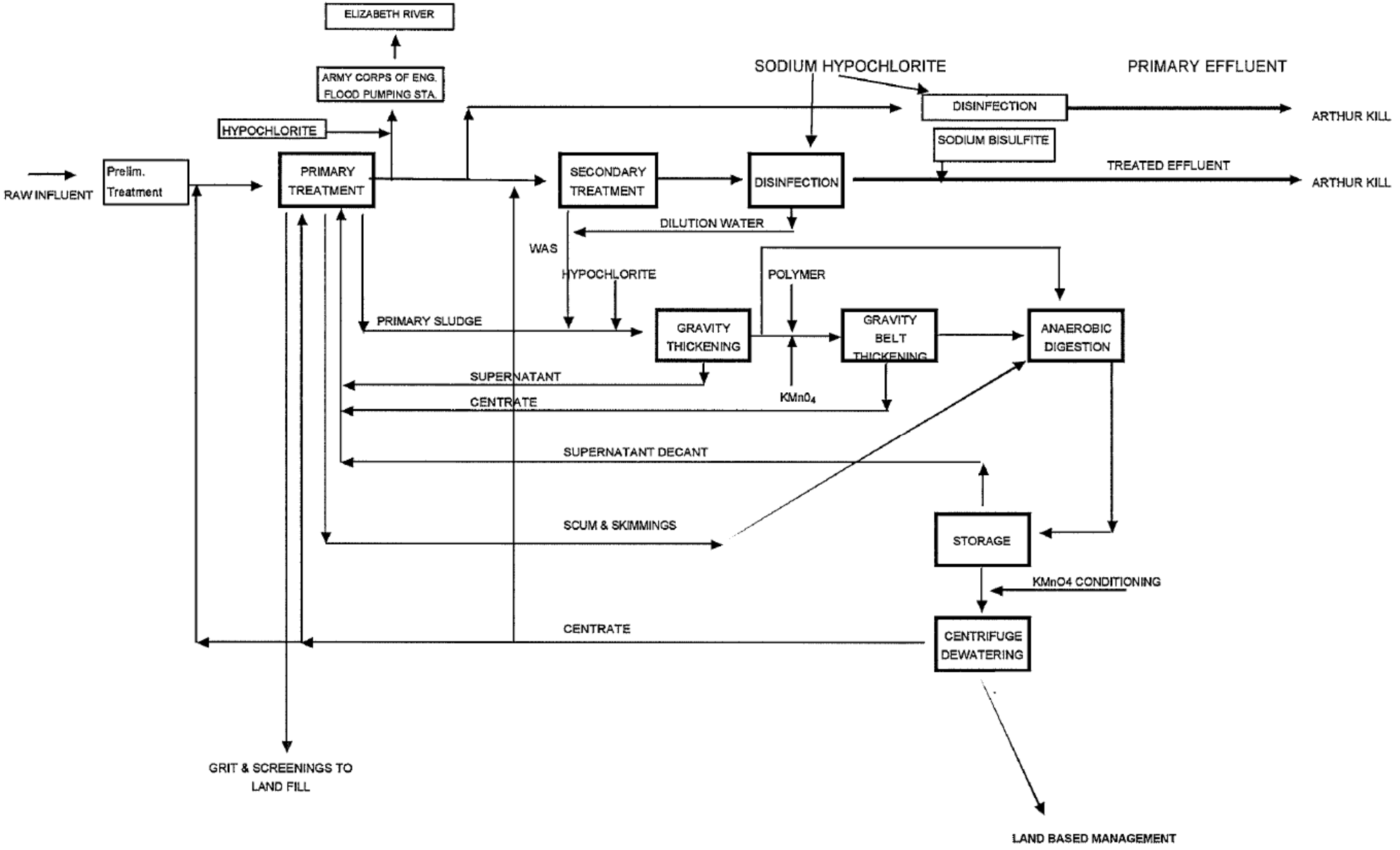


USGS Topographic Map
Joint Meeting of Essex and Union Counties WWTF
City of Elizabeth, Union County
Sub-Watershed: Arthur Kill Waterfront (below Grasselli)

N W E S

0 3,600 7,200 14,400 Feet

JOINT MEETING TREATMENT PLANT FLOW DIAGRAM



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: NJ0024741

Draft: Surface Water Renewal Permit Action

Permittee:
Joint Meeting of Essex and Union Counties
500 South First Street
City of Elizabeth, New Jersey 07202

Co-Permittee:

Property Owner:
Joint Meeting of Essex and Union Counties
500 South First Street
City of Elizabeth, New Jersey 07202

Location of Activity:
Joint Meeting of Essex and Union Counties
Wastewater Treatment Facility
500 South First Street
City of Elizabeth, New Jersey 07202
Union County

Authorizations Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
A – Sanitary Wastewater – Renewal (IP) CSM – Combined Sewer Management – Renewal (IP)	Pending	Pending	Pending

DEP AUTHORIZATION
Susan Rosenwinkel, Assistant Director
Water Pollution Management Element

(Terms, conditions and provisions attached hereto)

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	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	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. Standard Reporting Requirements – Monitoring Report Forms (MRFs)

a. All MRFs shall be electronically submitted to the Department's MRF Submission Service.

b. MRF data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee.

c. MRFs shall be submitted at the frequencies identified in Part III of this permit.

d. All MRFs 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 MRFs in his or her absence. Authorizations for other individuals to certify shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

f. Monitoring results shall be submitted in accordance with the current NJPDES MRF Reference Manual and any updates thereof.

g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.

h. If, for a monitored location, there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results by checking the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

7. Standard Reporting Requirements - Electronic Submission of NJPDES Information

a. The below identified documents and reports shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service, once available.

i. POTW pretreatment program annual reports

ii. Non-compliance reports required by N.J.A.C. 7:14A-6.10 and 40 CFR 122.41(1)(6) and (7) related to sanitary sewer overflows or bypass events.

8. 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 Water System Engineering
Mail Code 401-04Q
PO Box 420
Trenton, New Jersey 08625 - 0420
(609) 292-2957
or via email to www@dep.nj.gov

b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

9. 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 condtion for water or waste, except as specifically authorized by a valid NJPDES permit.

C. Custom Requirement

1. CSO Reopener Clause

a. This reopener clause authorizes the NJDEP to reopen and modify the permit upon determination that the CSO controls as contained in a LTCP fail to meet WQS or protect designated uses.

PART III
LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
001A Sanitary Outfall	Arthur Kill	SE3(C2)	A - Sanitary Wastewater (IP)

Location Description

The influent monitored location shall be before any treatment, other than degritting, and before the addition of any internal wastestreams. The effluent monitored location shall be after the last treatment step. DSN001 is authorized to discharge treated wastewater to the Arthur Kill, classified as SE3 waters, at Latitude 40° 38' 16.7" and Longitude 74° 11' 49.7".

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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

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

PHASE: 1-Initial **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	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	REPORT 12 Month Rolling Av	*****	MGD	Continuous	Continuous
January thru December	QL	***	***		***	***	***			
pH	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	*****	REPORT Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Report Per Minimum	*****	9.0 Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

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

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Effluent Gross Value	8519 Monthly Average	12779 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended Option 1	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended Option 2	Percent Removal	*****	*****	*****	REPORT Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	*****	*****	*****	*****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Day	Grab
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

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

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
BOD, Carbonaceous 5 Day, 20oC	Effluent Gross Value	7100 Monthly Average	11355 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC Option 1	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC Option 2	Percent Removal	*****	*****	*****	REPORT Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
LC50 Statre 96hr Acu Mysid Bahia	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
January thru December	AL	***	***		50	***	***			
Chlorine Produced Oxidants	Effluent Gross Value	24.9 Monthly Average	10.2 Daily Maximum	KG/DAY	*****	0.036 Monthly Average	0.088 Daily Maximum	MG/L	6/Day	Grab
January thru December	RQL	5.7	5.7		***	0.02	0.02			
Temperature, oC	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Temperature, oC	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

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

PHASE: 1-Initial **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	*****	*****	*****	4.0 Weekly Av Minimum	REPORT Daily Avg Minimum	*****	MG/L	1/Day	Grab
January thru December	QL	***	***		***	***	***			
Nickel, Total Recoverable	Effluent Gross Value	34.1 Monthly Average	59.6 Daily Maximum	KG/DAY	*****	401 Monthly Average	630 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Effluent Gross Value	128 Monthly Average	236 Daily Maximum	KG/DAY	*****	831 Monthly Average	1037 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Lead, Total Recoverable	Effluent Gross Value	36.9 Monthly Average	68.1 Daily Maximum	KG/DAY	*****	4.7 Monthly Average	7.4 Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Effluent Gross Value	18 Monthly Average	30 Daily Maximum	KG/DAY	*****	63 Monthly Average	105 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Mercury Total Recoverable Option 1	Effluent Gross Value	114 Monthly Average	REPORT Daily Maximum	GR/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

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

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Mercury Total Recoverable Option 2	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	0.40 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **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	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	REPORT 12 Month Rolling Av	*****	MGD	Continuous	Continuous
January thru December	QL	***	***		***	***	***			
pH	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	*****	REPORT Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Report Per Minimum	*****	9.0 Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Effluent Gross Value	8519 Monthly Average	12779 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended Option 1	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended Option 2	Percent Removal	*****	*****	*****	REPORT Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	*****	*****	*****	*****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Day	Grab
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-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	Effluent Gross Value	7100 Monthly Average	11355 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC Option 1	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC Option 2	Percent Removal	*****	*****	*****	REPORT Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
LC50 Statre 96hr Acu Mysid Bahia	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
January thru December	AL	***	***		50	***	***			
Chlorine Produced Oxidants	Effluent Gross Value	8.8 Monthly Average	24.9 Daily Maximum	KG/DAY	*****	0.031 Monthly Average	0.088 Daily Maximum	MG/L	6/Day	Grab
January thru December	MDL	5.7	5.7		***	0.02	0.02			
Temperature, oC	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Temperature, oC	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	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).

Comments:

See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-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	*****	*****	*****	4.0 Weekly Av Minimum	REPORT Daily Avg Minimum	*****	MG/L	1/Day	Grab
January thru December	QL	***	***		***	***	***			
Nickel, Total Recoverable	Effluent Gross Value	34.1 Monthly Average	59.6 Daily Maximum	KG/DAY	*****	401 Monthly Average	630 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Effluent Gross Value	128 Monthly Average	236 Daily Maximum	KG/DAY	*****	831 Monthly Average	1037 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Lead, Total Recoverable	Effluent Gross Value	36.9 Monthly Average	68.1 Daily Maximum	KG/DAY	*****	4.7 Monthly Average	7.4 Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Effluent Gross Value	18 Monthly Average	30 Daily Maximum	KG/DAY	*****	63 Monthly Average	105 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Mercury Total Recoverable Option 1	Effluent Gross Value	114 Monthly Average	REPORT Daily Maximum	GR/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	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).

Comments:
See the Sanitary Wastewater Requirements in Part IV Section G regarding Mercury reporting requirements and percent removal requirements under Options 1 and 2.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Mercury Total Recoverable Option 2	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	0.40 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	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 - 3: 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
Manganese, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Cyanide, Total (as CN)	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Arsenic, Total Recoverable (as As)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Selenium, Total Recoverable	Effluent Gross Value	REPORT	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 - 3: 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
Thallium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total Recoverable (as Be)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Cadmium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Antimony, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Anthracene	Effluent Gross Value	REPORT	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	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso-propyl) ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Effluent Gross Value	REPORT	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 - 3: 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
Chrysene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Effluent Gross Value	REPORT	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	UG/L	24 Hour Composite	January thru December
Fluorene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo-pentadiene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)-pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Isophorone	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl-amine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl-amine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Phenanthrene	Effluent Gross Value	REPORT	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 - 3: 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
Pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,2-Dichlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2,4-Trichloro-benzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,4-Dichlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
2-Chloronaphthalene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro-benzidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Naphthalene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Effluent Gross Value	REPORT	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 - 3: 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
Benzidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorobutadiene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Dichlorobromomethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2-Dichloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Bromoform	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Chloroform	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Toluene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Benzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Acrolein	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Acrylonitrile	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Chlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Chlorodibromomethane	Effluent Gross Value	REPORT	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 - 3: 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	UG/L	Grab	January thru December
Methyl Bromide	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methyl Chloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methylene Chloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Tetrachloroethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,1-Trichloro-ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,2-Trichloro-ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro-ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2-Dichloropropane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2-trans-Dichloro-ethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
trans-1,3-Dichloro-propene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
cis-1,3-Dichloro-propene	Effluent Gross Value	REPORT	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 - 3: 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
Vinyl Chloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Trichloroethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methoxychlor	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Cyanide, free	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Parachloro-m-cresol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Delta BHC, Total (ug/l)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endosulfan Sulfate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,3,7,8-Tetrachloro-dibenzo-p-dioxin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Aldrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Alpha BHC	Effluent Gross Value	REPORT	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 - 3: 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
Beta BHC	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chlordane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dieldrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endosulfans, Total (alpha and beta)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Toxaphene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dimethylphenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro-phenol	Effluent Gross Value	REPORT	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 - 3: 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-Chlorophenyl phenyl ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Effluent Gross Value	REPORT	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	UG/L	24 Hour Composite	January thru December

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
IPPI Influent Pretreatment Req			A - Sanitary Wastewater (IP)

Location Description

The influent monitored location shall be before any treatment, other than degritting, and before the addition of any internal wastestreams.

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 - B - 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	UG/L	Grab	January thru December
Arsenic, Total Recoverable (as As)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Selenium, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Thallium, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total Recoverable (as Be)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Nickel, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Silver, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Zinc, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Cadmium, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Lead, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Total Recoverable	Raw Sew/influent	REPORT	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 - B - 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
Copper, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Antimony, Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Mercury Total Recoverable	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Anthracene	Raw Sew/influent	REPORT	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	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso-propyl) ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Chrysene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Raw Sew/influent	REPORT	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 - B - 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
Dimethyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,2-Diphenyl-hydrazine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Fluorene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo-pentadiene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)-pyrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Isophorone	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl-amine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl-amine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenanthrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Pyrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Raw Sew/influent	REPORT	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 - B - 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
Benzo(a)anthracene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,2-Dichlorobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,2,4-Trichloro-benzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,4-Dichlorobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Chloronaphthalene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro-benzidine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Naphthalene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzidine	Raw Sew/influent	REPORT	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 - B - 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
Hexachlorobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorobutadiene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Dichlorobromomethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2-Dichloroethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Bromoform	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chloroform	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Toluene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Benzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Acrolein	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Acrylonitrile	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chlorobenzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chlorodibromomethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Ethylbenzene	Raw Sew/influent	REPORT	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 - B - 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
Methyl Bromide	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Methyl Chloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Methylene Chloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Tetrachloroethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1,1-Trichloro-ethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1,2-Trichloro-ethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro-ethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2-Dichloropropane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2-trans-Dichloro-ethylene	Raw Sew/influent	REPORT	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	UG/L	Grab	January thru December
Trichloroethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chloroethane	Raw Sew/influent	REPORT	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 - B - 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
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	UG/L	24 Hour Composite	January thru December
Endosulfan Sulfate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Aldrin	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Alpha BHC	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beta BHC	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Chlordane	Raw Sew/influent	REPORT	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 - B - 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
Dieldrin	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Toxaphene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dimethylphenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro-phenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Raw Sew/influent	REPORT	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 - B - 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
Pentachlorophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Notes and Definitions

A. Footnotes

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://water.epa.gov/polwaste/npdes/cso/Guidance-Documents.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://www.epa.gov/npdes/pubs/owm0030.pdf

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://water.epa.gov/polwaste/npdes/cso/upload/owm0272.pdf.

e. EPA's Post Construction Compliance Monitoring Guidance document can be found at 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

h. Dry-Weather Deposition and Flushing for Combined Sewer Overflow Pollution Control: http://nepis.epa.gov/Adobe/PDF/30000821.PDF

i. Combined sewer overflow control (manual): http://nepis.epa.gov/Adobe/PDF/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 include the following flows: domestic sewage, dewatering activities, commercial and industrial wastewaters, ground water and tidal infiltration upstream of the regulator, and any other non-precipitation event related flows downstream of the regulator to the outfall pipe.

   Groundwater infiltration and tidal infiltration originating downstream of the regulator are allowable sources of discharges from a CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances. Such use must be specifically approved by the Department.

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. **Compliance Monitoring Program**

Sanitary Wastewater (IP)

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. When more than one test procedure is approved for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136, 40 CFR 122.21(e)(3), and 40 CFR 122.44(i)(1)(iv).

d. In September 2014, EPA codified the use of sufficiently sensitive test methods. Because of this rule update, the Department is removing the existing Required Quantitation Level in this permit as this level does not comply with these regulatory changes. Due to adoption of the sufficiently sensitive test methods rule a new Recommended Quantitation Level (RQL) for CPO of 0.02 mg/L has been developed which has been shown to be attainable using an EPA approved standard method. Specifically, the Department has determined that this RQL is routinely achievable using a handheld colorimetric test (DPD Colorimetric Method (4500-Cl G-11)) where this method is well described in the Standard Methods for the Examination of Water and Wastewater, available at www.standardmethods.org. This method is standard practice in testing for CPO and has been available for decades.

e. 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.

f. All monitoring shall be conducted as specified in Part III.

g. 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.

h. 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.

i. Monitoring for Wastewater Characterization Report parameters shall be conducted concurrently with the Whole Effluent Toxicity (WET) monitoring, when feasible.

j. Any influent and effluent sampling for toxic pollutant analyses shall be collected concurrently.

k. Flow shall be measured using a meter.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit and 3) all data used to complete the application for a NJPDES permit, for a period of at least 5 years from the date of the sample, measurement, report, application or record.

b. 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.

C. 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 Progress Reports

a. In accordance with N.J.A.C. 7:14A-6.4(a), a schedule of compliance has been included for CPO, including interim deadlines for annual progress reports that outline the progress towards compliance with the conditions of the permit.

i. Submit a Compliance Schedule Progress Report within 12 months from the effective date of the permit (EDP).

ii. Submit a Compliance Schedule Progress Report within 24 months from the effective date of the permit (EDP).

b. The compliance schedule progress report(s) shall be submitted to the following Departmental entities:

i. NJDEP: Division of Water Quality
Mail Code - 401-02B
Bureau of Surface Water and Pretreatment Permitting
P.O. Box 420
Trenton, New Jersey 08625-0420

ii. Mail Code - 44-03
NJDEP: Central Bureau of Water Compliance and Enforcement
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420

3. New Jersey Polychlorinated Biphenyls (PCB) Requirements

a. 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.

i. If sampling demonstrates non-detectable levels in the effluent, the permittee may request a frequency reduction of the monitoring.

ii. If the Department determines that a PMP will be necessary for its facility, the permittee may contact the Department about the possibility of eliminating the sampling described above.

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.

D. 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 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 discharge shall not exhibit a visible sheen.

e. 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.

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. Surface Water Discharge Monitoring Report (DMR) Form Requirements

i. This permit includes multiple phases for DSN 001A.
The "1-Initial" limitation and monitoring conditions are effective from the effective date of the permit (EDP) until EDP + 36 months. The "2-Final" limitation and monitoring conditions become effective on EDP + 37 months.

b. Wastewater Characterization Report (WCR) Form Requirements

i. The final effluent monitoring conditions contained in PART III for DSN 001A apply for the full term of this permit action.

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 this 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 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.

b. Acute toxicity tests shall be conducted using the test species and method identified in Part III of this permit.

c. Part III of this permit 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.

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).

h. Test reports shall be submitted to:

i. biomonitoring@dep.nj.gov

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 limit or action level specified in Part III of this permit.

i. If the exceedence of the toxicity limit or 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 limits or action levels 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 limit or action level.

ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit or 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 limit or action level specified in Part III during 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 limitation or 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 limit or 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 limit or 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 limit or 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 limit or action level in Part III, the permittee shall submit a plan for resuming the CTI.

iii. Documents regarding Toxicity Investigations shall be sent to the following:
New Jersey Department of Environmental Protection
Mail Code 401-02B
Division of Water Quality
Bureau of Surface Water & Pretreatment Permitting
401 East State Street
P.O. Box 420
Trenton, New Jersey 08625-0420

7. 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.

8. Inactive RWBR Requirements

a. The following RWBR sections are included in this permit for various reuse applications. For any RWBR category where a reuse application does not show a status of Approved in Appendix A, these sections are inactive and not effective until a permit action where Appendix A shows that an application under this category is approved. Any specific RWBR category not approved in the Appendix, may be approved at a later date by a minor modification permit action once the appropriate submittal requirements have been received and approved by the Department. Those sections related to a RWBR category where an application in Appendix A shows a status of Approved are effective on the effective date of the permit.

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 (NO3 + NH3): 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 (NO3 + NH3) shall be a composite sample, taken in accordance with Part III, at least once per week taken prior to RWBR diversion. Total Nitrogen (NO3 + NH3) 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 (NO3 + NH3): Daily maximum of 10 mg/L. Frequency of sampling for Total Nitrogen shall be in accordance with Part III of this permit. The sample shall be collected as a composite sample taken prior to diversion for RWBR. Nitrogen, Total (NO3 + NH3) 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: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. Fecal coliform shall be monitored 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: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. Fecal coliform shall be monitored 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 Public Access RWBR, 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 this/these type/s of 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. For all types of Restricted Access RWBR, the permittee shall submit and receive approval of a Standard Operations Procedure or modify an existing Standard Operations Procedure 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 Standard Operations Procedure shall be maintained onsite. Specific requirements for the Standard Operations Procedure are identified in the Reuse Technical Manual. This requirement does not apply to sanitary sewer jetting and STP washdown water.

c. 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.

d. 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.

e. Submit a Beneficial Reuse Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP).

f. 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.

g. All submittals shall be mailed or delivered to: New Jersey Department of Environmental Protection, Division of Water Quality, Mail Code 401-02B, Bureau of Surface Water and Pretreatment 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 or Standard Operations Procedure, as applicable, 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.

E. 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 Surface Water and Pretreatment Permitting (BSWPP) 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 BSWPP before implementing substantial program modifications.

b. For non-substantial program modifications, the Permittee shall provide to the BSWPP 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 BSWPP 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(f).

c. The written technical evalulation required in b. above shall be submitted: within 6 months from the effective date of the permit (EDP).

5. Issue IPP Permits

a. The Permittee must issue an individual IPP Permit to those facilities which are classified as Significant Industrial Users as defined in the JMEUC's 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) Significant Industrial User within 180 days of identifying that IU.

d. New Significant Industrial Users shall receive an IPP Permit prior to commencement of discharge.

e. 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, as defined by JMEUC's Rules and Regulations, shall be no less than once per year for inspection and no less than once 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 Significant Industrial Users, 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 March 1 through February 28/29. 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 May 1 of each year beginning from the effective date of the permit (EDP) This report shall contain the following:.

i. a summary of analytical results of the pollutants molybdenum (Mo), ammonia (NH3), phosphorus (P), and the priority pollutant scans performed on the Delegated Local Agency's (DLA) influent, effluent, and sludge during the annual reporting period noted in (a) above.

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 BSWPP in the form prescribed in that guidance. The reports shall be submitted to:
NJDEP, Mail Code - 401-02B
Bureau of Surface Water and Pretreatment Permitting
401 E. State Street
P.O. Box 420
Trenton, N.J. 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, Mail Code 401-02B, Bureau of Surface Water and Pretreatment Permitting
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, Mail Code 401-02B, Bureau of Surface Water and Pretreatment Permitting
401 E. State Street
P.O. Box 420
Trenton, N.J. 08625-0420.

F. 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 a sufficiently sensitive quantification level as defined at 40 CFR 136, 40 CFR 122.21(e)(3), and 40 CFR 122.44(i)(1)(iv).

2. Causes for modification

a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.

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.

c. The Department may issue a minor modification further deferring the effective date of the acute and/or chronic whole effluent toxicity limitation if a facility is implementing the Toxicity Reduction Implementation Requirements (TRIR) in Part IV of this permit.

G. Custom Requirement

1. Special Reporting Requirement - Mercury EEQ Effluent Limitation Applicability

a. Option 1 - If on the day of the 24-hour composite sample for total recoverable mercury is collected the 24-hour daily average flow value (the flow for that same period) is less than or equal to 85 MGD, then the permittee is required to:.

i. Enter the actual concentration and loading values in the total recoverable mercury row of the DMR where the EEQ loading limitation for the parameter appears; and.

ii. Enter CODE=N in the total recoverable mercury row of the DMR where the EEQ concentration limitation for that parameter appears.

b. Option 2 - If on the day of the 24-hour composite sample for total recoverable mercury is collected the 24-hour daily average flow value (the flow for that same period) is greater than 85 MGD, then the permittee is required to:.

i. Enter CODE=N in the total recoverable mercury row of the DMR where the EEQ loading limitation for that parameter appears; and.

ii. Enter the measured concentration and loading values in the total recoverable mercury row of the DMR where the EEQ concentration limitation for that parameter appears.

2. Percent Removal

a. Part III of the permit contains options for reporting percent removal for CBOD5 and TSS for DSN 001A. Option 1 applies when the instantaneous influent flow is less than 85 MGD for the entire day where the 85% removal requirement is applicable. Option 2 applies when the instantaneous influent flow reaches or exceeds the designated flow of 85 MGD, at any point during the day. 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.

Percent removal values shall be tracked on a daily basis where the 85% removal condition does apply to any calendar days for which the instantaneous influent flow is less than 85 MGD. A tabular representation of influent flow, effluent flow, CBOD5 influent, CBOD5 effluent, CBOD5 percent removal, TSS influent, and TSS effluent and TSS percent removal shall be tracked on a daily basis and included as an attachment to the Monitoring Report Form.

b. In order to track influent flows to inform whether Option 1 or Option 2 is applicable, the permittee shall continuously meter flow for any flows into the plant and report it on the Monitoring Report form under the parameter "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent" for DSN 001A. Until such time as an influent flow meter is installed, the permittee may utilize the effluent flow meter as a measure of influent flow.

Combined Sewer Management (IP)

A. MONITORING REQUIREMENTS

1. CSO Monitoring Requirements

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

B. RECORDKEEPING

1. 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 the Permittee shall also specify how, where and when this documentation will be maintained.

C. REPORTING

1. Reporting Requirements

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

D. SUBMITTALS

1. CSO Submittal Requirements

a. The permittee shall respond to all deficiencies cited by the Department within 30 days of notification. With adequate justification provided by the permittee, the Department may extend this deadline an additional 30 days.

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 (or such revised form as previously approved in writing by the Department):

i. I certify under penalty of law that those portions of this document relating to the treatment and collection system owned and operated by the permittee and all attachments related thereto 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 owned and operated by the permittee, 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 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 Nine Minimum Controls (NMC) & Long Term Control Plans (LTCP) activities are being developed and implemented consistently. The permittee shall identify their joint and separate responsibilities with all other appropriate municipalities in the hydraulically connected sewer system regarding implementation of the NMCs and LTCPs. This information shall be provided/updated in the Progress Reports.

d. The permittee shall summarize on a semiannual basis its CSO construction related activities, as well as those reported to them by the other CSO entities, in their system. Notification through the TWA process is sufficient for this purpose. The permittee shall make these construction related activities available publicly on their website or other acceptable means.

e. The permittee shall submit all information required by this permit via email or other electronic format acceptable to the Department to NJCSOProgram@dep.nj.gov.

2. CSO Progress Report Submittal Requirements

a. The permittee shall submit a progress report on Februrary 1st and August 1st of every year beginning from the effective date of the permit. The Progress Reports shall be prepared in accordance with the following requirements:

i. The Progress Report shall include a summary of all CSO control measures implemented to date and the effectiveness of those control measures.

ii. 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. Detail shall also be provided regarding the System Cleaning Program.

iii. A discussion of the continued implementation of the NMCs including maintenance of the telephone hotline/website pursuant to Section F.8.

iv. Each Progress Report shall include a list of any complaints received by the permittee regarding CSO related flooding including location and duration.

E. FACILITY MANAGEMENT

1. CSO Discharge Requirements

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

F. NINE MINIMUM CONTROL REQUIREMENTS

1. Proper Operation and Maintenance Programs for the Sewer System and CSOs

a. 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.

b. The permittee shall provide adequate operator staffing for the treatment works.

c. The permittee shall continue to implement and review annually, and update as needed, 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 including any green infrastructure which are owned/operated by the permittee are operated and maintained in a manner to achieve compliance with all terms and conditions of this permit.

d. The permittee shall provide documentation that demonstrates that employees were provided with appropriate training 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 & 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 Greases (FOG) Program (if applicable).

iii. Details regarding operations for the treatment works owned/operated by the permittee as set forth in SOPs as described in Part IV.F.1.f, Part IV.F.1.g and Part IV.F.1.h.

iv. An Emergency Plan as described in Part IV.F.1.i.

f. The permittee shall include in the O&M Program and corresponding Manual, a System Cleaning Program to address the following:

i. The System Cleaning Program shall be designed to ensure the entire collection system, including, but not limited to, tide gates, outfalls and regulators, is sufficiently clean in order to function properly and minimize CSO-related street flooding.

ii. The System Cleaning Program shall be designed to ensure that the entire collection system is sufficiently clean which can be accomplished through regular inspection and, if necessary, cleaning. Such inspection and cleaning should be done, such that within five years, the entire system has been covered. Specifically, for JMEUC’s sewer system, as it pertains to the combined sewer system, consists of the incoming trunk sewer that begins approximately 1,300 feet upstream of the wastewater treatment facility.

iii. The System Cleaning Program shall include an annual certification that a minimum of 20% of the system (by linear feet/miles) shall have been inspected and, if necessary, cleaned, within the last year. Alternatively, if less than 20% of the system has been completed within the last year, the certification shall include a statement of how much of the system was inspected and, if necessary, cleaned, within the last year and a plan to ensure that 100% of the system is inspected and if necessary cleaned, by the expiration date of the permit. This is an annual requirement based on the calendar year, due February 1 of the following year and is part of the Operation and Maintenance Manual. The total length of the system in linear/feet shall also be defined. Updates on the System Cleaning Program shall also be provided in Progress Reports.

g. The permittee shall also include 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.

h. 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 address the following items:

i. SOPs shall be designed to ensure that the entire collection system owned/operated by the permittee that conveys flows to the treatment works functions in such a way as to not result in sewage overflows (except from designated CSO outfalls) 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. SOPs shall be designed to ensure that the storage and conveyance of combined sewage to the STP is maximized in accordance with Sections F.2 and F.4.

iii. SOPs shall be designed to ensure that the impacts from SIUs contributing to the CSOs that are owned/operated by the permittee are minimized in accordance with Section F.3.

iv. SOPs shall be designed to ensure there will be no dry weather overflows from any CSO that is owned/operated by the permittee in accordance with Section F.5.

v. SOPs to conduct a visual inspection program of sufficient scope and frequency of the CSS that is owned/operated by the permittee to provide reasonable assurance that unpermitted discharges, obstructions, damage, and DWOs will be discovered.

vi. SOPs shall be designed to ensure the solids/floatables appurtenances that are owned/operated by the permittee 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. SOPs designed to prevent the Intrusion upstream 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 through proper operation and maintenance.

viii. SOPs designed to provide a gravity sewer and catch basin inspection schedule and clean as necessary for the collection system that is owned/operated by the permittee.

ix. SOPs shall be designed to 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 for the collection system that is owned/operated by the permittee.

x. Unless written extension is granted by the Department for extraordinary circumstances, the SOP shall be designed to ensure removal within seven (7) calendar days of the permittee becoming aware of any obstructions within the collection system that is owned/operated by the permittee that are directly causing any CSO overflows due to debris, Fats, Oils and Greases and sediment buildup, or other foreign materials.

The SOP shall be designed to ensure removal of any other obstructions that are contributing to overflows due to debris, Fats, Oils and Greases and sediment buildup, or other foreign materials in the collection system owned/operated by the permittee on a scheduled basis as necessary for the proper operation of the system.

xi. Require immediate steps to take 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 reduction strategies to resolve excessive I/I through the identification of I/I sources and the prioritization and implementation of I/I reduction projects within the collection system that is owned/operated by the permittee.

xiii. Provide procedures whereby wet weather flows are maximized for conveyance to the STP.

i. The O&M Manual shall specifically address, at a minimum, the following details for the treatment works' infrastructure owned/operated by JMEUC:

- Normal and Alternate operating positions;
- Start-up, shut-down, and draining procedures;
- Process control;
- Fail-safe features;
- Emergency operating procedures;
- Common operating and control problems;
- Out-of-service procedures;
- Alternate operating procedures;
- Instrumentation and controls;
- Engineering design information;
and
- Schedules and procedures of the preventative maintenance program and corrective maintenance procedures, or references to these procedures in the manufacturer’s maintenance manuals for the treatment works' infrastructure.

j. The permittee shall also include an Emergency Plan (https://www.nj.gov/dep/dwwq/erp_home.htm) in the O&M Program and corresponding Manual 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 including those emergencies caused by natural disaster, civil disorder, strike, sabotage, faulty maintenance, negligent operation or accident. At a minimum, the Emergency Plan shall include:

- SOPs which ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events and extended periods of no power.

- A Vulnerability Analysis" that estimates the degree to which the treatment works would be adversely affected by each type of emergency situation which could reasonably be expected to occur. A Vulnerability Analysis shall include, but is not limited to, an estimate of the effects of such an emergency upon the following: power supply; communication equipment; supplies; personnel; security and emergency procedures to be followed."

k. The permittee shall review annually the O&M Program & Manual and update it as needed 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 Section D.

l. The permittee shall continue to update an Asset Management Plan (https://www.nj.gov/de/assetmanagement/pdf/asset-management-plan-guidance.pdf), as part of the overall O&M strategy, which shall be updated on an annual basis. The Asset Management Plan shall include the following, at a minimum:

- Five basic components: asset inventory/mapping and condition assessment; level of service; criticality/prioritization assessment; life-cycle costing; and long-term funding strategy of the treatment works.

- Infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, that demonstrates 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).

2. Maximum use of the collection system for storage

a. The permittee shall continue to 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 practicable to minimize CSO discharges (i.e. 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, to enable appropriate segments of the collection system owned/operated by the permittee to store additional wet weather flows to reduce any CSOs 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. For the SIU dischargers upstream of any CSO outfall which is owned/operated by the permittee, the permittee shall: (1) determine the locations of the SIUs; (2) identify the CSO outfalls associated with each of the SIUs; and (3) determine the discharge volume and loading of SIU-permitted parameters for each SIU. In the case of a municipal permittee or non-delegated STP permittee, information to satisfy (1) and (3) shall be obtained from the delegated local agency that regulates the SIU or, if there is no delegated local agency, from the Department. This information shall be used to prioritize O&M activities in portions of the CSS affected by SIU discharges.

b. The permittee shall require SIUs upstream of any CSO outfall which is owned/operated by the Permittee to investigate ways to minimize their discharges during wet weather and report their findings to the permittee.

c. The permittee shall establish agreements with SIUs upstream of any CSO outfall which is owned or operated by the permittee or ordinances specifying that the SIUs (especially for batch discharges, non-continuous dischargers) should restrict discharges to the extent practical during wet weather periods.

4. Maximization of flow to the POTW for treatment

a. The permittee shall continue to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize the conveyance of wastewater to the STP for treatment subject to existing capacity.

b. The permittee shall continue to implement alternatives for increasing flow to the STP.

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.f 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

a. The permittee shall operate the system in such a way that it does not cause any dry weather overflow from the collection system owned/operated by other permittees in the hydraulically connected system

6. Control of Solids/Floatables in CSOs

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

7. Implementation of Pollution Prevention Measures

a. The permittee shall continue to encourage municipalities 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 permittee. 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.

b. The permittee shall enforce rules and regulations on illegal connections and unauthorized discharge(s) into the POTW.

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

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

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

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

G. LONG TERM CONTROL PLAN REQUIREMENTS

1. Characterization Monitoring and Modeling of the Combined Sewer System

a. As required by the 2015 NJPDES CSO permit, Joint Meeting of Essex and Union Counties submitted the "Sewer System Characterization Work Plan: Quality Assurance Project Plan" dated December 2015, revised May 12, 2016 and amended June 13, 2016 and the System Characterization Report dated the June 27, 2018 and revised December 5, 2018. The work plan and the System Characterization Report were approved by the Department on May 26, 2016 and January 17, 2019, respectively.

b. The major elements of the sewer system characterization are noted below where additional detail is included on these topics within the report:

i. Rainfall Records;

ii. Combined Sewer System Characterization;

iii. CSO Monitoring; and

iv. Modeling

2. Public Engagement

a. The permittee shall conduct a public engagement process to inform, educate and engage members of the hydraulically connected communities. The goal of this process is to generate participation and collect input from the affected community and interested public.

b. The permittee shall develop a CSO Supplemental Team to serve as a liaison between the affected community, interested public and the decision makers for the permittee regarding the implementation of the CSO control alternatives. The CSO Supplemental Team shall be reconstituted with the goal of including members of the following groups, at a minimum, where possible: mayor's office, local planning board, local community groups and residents from the affected areas and from any affected areas that are also overburdened communities. The permittee shall solicit members of its community to join the CSO Supplemental Team through various outreach and public notice activities. The permittees efforts to recruit CSO Supplemental Team members shall be documented on the permittee's website.

c. The permittee is required to hold regular public meetings (virtual, in person or a combination of both) in order to:

i. Inform the affected community and interested public of the ongoing process of implementing the LTCP including reports of project status and its present impact on the local community including consideration of locating specific meetings in the affected neighborhood.

ii. Continue to identify areas of combined sewer-related flooding.

iii. Allow the affected community and interested public an opportunity to provide input on the siting of GI as required by the permit.

iv. Engage the affected community and interested public in solutions they can implement to reduce CSOs. Examples may include an adopt-a-catch-basin program, rain barrels, water conservation, the removal of impervious surfaces, and the installation of green infrastructure projects.

v. Neighborhood specific information on construction of CSO control projects throughout the process including before and during construction in order to receive feedback from the community. This should include the posting of information on scheduling of street closures as well as any potential impacts to the residents in the vicinity of any CSO mitigation projects.

d. The frequency of meetings shall be determined by the milestones in the Implementation Schedule (See G.8.) and by input from the affected community and interested public. Meeting frequency may subsequently be adjusted based on documented attendance. Meetings should be held with accessibility for the interested public in mind. This may include varying start times and attendance options (availability of public transit or parking and virtual meetings), as fits the needs of interested public and affected community.

e. The permittee shall engage with overburdened communities (OBC) within combined sewer service areas in order to solicit representation and engagement, ensure the OBCs' awareness of the meeting schedule, and encourage participation. The Department published a list of overburdened communities in the State and associated electronic mapping available at https://www.nj.gov/dep/ej/communities.html.

f. The permittee must designate one LTCP outreach coordinator. This coordinator (or any another person designated by the permittee) should be available to maintain regular communication with the affected community and interested public including, but not limited to.

i. Maintain a website that acts as a clearinghouse for information regarding implementation of the LTCP.

- The website shall contain public engagement information and include a platform for the interested public to sign up and attend any meetings.
- The website shall contain any progress reports required to be submitted by this permit.
- The website shall also list the construction status of any project identified in the Implementation Schedule in Section G.8. below.

ii. Engage the affected community and interested public in order to solicit individuals who are willing to become involved.

iii. Post meeting invitations (including dates and times) on the website at least one month in advance.

iv. Post handouts or other meeting materials on the website within one week after the meeting.

v. Make data available on the amount of public feedback received including the number of meeting attendees.

vi. Any project identified in the Implementation Schedule in Section G.8. below must display signage indicating that the project is required by the LTCP.

g. The Department's Office of Environmental Justice (see https://dep.nj.gov/ej/) shall be given 30 days advance notice of the meeting schedule so that it can be shared with Environmental Justice community leaders.

h. Public meetings shall be live streamed and made available to the affected community and interested public for viewing afterwards including materials in the language(s) appropriate to the majority of community demographics.

i. Outreach materials, including physical handouts and websites, should be produced in the language(s) appropriate to the majority of community demographics.

3. Consideration of Sensitive Areas

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

4. Evaluation of Alternatives

a. 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.

Combined sewer flows remaining after implementation of the NMCs and within the criteria specified in this Section at G.4.f.i. and ii. 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, and
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals/by-products (e.g. chlorine produced oxidants), where necessary.

The permittee must demonstrate any of the following three criteria below:

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. 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 hydraulically connected 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.

b. This renewal permit action identifies that adequate and effective CSO control measures are required to be implemented that are consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. These permit conditions are included in Part IV.G.8.

c. This permit renewal includes an implementation schedule as well as specific requirements to track and assess compliance with the attainment of wet weather percent capture. In order to evaluate the performance of the CSO control measures, the permittees are required to demonstrate progress in percent reduction through the use of the H&H model to attain greater than 85% wet weather capture upon completion of CSO LTCP measures.

d. To supplement these measures, as a condition of the NJPDES permit as issued to Joint Meeting of Essex and Union Counties, influent flow is required to be reported under "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent". The number of bypass events is also required to be reported as "Duration of discharge" namely the number of calendar days per month that a bypass event occurs. These reporting requirements are included to serve as a means to track increased flows to the plant, number of bypass events and will serve as an indication of any reduction in CSOs.

5. Cost Performance Considerations

a. This renewal permit action identifies that adequate and effective CSO control measures are being implemented consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. This renewal permit sets forth an implementation schedule in Part IV.G.8.

6. Operational Plan

a. Throughout implementation of the LTCP as appropriate, the permittee shall update the Operational Plan, including Operation & Maintenance (O&M) Manual, Emergency Plan, and Asset Management Plan in accordance with F.1, to address the LTCP CSO control facilities and operating strategies, including but not limited to: the implementation, operation, maintenance of Green Infrastructure; staffing and budgeting; and I/I. Climate change resilience requirements shall also be considered in the update of these plans.

7. Maximizing Treatment at the Existing STP

a. The permittee shall continue to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize treatment at the hydraulically connected STP.

8. Implementation Schedule

a. The City of Elizabeth's (the City) sewer system conveys flow to the Trenton Avenue Pump Station and then pumps to the JMEUC WWTF for treatment. JMEUC and the City's combined LTCP specifies a combination of CSO control strategies, including sewer separation, off-line storage tanks, and green infrastructure. However, maximizing conveyance to the JMEUC WWTF and providing additional conveyance and treatment capacity is the primary strategy for CSO volume reduction. A pre-existing contract between JMEUC and the City established a daily peak flow rate of 36 MGD that the City can convey to the JMEUC WWTF. During the development of the LTCP, JMEUC and the City executed a resolution to the contract which increased the daily peak flow rate that the City can convey to the JMEUC WWTF from 36 MGD to 55 MGD. This results in increased flows pumped to the JMEUC WWTF which would otherwise have been discharged untreated from CSO outfalls.

b. JMEUC shall continue to coordinate with the City to accept additional CSO flows to ensure that the City can attain the required projects set forth in the LTCP and explore revising additional agreements to accept additional flow.

9. Compliance Monitoring Program (CMP) – Post Construction Compliance Monitoring Plan (PCCMP)

a. The permittee shall implement a Compliance Monitoring Program (CMP) adequate to: verify baseline and existing conditions, the effectiveness of CSO control measure, compliance with water quality standards, and protection of designated uses. The CMP shall be conducted before, during and after implementation of the LTCP. The NJCSO Group Compliance Monitoring Program Report dated June 30, 2018, revised October 5, 2018 was submitted and subsequently approved by the Department on March 1, 2019.

b. The portion of the CMP conducted during and after implementation of the LTCP is referred to as the Post Construction Compliance Monitoring Plan (PCCMP). The main elements of the PCCMP shall include:

i. A process to determine whether the CSO control measures are meeting the interim required percent capture milestone set forth in the LTCP or the final required percent capture of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events is eliminated or captured for treatment on a system-wide annual average basis as defined in the Federal CSO Policy. The PCCMP shall provide data to evaluate the effectiveness of the CSO control measures constructed during and after the implementation of the LTCP.

ii. A monitoring schedule, regulator monitoring locations, receiving water sampling locations, and rain gauge locations.

iii. The approach for analysis of the PCCMP data for assessing the performance of CSO control measures and for reporting progress to regulatory agencies and the general public. The PCCMP shall evaluate the incremental reduction in overflow rates and volumes as the CSO control measures are placed into operation.

iv. A Public Notification System to notify the public of the occurrence of combined sewer overflows for each receiving water body.

c. The PCCMP shall include the implementation of a rainfall and hydraulic monitoring program, as well as a detailed analysis and evaluation of the CSO control measures' efficacy. Through a calibrated/validated H&H model, a continuous simulation on the system-wide annual average shall be run to compare the remaining CSO discharge volume to baseline conditions and determine whether the CSO control measures have achieved the interim required percent capture or the final required percent capture.

d. During and after the implementation of the LTCP, the PCCMP shall use the following steps to determine if the CSO control measures are meeting the interim required percent capture or the final required percent capture:.

   i. Collect flow monitoring for a 1-year period and rainfall data for a 1-year period during the effective NJPDES permit. Perform QA/QC on the data. Note that this is separate from the monthly monitoring form data;

   ii. At the end of the effective NJPDES permit, update the H&H model to include all completed CSO control measures and any other modifications to the CSS since the H&H model was calibrated for the LTCP;

   iii. Calibrate and/or validate the updated H&H model, if needed, using the flow and rainfall data collected during the effective NJPDES permit. Any recalibration of the H&H model shall be approved by the Department; and

   iv. Perform continuous simulation using the updated H&H model on the system-wide annual average and calculate the percent capture to determine if the interim required percent capture or the final required percent capture is being achieved.

e. The permittee shall conduct interim post-construction compliance monitoring every five years as established in the LTCP. Such monitoring shall assess the projects and implementation schedule including attainment of percent capture milestones set forth in the LTCP. These projects shall be monitored and analyzed to determine if they are operating as intended and whether the implementation of projects under the LTCP are achieving the interim required percent capture milestones set forth in the LTCP. If the PCCMP determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent criteria, an evaluation must be included in the Adaptive Management Plan in accordance with H. below.

f. The permittee shall submit an Interim PCCMP Report on or before 54 months from the effective date of the permit (EDP). The report shall include:

   i. A statement setting forth the deadlines and other terms that the permittees were required to meet in the effective NJPDES permit;

   ii. A summary of principal contacts with the Department during the effective NJPDES permit relating to CSOs or implementation of the LTCP;

   iii. NJPDES permit violations, including but not limited to dry weather overflows;

   iv. A summary of flow and hydraulic monitoring data collected by the permittees during the effective NJPDES permit;

   v. A description of the CSO control measures completed within the effective NJPDES permit and a projection of CSO control measure work to be performed during the subsequent renewal NJPDES permit;

vi. An evaluation of the effectiveness of the CSO control measures constructed in the effective NJPDES permit to determine if the interim required percent capture is achieved; and

vii. A summary of any proposed adjustments to the components of the LTCP.

g. Upon implementation of all the LTCP CSO control measures, the monitoring information collected from the ambient baseline monitoring phase of the BCMP shall be compared to the post-construction compliance monitoring to evaluate the effectiveness of CSO control measures implemented to verify that the remaining CSOs are not precluding the attainment of water quality standards for pathogens.

h. The PCCMP must contain data from the on-going New Jersey Harbor Discharger Group Monitoring Network. This data is required to supplement the existing data to represent future conditions. This will ensure consistency for sampling stations, parameters etc.

i. A Final PCCMP Report shall be submitted to the Department within 30 months after the last LTCP project has been constructed and is in operation. The single Final PCCMP Report shall evaluate and document the system-wide performance of the LTCP CSO control measures. The Report shall include an assessment of whether the control measures are meeting the final required percent capture and complying with water quality standards. The report shall include:
   i. A complete post-construction compliance monitoring period data summary and analysis;

   ii. A reporting of all of the CSO control measures that have been constructed, implemented, and that are in operation;

   iii. An evaluation of the CSO control measures' performance, and whether the controls meet the final required percent capture;

   iv. A description of any actions that were needed to be implemented to meet the interim required percent capture or the final required percent capture; and.

   v. An assessment of whether the control measures are complying with water quality standards

10. Permittee's LTCP Responsibilities

a. The permittee is responsible for implementing CSO control measures to ensure compliance with the Federal CSO Control Policy and N.J.A.C. 7:14-11, Appendix C as outlined in the Implementation Schedule located in Section G.8. Since multiple permittees own/operate different portions of a hydraulically connected CSS, the permittee is required to work cooperatively and provide the necessary information with all other CSO permittees to ensure overall compliance. In addition, each permittee is required to institute necessary measures in accordance with the Implementation Schedule for only the portion of the hydraulically connected system that the permittee owns/operates and provide this information to the other permittees for compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

H. Custom Requirement

1. Precipitation Trends

a. The following information shall be submitted to the Department as part of the NJPDES permit renewal application:

i. The permittee shall analyze and submit the annual precipitation depth obtained by the National Oceanic Atmospheric Administration (NOAA) at the Newark Liberty International Airport in order to determine the annual precipitation depth during the effective period of the permit.

ii. The permittee shall determine and submit the annual precipitation depth for each calendar year, such that by the end of the permit, the most recent five calendar years of data has been collected. The permittee shall compare this data to assumptions utilized in the development of the LTCP.

iii. This information shall be submitted to the Department with the NJPDES renewal application with an assessment of any change in precipitation trends.

2. Adaptive Management Plan

a. An Adaptive Management Plan shall be submitted on or before 54 months from the effective date of the permit (EDP) if any of the following occurs:

i. An Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture as per Part IV.G.9.e. above;.

ii. A permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule; and/or

iii. The precipitation trends required in Part IV.H.1 above demonstrates a change in the assumptions used in the development of the LTCP.

b. If an Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture, the Adaptive Management Plan shall include:.

i. Modified or additional CSO control measures that achieve the interim required percent capture or the final required percent capture;.

ii. A detailed analysis and a modified implementation plan and schedule of the CSO control measures; and

iii. Inclusion of any adaptive management modifications based on an Interim or the Final PCCMP Report.

c. If a permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule by incorporating new technologies, group similar control measures to reduce cost, increase wet weather, change the order of the control measures and/or accelerate the schedule. If such a request occurs, the Adaptive Management Plan shall include:.

i. A detailed analysis of the modified and/or new CSO control measures including verification that the interim required percent capture or the final required percent capture will be achieved; and.

ii. A modified implementation plan and schedule of the CSO control measures.

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.