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

John F. Papetti, Director Department of Public Works
City of Elizabeth
50 Winfield Scott Plaza
Elizabeth City, New Jersey 07201

Re: Draft Surface Water Renewal Permit Action
Category: CSM – Combined Sewer Management (IP)
NJPDES Permit No. NJ0108782
City of Elizabeth
Elizabeth City, New Jersey 07201, Union County

Dear John Papetti:

Enclosed is a **draft** NJPDES permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. The City of Elizabeth (City) is served by a combined sewer collection system (CSS) which is hydraulically connected to the Joint Meeting of Essex & Union Counties (JMEUC) Wastewater Treatment Facility (WWTF). The City owns and operates a CSS including 29 Combined Sewer Overflow (CSO) outfalls, which are equipped with solids/floatables controls. These CSO outfalls discharge combined sewage 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.

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,

Joseph Mannick
Section Chief
Bureau of Surface Water and Pretreatment Permitting

Enclosures

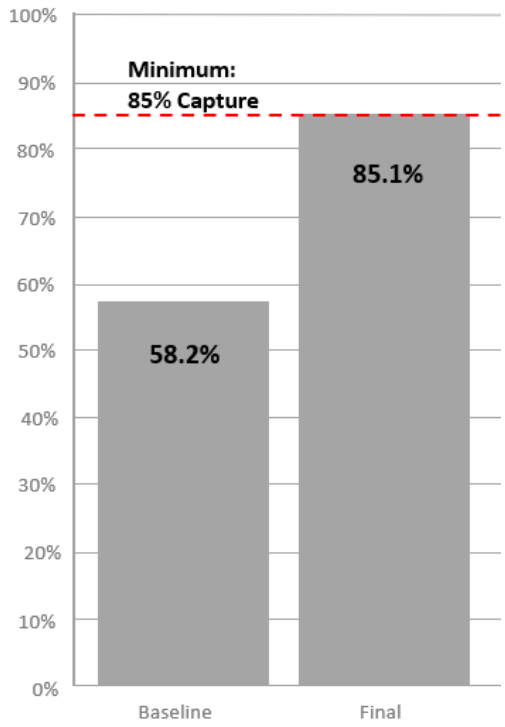
c: Permit Distribution List
Masterfile #: 37448; PI #: 46299

EXECUTIVE SUMMARY

The City of Elizabeth CSO Permit

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

Through the LTCP, the City and JMEUC 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, the City and JMEUC 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
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
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

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 #: 37448 **PI #:** 46299

This fact sheet sets forth the principal 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 2, 2020.

1 Name and Address of the Applicant:

The City of Elizabeth
50 Winfield Scott Plaza
The City of Elizabeth, New Jersey 07201

2 Name and Address of the Facility/Site:

The City of Elizabeth
Combined Sewer Collection System
The City of Elizabeth, New Jersey 07201
Union County

3 NJPDES CSO Permit and Policy Background:

The City of Elizabeth (City) is served by a combined sewer collection system (CSS) which is hydraulically connected to the Joint Meeting of Essex & Union Counties (JMEUC) Wastewater Treatment Facility (WWTF). This subject renewal permit action is issued to the City who owns and operates 29 Combined Sewer Overflow (CSO) outfalls.

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 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.

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 operates and maintains the Edward P. Decher Secondary 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 as a customer community.

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.

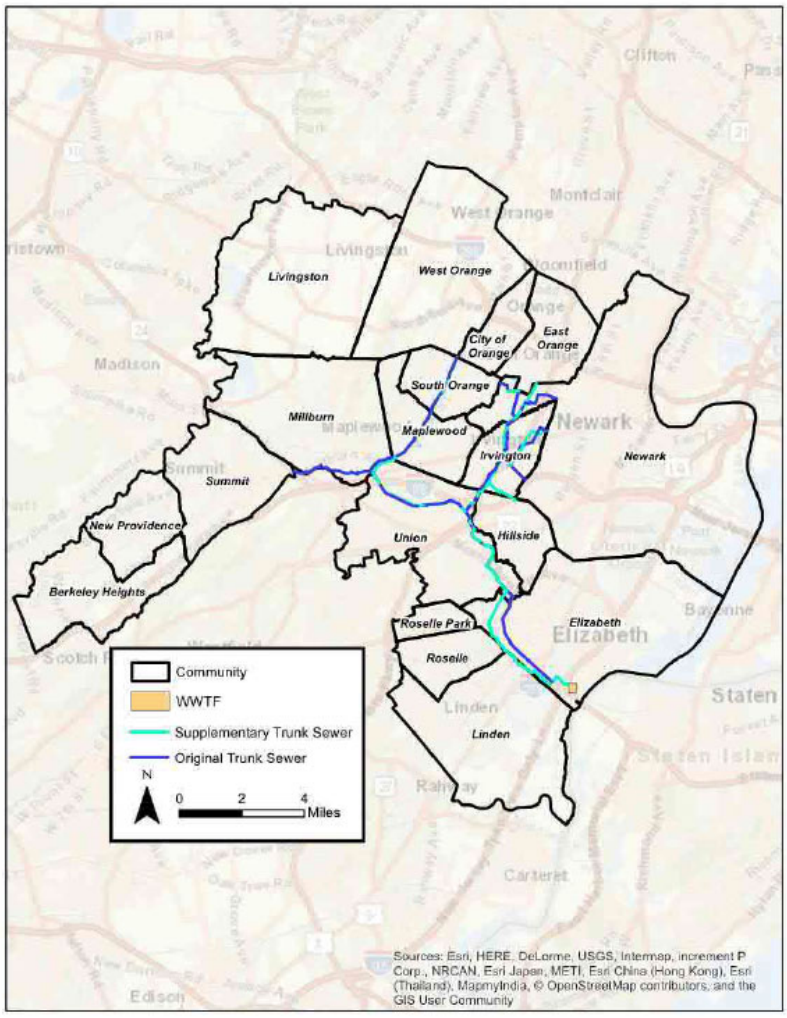
Consistent with the objectives of the Environmental Justice Law and, as required by the Federal CSO Control Policy and NJPDES Regulations, the NJPDES permit has been subjected to an extensive public participation process throughout the three steps of the LTCP process which has continued as part of the preparation of this renewal permit. This is summarized and described in 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. <u>CSO Description</u>:

The City of Elizabeth (City) owns and operates a CSS including twenty-nine (29) CSO outfalls. These outfalls discharge combined sewage into various waterbodies (described in Section 5.A above) 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, a certain amount of combined sewage is conveyed through the City interceptors to the TAPS and pumped to the JMEUC WWTF for treatment. Each outfall is equipped with solids/floatables removal facilities. Excess flows are discharged at the City's 29 CSO discharge points (outfalls) as detailed below:

Outfall Number	Interceptor Service Area	Outfall Name	Regulator(s)	Latitude N	Longitude W	Solids/Floatables Status
001A	Easterly	Airport South Area	R001	40° 40' 50.7"	74° 11' 30.444"	**Completed**
002A	Easterly	Dowd Avenue	R002	40º 40' 19"	74º 11' 26"	**Completed**
003A	Westerly	Westfield Avenue & Magie Avenue	R003A*, R003B*	40° 40' 4.44"	74° 13' 9.3"	**Completed**
005A	Westerly	Westfield Avenue	R005	40° 40' 4.512"	74° 13' 9.804"	**Completed**
008A	Westerly	West Grand Street/Price Street	R008	40° 39' 58.68"	74° 13' 6.96"	**Completed**
010A	Westerly	Murray Street/Cherry Street	R010	40° 39' 47.232"	74° 13' 7.752"	**Completed**
012A	Westerly	Rahway Avenue	R012A, R012B	40° 39' 41.76"	74° 13' 2.712"	**Completed**
013A	Westerly	Rahway Avenue/Burnet Street	R011, R013	40° 39' 41.22"	74° 13' 3.072"	**Completed**
014A	Westerly	Broad Street/Rahway Avenue	R014	40° 39' 39.816"	74° 12' 54.612"	**Completed**
016A	Westerly	Edgar Road/Pearl Street	R016	40° 39' 39.096"	74° 12' 59.472"	**Completed**
021A	Westerly	Spring Street/Third Avenue	R021*	40° 39' 33.192"	74° 12' 31.248"	**Completed**
022A	Westerly	South Street	R022	40° 39' 28.152"	74° 12' 37.404"	**Completed**
026A	Westerly	John Street	R026	40° 39' 16.056"	74° 12' 30.276"	**Completed**

Outfall Number	Interceptor Service Area	Outfall Name	Regulator(s)	Latitude N	Longitude W	Solids/Floatables Status
027A	Westerly	Summer Street/Arnett Street	R027/028	40° 39' 1.224"	74° 12' 35.748"	**Completed**
028A	Westerly	Summer Street/Arnett Street	R027/028	40° 38' 59.208"	74° 12' 35.748"	**Completed**
029A	Easterly	South Front Street	R029	40º 38' 40"	74º 11' 26"	**Completed**
030A	Easterly	Front Street/East Jersey Street	R030*	40° 38' 46.464"	74° 11' 10.212"	**Completed**
031A	Easterly	Front Street/Livingston Street	R031	40° 38' 48.444"	74° 11' 7.548"	**Completed**
032A	Easterly	Front Street/Magnolia Avenue	R032	40° 38' 51.576"	74° 10' 53.292"	**Completed**
034A	Easterly	Atalanta Place	R034A, R034B*	40° 39' 6.084"	74° 10' 16.464"	**Completed**
035A	Easterly	South Front Street/Third Avenue	R035	40° 38' 36.132"	74° 11' 42.756"	**Completed**
036A	Westerly	Orchard Street/Dod Court	R036A*, R036B*	40° 40' 15.708"	74° 13' 9.264"	**Completed**
037A	Easterly	Bayway/South Front Street	R037A, R037B	40° 38' 6.972"	74° 11' 55.932"	**Completed**
038A	Easterly	Third Avenue	R038A*, R038B*	40° 38' 50.568"	74° 12' 16.092"	**Completed**
039A	Easterly	Trumbull Street, Fourth Street	R039*	40º 39' 46"	74º 12' 52"	**Completed**
040A	Westerly	Pulaski Street/Clifton Street	R040	40° 38' 47.796"	74° 12' 30.528"	**Completed**
041A	Westerly	Morris Avenue/Sayre Street	R041*	40° 40' 10.668"	74° 13' 9.696"	**Completed**
042A	Westerly	Bridge Street/Elizabeth River	R042A, R042B, R042C*, R042D*	40° 39' 39.744"	74° 12' 40.788"	**Completed**
043A	Easterly	Army Corp Flood Control Structure	R043*	40° 38' 37.5"	74° 11' 44.124"	**Completed**

*These regulators serve as relief diversion structures and are connected to sewersheds for other regulators.

C. Implementation of Additional Conveyance and Treatment for Trenton Avenue Pump 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 Pump 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.

Furthermore, the City commenced construction for the South Second Street stormwater control project and the Lincoln Avenue drainage improvements project. At the time of this progress report, the City was awaiting Treatment Works Approval for the Atlantic Street CSO storage tank project bid advertisement. In addition, the City continued the TAPS Phase 2 upgrade preliminary design, prepared hydraulic model for CSO Basin 001 Van Buren Avenue trunk sewer investigation, authorized field level sensor signal repeater installation for JMEUC trunk sewer real time control wet weather pumping, and continued monitoring of Roselle Park storm sewer connection flows.

D. Climate Resilience Evaluation and Awareness Tool (CREAT):

The City of Elizabeth participates in the New York-New Jersey Harbor and Estuary Program (HEP) for managing the New York-New Jersey Harbor Estuary to help accelerate progress towards cleaner water, restored fish and wildlife habitat, improved public access, more efficient maritime activities, and robust community engagement. The City partnered with HEP to assess the risk of sea level rise impacts to the CSO outfalls. The City focused on a tidally influenced outfall in a low-lying area adjacent to the Elizabeth River. When wet weather events and high tides coincide, localized flooding within the outfall's drainage area can occur. Sea level rise is expected to increase the backpressure condition on the outfall pipe, increasing the likelihood of upstream localized flooding. Flooding can damage houses, cars, and other property; hinder traffic flows; and require cleanup after floodwaters have subsided.

To better understand the vulnerability of CSO outfalls to potential climate-related impacts and to evaluate the risk reduction benefits of CSO control alternatives, HEP worked with consultants from the City to use the U.S. Environmental Protection Agency's (EPA's) Climate Resilience Evaluation and Awareness Tool (CREAT). CREAT is a risk assessment application that helps municipalities and utilities adapt to extreme weather events by better understanding current and long-term weather conditions. In a regional workshop for New Jersey CSO permit holders and partners, representatives from the City shared how they used CREAT to think critically about their potential climate impacts, possible adaptation options, and monetized risk reduction plans.

E. Flooding:

The Department acknowledges the proactive manner in which the City of Elizabeth (City) has moved forward with several CSO controls and the associated impact on localized flooding. Since the Federal CSO Control Policy was issued by the USEPA, the City has made extensive investments in its combined sewer system for CSO abatement, CSO elimination, and stormwater drainage improvements. This includes the completion of the Verona Avenue/Gebhardt Avenue Storm Sewer Improvement project, Progress Street Stormwater Control project, Trumbull Street Stormwater Control project, and the South Street Flood Control project.

The Progress Street Stormwater Control Project was completed in 2018 to address flooding in a low-lying industrial area that was caused by excessive flows in the CSO outfall line, coupled with high water levels at the outlet to the Great Ditch, which then conveyed wet weather flows to Newark Bay. The Trumbull Street Stormwater Control Project was completed in August 2020, and was implemented to address localized street flooding at Trumbull Street and Sixth Street that disrupts trucking transportation traffic from the area to nearby highways and impacts the passage of emergency response vehicles. The Trumbull Street Stormwater Control project also includes a green infrastructure installation. The South Street Flood Control Project was implemented to address inadequate capacity within the existing combined sewer and the inability to reliably operate the South Street Pump Station. The project included rehabilitation and upgrades to the South Street Pump Station, including new pumps, electrical systems and controls, and a backup generator. It also involved repairs and lining of the existing combined sewer on Fourth Avenue and connecting streets, installation of separate storm sewers and inlets

at various locations including South Spring Street and the dead-end streets of Fourth Avenue between South Street and John Street, and restoration of the Elizabeth River Flood Control ponding areas and outlet structures.

As stated in Sections 7 "Plan Selection" and 9 "Implementation Schedule" of the LTCP, the City has planned additional projects to further address flooding. During moderate rainfall events with a high tide condition in the Elizabeth River, due to inadequate hydraulic gradient in the existing combined sewer, runoff generated in the Atlantic Street drainage area cannot enter the subsurface conveyance system. This results in flooding of localized low points along Third Avenue and the intersections of Doyle Street and Atlantic Street. The Atlantic Street CSO Storage Facility Project proposes to address this flooding while significantly reducing the overflow volume for Outfall 038A through the installation of an underground wet weather storage system in excess of 1 million gallons at Atlantic Street and Third Avenue. This storage facility will provide combined sewer overflow control for CSO Basin 038 and mitigate street flooding on Third Avenue. The project also includes installation of connection piping from existing combined sewer lines, and construction of a new pump station, emergency generator, and recycling center building on the property. After each wet weather event, the dewatering pump station will convey the combined sewage through a force main back to the existing trunk sewer.

The South Second Street Stormwater Control Project consists of drainage upgrades to provide a new storm system that drains into the existing ditch at the end of South Second Street, control improvements to the existing South Second Street Stormwater Pump Station, and cleaning and enhancement of the existing drainage ditch and headwall to allow unimpeded flow of runoff from the Geneva Street and South Second Street area to the pump station.

The Lincoln Avenue Stormwater Control Project addresses capacity limitations in a separate storm sewer drainage system that relates to surface flooding along Lincoln Avenue at the intersections with Melrose Terrace, Decker Avenue, and Wilson Terrace. This Lincoln Avenue drainage area is a partially separated sewer area of CSO Basin 041.

The Park Avenue Stormwater Control Project provides additional drainage capacity to address periodic localized street flooding on Park Avenue between Coolidge Road and Springfield Road during significant wet weather events. The project involves the Westfield Avenue / Park Avenue trunk sewer located in CSO Basin 003, which receives flow from the Borough of Roselle Park via a 42" diameter storm sewer connection. The project concept initially involved replacement of the combined sewer, maintaining the existing pipe alignment but using smoother pipe material, and increasing the diameter and slope to the maximum extent possible for improved hydraulic performance. However, further project development is considering current hydraulic modeling and performance objectives.

The 42" Roselle Park storm sewer connection contributes significant wet weather flow to the upstream end of the large combined sewer drainage basin of the northwestern section of the City . The impact of this connection on localized street flooding at the intersection of Park Avenue and Glenwood Road/Hillside Road was recognized in a prior study by the City. Roselle Park has delineated a 120-acre drainage area City and JMEUC as being tributary to the 42" storm sewer connection to the City combined sewer system. The City has been monitoring the flow from the connection on a continuous basis since December 2017 and has provided a draft inter-municipal agreement to the Borough of Roselle Park for the connection at Park Avenue, including a cost structure for a user charges and future construction and capital expenditures. The contributing drainage area to the 42" Roselle Park storm sewer connection has been incorporated into the hydraulic computer model for the Elizabeth CSS.

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.

CSO Outfall Designator: 001A

General Information		Watershed Information	
Receiving Water:	Peripheral Ditch to Newark Bay	Receiving River Basin:	NY/NJ Harbor
Via :	Outfall pipe	WMA (b):	Elizabeth, Rahway, Woodbridge (Union)
Classification (a):	SE3(C2)	Watershed:	Newark Bay/Kill Van Kull/Upper NY Bay
County:	Union	Subwatershed:	Newark Airport Peripheral Ditch
Municipality:	The City of Elizabeth	HUC 14 (c):	02030104010010
		Water Quality Impairments (d):	Benzo[A]Pyrene (PAHs); Dieldrin; Heptachlor Epoxide; Hexachlorobenzene; TP; and [Chlordane, DDT, Dioxin, Mercury, and PCBs] in Fish Tissue
Outfall Description			
		Outfall Configuration:	tidally submerged pipe

CSO Outfall Designator: 002A

General Information		Watershed Information	
Receiving Water:	Great Ditch to Newark Bay	Receiving River Basin:	NY/NJ Harbor
Via :	Outfall pipe	WMA (b):	Elizabeth, Rahway, Woodbridge (Union)
Classification (a):	SE3(C2)	Watershed:	Newark Bay/Kill Van Kull/Upr NY Bay
County:	Union	Subwatershed:	Newark Airport Peripheral Ditch
Municipality:	The City of Elizabeth	HUC 14 (c):	02030104010010
		Water Quality Impairments (d):	Benzo[A]Pyrene (PAHs); Heptachlor Epoxide; Hexachlorobenzene; TP; and [Chlordane, DDT, Dieldrin, Dioxin, Mercury, and PCBs] in Fish Tissue
Outfall Description			
		Outfall Configuration:	tidally submerged pipe

CSO Outfall Designator: 003A, 005A, 008A, 010A, 012A, 013A, 014A, 016A, 021A, 022A, 026A, 027A, 028A, 029A, 035A, 036A, 038A, 040A, 041A, 042A, 043A

General Information		Watershed Information	
Receiving Water:	Elizabeth River	Receiving River Basin:	NY/NJ Harbor
Via :	Outfall pipe	WMA (b):	Elizabeth, Rahway, Woodbridge (Union)
Classification (a):	FW2-NT(C2) & SE3(C2)	Watershed:	Elizabeth River
County:	Union	Subwatershed:	Elizabeth R (below Elizabeth CORP BDY)
Municipality:	The City of Elizabeth	HUC 14 (c):	02030104020030
		Water Quality Impairments (d):	Arsenic; Benzo[A]Pyrene (PAHs); Copper; Heptachlor Epoxide; Hexachlorobenzene; Lead; pH; TDS; TP; and [Chlordane, DDT, Dieldrin Dioxin, Mercury, and PCBs] in Fish Tissue
Outfall Description			
		Outfall Configuration:	tidally submerged pipe

CSO Outfall Designator: 030A,031A, 032A

General Information		Watershed Information	
Receiving Water:	Arthur Kill	Receiving River Basin:	NY/NJ Harbor
Via :	Outfall pipe	WMA (b):	Elizabeth, Rahway, Woodbridge (Union)
Classification (a):	SE3(C2)	Watershed:	Newark Bay/Kill Van Kull/Upr NY Bay
County:	Union	Subwatershed:	Kill Van Kull West
Municipality:	The City of Elizabeth	HUC 14 (c):	02030104010020
		Water Quality Impairments (d):	Benzo[A]Pyrene (PAHs); Heptachlor Epoxide; Hexachlorobenzene; and [Chlordane, DDT, Dieldrin, Dioxin, Heptachlor, Mercury, and PCBs] in Fish Tissue
Outfall Description			
		Outfall Configuration:	tidally submerged pipe

CSO Outfall Designator: 034A, 039A

General Information		Watershed Information	
Receiving Water:	Newark Bay	Receiving River Basin:	NY/NJ Harbor
Via :	Outfall pipe	WMA (b):	Elizabeth, Rahway, Woodbridge (Union)
Classification (a):	SE3(C2)	Watershed:	Newark Bay/Kill Van Kull/Upr NY Bay
County:	Union	Subwatershed:	Kill Van Kull West
Municipality:	The City of Elizabeth	HUC 14 (c):	02030104010020
		Water Quality Impairments (d):	Benzo[A]Pyrene (PAHs); Heptachlor Epoxide; Hexachlorobenzene; and [Chlordane, DDT, Dieldrin, Dioxin, Heptachlor, Mercury, and PCBs] in Fish Tissue
Outfall Description			
		Outfall Configuration:	tidally submerged pipe

CSO Outfall Designator: 037A

General Information		Watershed Information	
Receiving Water:	Arthur Kill	Receiving River Basin:	NY/NJ Harbor
Via :	Outfall pipe	WMA (b):	Elizabeth, Rahway, Woodbridge (Union)
Classification (a):	SE3(C2)	Watershed:	Morses Creek/Piles Creek
County:	Union	Subwatershed:	Morses Creek/Piles Creek
Municipality:	The City of Elizabeth	HUC 14 (c):	02030104030010
		Water Quality Impairments (d):	Arsenic; Benzo[A]Pyrene (PAHs); Heptachlor Epoxide; Hexachlorobenzene; TDS; TP; and [Chlordane, DDT, Dieldrin, Dioxin, Mercury, and PCBs] in Fish Tissue
Outfall Description			
		Outfall Configuration:	tidally submerged pipe

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 Freshwater (FW2) and Saline Estuary 3 (SE3) receiving waters are:

FW2:
1. Maintenance, migration and propagation of the natural and established biota;
2. Primary and secondary contact recreation;
3. Industrial and agricultural water supply;
4. Public potable water supply after conventional filtration treatment (a series of processes including filtration, flocculation, coagulation, and sedimentation, resulting in substantial particulate removal but no consistent removal of chemical constituents) and disinfection; and
5. Any other reasonable uses.

SE3:
1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses.

As noted in the tables above, these segments of the identified waterbodies are impaired for several parameters. This permit action requires the permittee to reduce the combined sewer overflow volume, frequency and duration at CSO outfalls which should have a corresponding decrease on the discharge of toxic pollutants.

7 Type and Quantity of the Wastes or Pollutants:

The Permit Summary Tables in Section 9 of this Fact Sheet contain a summary of certain parameters discharged from the permittee's CSO outfalls.

8 Summary of Permit Conditions for Combined Sewer Management:

A. NJPDES CSO Permit Overview:

The existing NJPDES CSO Permit as issued to the City of Elizabeth 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 include 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 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, 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 a 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 CSS 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 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 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, for the City, the total system includes 6.6 miles of intercepting sewers (4.3 miles for the Easterly Interceptor and 2.3 miles for the Westerly Interceptor), 159 miles of combined gravity sewer mains and trunks, 9.5 miles of separate sanitary sewers, and 38 miles of separate storm sewers. 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 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 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 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 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.

This condition is included 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 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 Part IV.F.4.

5. Prohibition of CSOs During Dry Weather

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit included 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

The Department has determined that the existing permit condition related to DWOs is still applicable. As a result, this renewal permit action retains the DWO definition and continues the requirement to prohibit CSOs during dry weather. This condition also serves to ensure the ongoing operation of the system in an effective manner. Part IV.F.5 is included in the renewal permit as follows:

a. Dry weather overflows (DWOs) are prohibited from any CSO outfall in the entire collection system owned/operated by the permittee.
b. All DWOs must be reported to the Department as incidents of non-compliance in accordance with the requirements at N.J.A.C. 7:14A-6.10(c) and (e), along with a description of the corrective actions taken.
c. The permittee shall inspect the combined sewer system as required under Section F.1. to minimize the potential of DWOs and to abate DWOs that occur.
d. The permittee shall prohibit any connections, including but not limited to construction dewatering, remediation activities or similar activities, downstream of a CSO regulator, that will convey flow to the 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. Any use under this provision must be specifically approved by the Department.

This condition is included 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 included a permit condition that requires the permittee to 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

Prior to the issuance of the 2015 NJPDES CSO permit, the permittee had installed a working solids/floatables netting facility with a spacing of 0.5 inches or less. Thus, the Department has determined that the permittee is in compliance with Part IV.F.6. of the existing permit.

The Department has determined that the existing permit condition related to the Control of Solid and Floatable Materials in CSOs is still applicable to the ongoing operation of the system in an effective manner. As a result, this renewal permit action continues the requirement to control solid and floatable material from being discharged from CSO outfalls. Additionally, the Department acknowledges that the permittee had solids/floatables control facilities prior to issuance of the 2015 NJPDES CSO permit.

This condition is included in Part IV.F.6.

7. Pollution Prevention

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit 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 Part IV.F.7 as follows:

a. The permittee shall continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned/operated by the permittee that conveys flows to the treatment works. Unless demonstrated to the Department to be impracticable, measures shall include, but not be limited to, the following:

i. Implementation of a regular street cleaning program.
ii. Retrofitting of existing storm drains to meet the standards in Appendix 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 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 included 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

The permittee installed the required sign as specified in the permit at the CSO outfall. In addition, the permittee incorporated measures to comply with other components of this permit condition such as creation of a notification system. As a result, the Department has determined that the permittee is in compliance with Part IV.F.8. of the existing permit.

The Department has determined that the existing permit condition related to Public Notification is still applicable and is necessary to keep the public informed of the locations of CSOs. As a result, this renewal permit action continues the requirement to maintain a CSO Identification Sign at the CSO outfall including information as to how the signs should be installed, the size of the signs and what the signs must display. The renewal permit also continues the requirement for the permittees to provide up-to-date information regarding where CSO discharges may be occurring on its website. This condition is included in Part IV.F.8 as follows:

a. The permittee shall ensure that CSO Identification Signs are posted and maintained at every CSO outfall location identified in Part III of this permit. The signs shall conform to the following specifications unless alternatives have been approved by the Department.

i. Signs shall be installed in such a manner as to have the same information visible from both the land and from the water, within 100' from the outfall pipe along the shoreline.
ii. Signs shall be at least 18" x 24" and printed with reflective material.
iii. Signs shall be in compliance with applicable local ordinances.
iv. The signs shall depict the following information below:
- Warning, possible sewage overflows during and following wet weather. Contact with water may also cause illness.
- Report dry weather discharge to NJDEP Hotline at 1 (877) 927-6337 (WARN-DEP).
- Report foul odors or unusual discoloration to NJDEP Hotline or (Permittee) at (phone number).
- NJPDES Permit Number NJ0108782
- Discharge Serial No. (e.g.. 001A).
- www.state.nj.us/dep/dwq/cso.htm
- Signs that depict symbols prohibiting swimming, fishing and kayaking.

b. The permittee shall continue to employ measures to provide reasonable assurance that the affected public is informed of CSO discharges in a timely manner. These measures shall include, but are not limited to, the items listed below:

i. Posting leaflets/flyers/signs with general information at affected use areas such as beaches, marinas, docks, fishing piers, boat ramps, parks and other public places (within 100 feet of outfall) to inform

the public what CSOs are, the location(s) of the CSO outfall(s) and the frequency and nature of the discharges and precautions that should be undertaken for public health/safety and web sites where additional CSO/CSS information can be found.

ii. Notification to all residents by either US Postal Service or email, (with copies sent to the NJDEP) in the permittee's sewer service area. This notification shall provide additional information as to what efforts the permittee has made and plans to continue to undertake to reduce/eliminate the CSOs and related threat to public health. Updated notifications shall be mailed on an annual basis.

iii. The permittee shall maintain on a daily basis a CSO Notification System website to inform interested citizens of CSO discharges that are occurring or have occurred.

Please note that these requirements differ from, and are less extensive than, the Public Participation requirements of the LTCP. See the LTCP Section G.2 below for details of the Public Participation requirements.

This condition is included in Part IV.F.8.

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

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit required 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

As per Part III of the existing NJPDES permit, the permittee submitted MRFs to the Department through monthly Discharge Monitoring Reports (DMRs) for the parameters specified above. Reported data on the DMRs include the parameters: Solids/Floatables, Precipitation and Duration of Discharge. Throughout the existing NJPDES permit cycle, the permittee submitted monthly DMRs with data for these parameters and is therefore in compliance with Part IV.F.9. This data can be found in the DEP DataMiner at: https://www13.state.nj.us/DataMiner and is also tracked by outfall at NJ CSO Outfalls (arcgis.com).

This renewal permit action continues the requirement of monitoring the CSO discharge events. This includes reporting Duration of Discharge, Precipitation, and quantity of Solids/Floatables removed from the CSO on a MRF. This permit condition requires a measure of CSO discharge events by measuring CSO “Duration of Discharge” to provide a measure of the effect of CSO controls on discharge events. In addition, these reporting requirements will continue to track precipitation trends by assessing precipitation amounts at a local rain gage. A summary of each parameter is as follows:

- Duration of Discharge represents the number of days (in whole numbers) that at least one discharge occurred from that outfall (i.e., not the number of discharge events). Sample type is “Estimated”.
- Precipitation represents the total amount of precipitation (i.e. rainfall and snowmelt) measured during the monitoring period from a single rain gauge representative of the area.
- Solids/Floatables (S/F) represents the total volume (reported in cubic yards) of all S/F removed and disposed of from all outfalls during the month. Reporting a S/F value is only necessary when the S/F material is measured for disposal (e.g. filled dumpsters).

This condition is included in Part IV.F.9 as follows:

a. The permittee shall monitor the CSO discharge events and record the date, "Duration of Discharge", Precipitation, and quantity of Solids/Floatables removed for each CSO and discharge event through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, and report the required information on the MRF as required by Part III of this permit.

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 required the permittees 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 included: 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 by January 1, 2016 to be followed by a System Characterization Report by July 1, 2018.

Summary of Compliance with 2015 Permit Requirement

A work plan, entitled “Sewer System Characterization Work Plan: Quality Assurance Project Plan” dated December 2015, revised May 12, 2016 and amended June 13, 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 Quality Assurance Project Plan (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.

Evaluation and updates were 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 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.

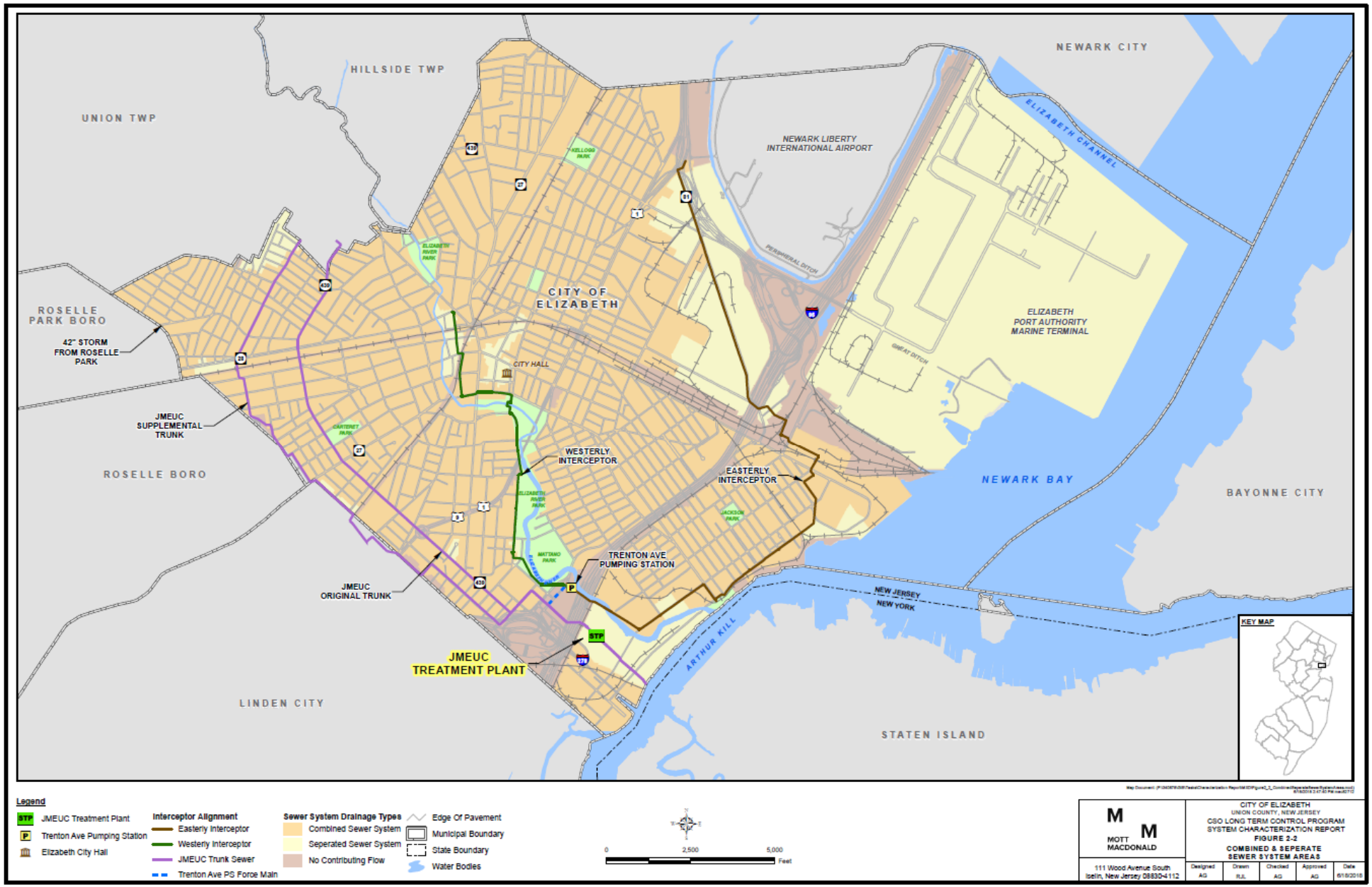
The City's wastewater and stormwater collection and conveyance system consists of a complex network. Much of the City has combined sewers that collect and convey sanitary and stormwater flows in the same conduit. However, in certain areas, sanitary flows are conveyed in a separate (sanitary) sewer system 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 the City's sewer system include:

- Approximately 159 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 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.

Figure 2-2 below from the June 2018 System Characterization Report shows the coverage of the sewer system types across the City of Elizabeth.


HILLSIDE TWP
UNION TWP
NEWARK CITY
NEWARK LIBERTY INTERNATIONAL AIRPORT
ELIZABETH CHANNEL
PERMEREAL DITCH
CITY OF ELIZABETH
ELIZABETH PORT AUTHORITY MARINE TERMINAL
GREAT DITCH
ROSELLE PARK BORO
42" STORM FROM ROSELLE PARK
CITY HALL
JMEUC SUPPLEMENTAL TRUNK
ROSELLE BORO
WESTERLY INTERCEPTOR
EASTERLY INTERCEPTOR
NEWARK BAY
BAYONNE CITY
TRENTON AVE PUMPING STATION
JMEUC ORIGINAL TRUNK
NEW JERSEY
NEW YORK
ARTHUR KILL
JMEUC TREATMENT PLANT
LINDEN CITY
STATEN ISLAND
KEY MAP
Legend
JMEUC Treatment Plant
Trenton Ave Pumping Station
Elizabeth City Hall
Interceptor Alignment
Easterly Interceptor
Westerly Interceptor
JMEUC Trunk Sewer
Trenton Ave PS Force Main
Sewer System Drainage Types
Combined Sewer System
Seperated Sewer System
No Contributing Flow
Edge Of Pavement
Municipal Boundary
State Boundary
Water Bodies
0
2,500
5,000
Feet
MOTT MACDONALD
111 Wood Avenue South
Iselin, New Jersey 08830-4112
CITY OF ELIZABETH
UNION COUNTY, NEW JERSEY
CSO LONG TERM CONTROL PROGRAM
SYSTEM CHARACTERIZATION REPORT
FIGURE 2-2
COMBINED & SEPERATE SEWER SYSTEM AREAS
Designed AG
Drawn RJL
Checked AG
Approved AG
Date 6/15/2018

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

The above information was submitted to comply with the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement. This information was utilized to develop the hydrologic and hydraulic model which was then used to assess minimum wet weather percent capture. The Department determined that the permittees have submitted sufficient information to comply with the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement. The Department approved the Service Area System Characterization Report on September 19, 2019.

This renewal permit includes information 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. These elements will help inform the overall CSO contributions and to assess compliance with the Presumption Approach as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

This condition is included in Part IV.G.1.

2. Public Participation

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit required the permittee to engage in public participation and to submit a Public Participation Process report within 36 months of the effective date of that permit. The purpose of this requirement was 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 the 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 of Elizabeth 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 of Elizabeth 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 of Elizabeth 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 of Elizabeth 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 of Elizabeth 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's engineer also gave an interview with *TAPintoElizabeth*, an online neighborhood news website, to explain the Trumbull Street project.

<u>Renewal Permit Requirements for Public Engagement</u>

The Department is committed to active public outreach and engagement during the planning, design and construction of CSO control projects. The Public Participation outreach requirements of the 2015 NJPDES CSO permit were established to introduce, inform, and gather feedback from the interested public on the steps of the development of the LTCP. This permit, which now implements the LTCP, requires that Public Participation changes. 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 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. Given that the outreach requirements under Public Participation must change, this section of the permit is being renamed Public Engagement.

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

- The permittee shall conduct a public engagement process to inform, educate and engage members of the hydraulically connected communities in accordance with Part IV.G.10. The goal of this process is to generate participation and collect input from the affected community and the interested public.

- 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.

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

    - Inform the affected community and interested public of the ongoing progress 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 affected community and interested public an opportunity to provide input on the siting of GI as required by the permit.

    - Engage the affected community and interested public in solutions they can implement to further 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.

    - 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 other potential impacts to the residents in the vicinity of any CSO mitigation projects.

- 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 the affected community and interested public.

- 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.

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

    - 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 affected community and 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.

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

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

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

- 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.

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

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

This condition is included in Part IV.G.2.

3. Consideration of Sensitive Areas

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit included a permit condition regarding Consideration of Sensitive Areas as part of the LTCP. Specifically, the permittee is required to give the highest priority to controlling CSOs to sensitive areas consistent with the Federal CSO Control Policy as well as 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 on this report 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. In addition, regarding waters with threatened or endangered species and their habitat, the Department identified all of the CSO outfalls for this hydraulically connected system as discharging to Sensitive Areas based on potential habitat for *Atlantic sturgeon* and *Shortnose sturgeon*:

CSO Outfall	Interceptor Service Area	Outfall Name	Latitude N	Longitude W	Receiving Waterbody
029A	Easterly	South Front Street	40º 38' 40"	74º 11' 26"	Elizabeth River
031A	Easterly	Front Street/Livingston Street	40° 38' 48.444"	74° 11' 7.548"	Arthur Kill
032A	Easterly	Front Street/Magnolia Avenue	40° 38' 51.576"	74° 10' 53.292"	Arthur Kill
034A	Easterly	Atalanta Place	40° 39' 6.084"	74° 10' 16.464"	Newark Bay
037A	Easterly	Bayway/South Front Street	40° 38' 6.972"	74° 11' 55.932"	Arthur Kill

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. This renewal permit action requires that the CSO outfalls identified in the Identification of Sensitive Areas Report as discharging to a Sensitive Area be given priority with respect to controlling overflows through the LTCP implementation of CSO control projects to meet the minimum 85% wet weather capture requirement consistent with the Presumption Approach. The LTCP provides for combined sewer overflows to be controlled across the system.

This condition is included in Part IV.G.3.

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 CWA as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C using either the Presumption Approach or the Demonstration Approach as part of the LTCP. The CSO control alternatives 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 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 as outlined in the NJPDES permit:

- 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 Development and Evaluation of Alternatives Report (DEAR). The objective of the DEAR submission was to provide a comprehensive evaluation of CSO control alternatives that would enable the selection of alternatives to ensure the CSO controls would meet the Clean Water Act; would 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 was 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 percent capture was calculated using two different approaches: (1) at the inflow of the TAPS; and (2) at the inflow of the JMEUC WWTF. The results from the hydraulic model were summarized in Section 3.4.2 "Percent Capture Calculations" of the revised DEAR.

The revised 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 Pump Station (TAPS), and
(2) Percent capture at the inflow of the Joint Meeting WWTF.

Table 4-6 below 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 as follows, where an Implementation Schedule is included in Part IV.G.8:

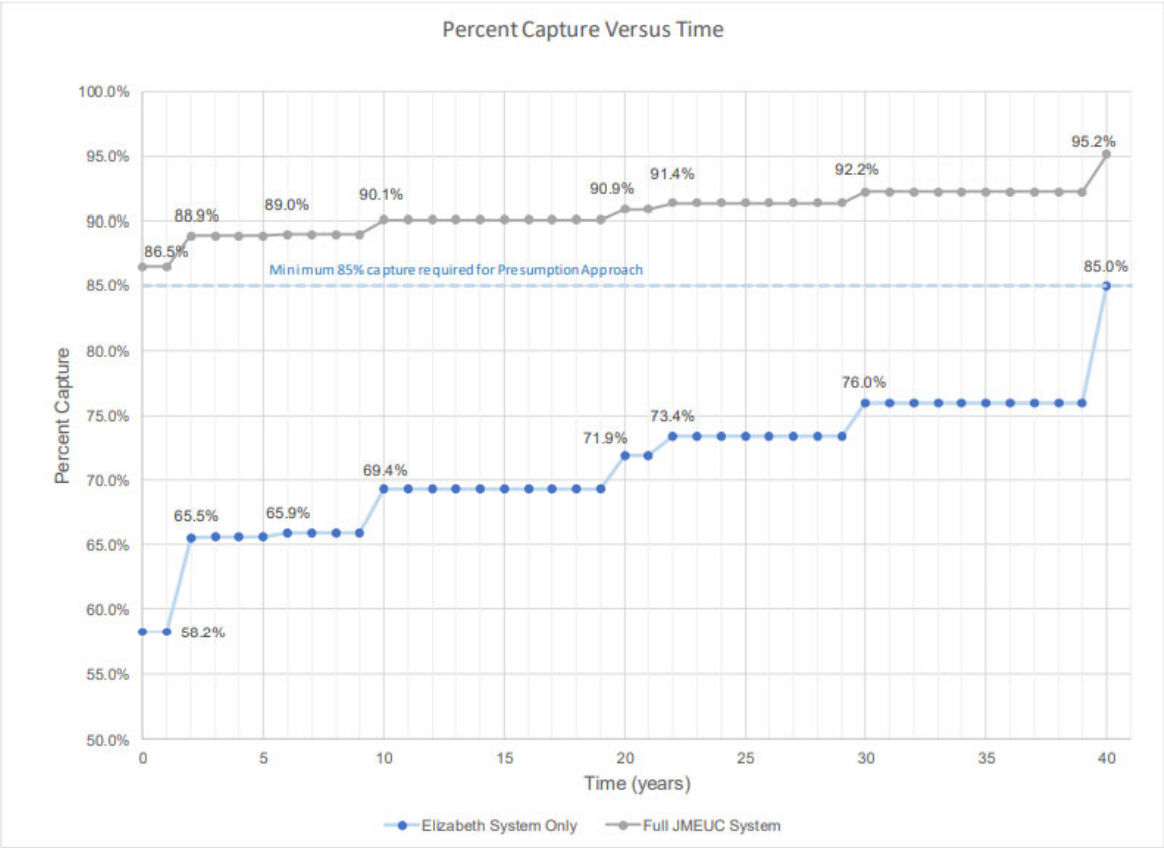


Figure 9-2: Percent Capture Metrics During Implementation Period

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. Refer to Part IV.G.9 for compliance with this performance criteria.

This condition is included in Part IV.G.4.

5. Cost/Performance

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit included 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 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 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 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

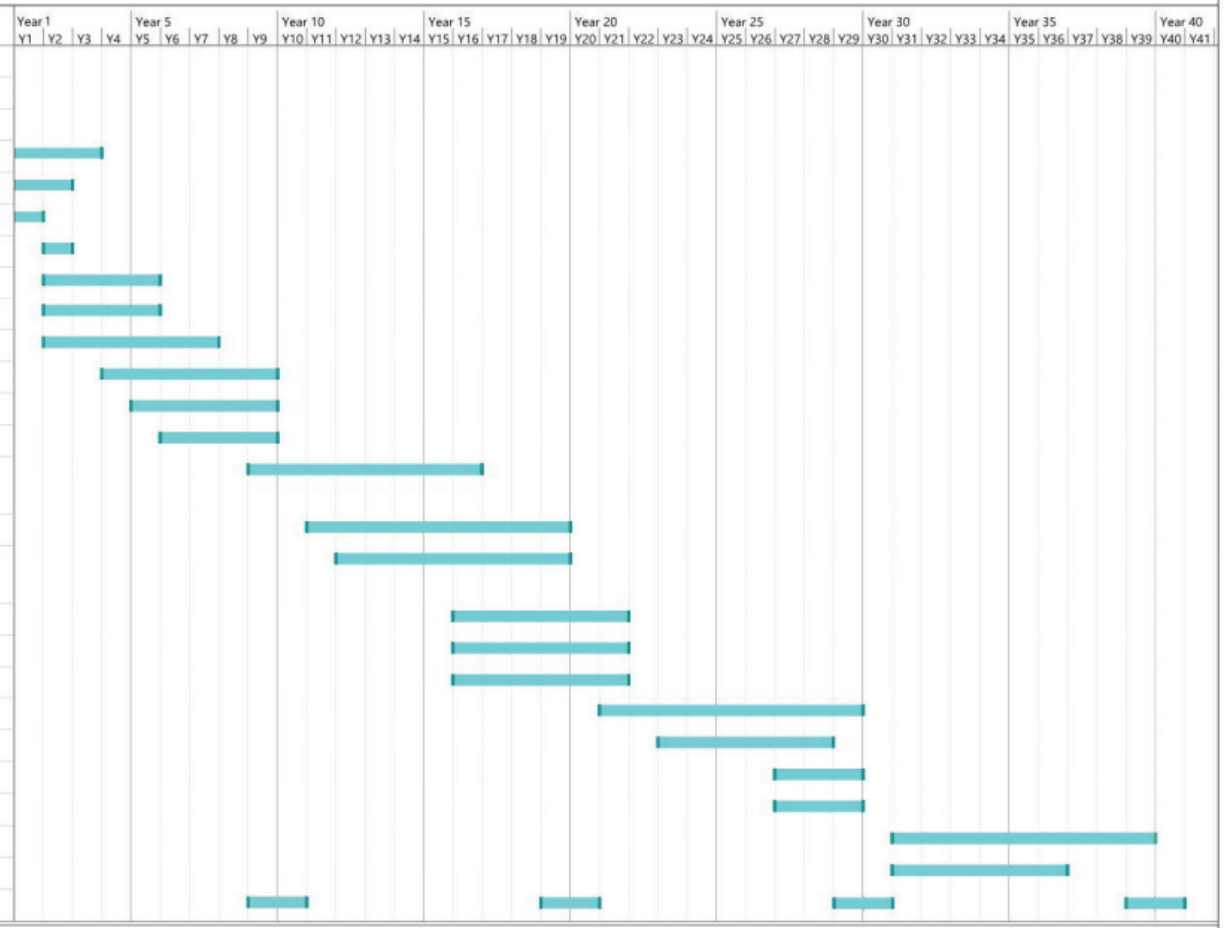
The Implementation Schedule as included in the LTCP is shown below:

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

Page 1

Figure 9-1: Long Term Control Plan Implementation Schedule

The permittee 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.

This renewal permit requires that the permittees complete the above referenced projects based on the Implementation Schedule. Consistent with the LTCP and Part IV.G.8, the permittee 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%.

This condition is included 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

In accordance with Part IV.D.3.d and Part IV.G.1.d.3 and G.9 of the existing NJPDES permit, the permittee was required to submit a work plan within 6 months of the effective date of the permit to be followed by a baseline Compliance Monitoring Program (CMP) report within 36 months from the effective date of the permit. The work plan was dated December 31, 2015, revised February 19, 2016 and May 10, 2016, and was approved by the Department on February 24, 2016. This report utilized the existing data set from the New Jersey Harbor Dischargers Group (NJHDG) which is a consortium of nine sewerage agencies representing eleven wastewater treatment plants which all discharge their treated effluent to the waters of New York/New Jersey Harbor Estuary. Regarding the report, the permittee, cooperatively with the NJ CSO Group submitted

the "NJCSO Group Compliance Monitoring Program Report" dated June 30, 2018. The report included three parallel data collection efforts:

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 Part IV.G.9.

10. Permittee's LTCP Responsibilities

Background of 2015 Permit Requirement

The NJPDES Permits for the 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 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 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 Part IV.H.

E. <u>Basis and Derivation for Monitoring Requirements</u>:

The Permit Summary Table within this fact sheet contains a summary of data for all the CSO outfalls. The proposed requirements and other pertinent information regarding the draft permit are described below, where monitoring requirements for Duration of Discharge is included for all outfalls, and Precipitation and Solid/Floatables is only for DSN 001A:

1. Duration of Discharge: Duration of Discharge represents the number of days (in whole numbers) that at least one discharge occurred from that outfall (i.e., not the number of discharge events). Monitoring and reporting for this parameter has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

   The monitoring frequency is **once per month** with an **estimated** sample type.

2. Precipitation: Precipitation represents the total amount of precipitation (i.e. rainfall and snowmelt) measured during the monitoring period from a single rain gauge representative of the area. Monitoring and reporting for this parameter has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

   The monitoring frequency is **once per month** with a **measured** sample type.

3. Solids/Floatables: Solids/Floatables (S/F) represents the total volume (reported in cubic yards) of all S/F removed and disposed of from all outfalls during the month. Reporting a S/F value is only necessary when the S/F material is measured for disposal (e.g. filled dumpsters). Monitoring and reporting for this parameter has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

   The monitoring frequency is **once per month** with a **measured** sample type.

F. 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. In addition, the following report shall be electronically submitted to the Department via the Department's designated Electronic Submission Service:

- Sewer overflow event non-compliance reports required by N.J.A.C. 7:14A-6.10

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.

G. 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.

H. Operator Classification Number:

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.

I. 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.

9 Permit Summary Tables

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.

DSN 001A

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (1)	EXISTING LIMITS	FINAL LIMITS	MONITORING	
						Freq.	Sample Type
Duration of Discharge	Days	Monthly Total	6.62	MR	MR	1/Month	Estimated
Solids/Floatables (2)	Cu. Yd.	Monthly Total	21.29	MR	MR	1/Month	Measured
Precipitation	Inches	Monthly Total	3.53	MR	MR	1/Month	Measured

Footnotes and Abbreviations:

MR Monitor and report only

(1) This column represents averages of the monthly totals for each parameter for the time period of January 2016 to December 2022

(2) Solids/floatables are reported system wide on the first outfall only

DSNs 002A, 003A, 005A, 008A, 010A, 012A – 014A, 016A, 021A, 022A, 026A – 032A, and 034A – 043A

OUTFALL	PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (1)	EXISTING LIMITS	FINAL LIMITS	MONITORING	
							Freq.	Sample Type
DSN 002A	Duration of Discharge	Days	Monthly Total	5.11	MR	MR	1/Month	Estimated
DSN 003A	Duration of Discharge	Days	Monthly Total	12.43	MR	MR	1/Month	Estimated
DSN 005A	Duration of Discharge	Days	Monthly Total	6.6	MR	MR	1/Month	Estimated
DSN 008A	Duration of Discharge	Days	Monthly Total	3.02	MR	MR	1/Month	Estimated
DSN 010A	Duration of Discharge	Days	Monthly Total	5.58	MR	MR	1/Month	Estimated
DSN 012A	Duration of Discharge	Days	Monthly Total	5.01	MR	MR	1/Month	Estimated
DSN 013A	Duration of Discharge	Days	Monthly Total	5.76	MR	MR	1/Month	Estimated
DSN 014A	Duration of Discharge	Days	Monthly Total	1.13	MR	MR	1/Month	Estimated
DSN 016A	Duration of Discharge	Days	Monthly Total	5.39	MR	MR	1/Month	Estimated
DSN 021A	Duration of Discharge	Days	Monthly Total	0.51	MR	MR	1/Month	Estimated
DSN 022A	Duration of Discharge	Days	Monthly Total	6.55	MR	MR	1/Month	Estimated
DSN 026A	Duration of Discharge	Days	Monthly Total	6.73	MR	MR	1/Month	Estimated
DSN 027A	Duration of Discharge	Days	Monthly Total	7.42	MR	MR	1/Month	Estimated
DSN 028A	Duration of Discharge	Days	Monthly Total	2.51	MR	MR	1/Month	Estimated
DSN 029A	Duration of Discharge	Days	Monthly Total	3.82	MR	MR	1/Month	Estimated
DSN 030A	Duration of Discharge	Days	Monthly Total	0.26	MR	MR	1/Month	Estimated
DSN 031A	Duration of Discharge	Days	Monthly Total	2.13	MR	MR	1/Month	Estimated
DSN 032A	Duration of Discharge	Days	Monthly Total	2.2	MR	MR	1/Month	Estimated
DSN 034A	Duration of Discharge	Days	Monthly Total	5.25	MR	MR	1/Month	Estimated
DSN 035A	Duration of Discharge	Days	Monthly Total	4.99	MR	MR	1/Month	Estimated
DSN 036A	Duration of Discharge	Days	Monthly Total	5.99	MR	MR	1/Month	Estimated
DSN 037A	Duration of Discharge	Days	Monthly Total	4.2	MR	MR	1/Month	Estimated
DSN 038A	Duration of Discharge	Days	Monthly Total	1.27	MR	MR	1/Month	Estimated
DSN 039A	Duration of Discharge	Days	Monthly Total	2.58	MR	MR	1/Month	Estimated
DSN 040A	Duration of Discharge	Days	Monthly Total	2.46	MR	MR	1/Month	Estimated
DSN 041A	Duration of Discharge	Days	Monthly Total	6.82	MR	MR	1/Month	Estimated
DSN 042A	Duration of Discharge	Days	Monthly Total	8.7	MR	MR	1/Month	Estimated
DSN 043A	Duration of Discharge	Days	Monthly Total	0.11	MR	MR	1/Month	Estimated

Footnotes and Abbreviations:

MR Monitor and report only

(1) This column represents averages of the monthly totals for each parameter for the time period of January 2016 to December 2022.

10 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*.

11 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 or via email at Josie.Castaldo@dep.nj.gov.

12 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. [C]
2. 40 CFR Part 131, Federal Water Quality Standards. [A] [C]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [C]
4. National CSO Control Policy (Published April 19, 1994, at 59 Federal Register 18688)
5. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A] [B]
6. N.J.A.C. 7:14A-1 et seq., New Jersey Pollutant Discharge Elimination System Regulations. [A] [B]
7. N.J.A.C. 7:9B-1 et seq., New Jersey Surface Water Quality Standards. [A] [B]
8. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 et seq.
9. 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 Reports (SCI) for site inspections conducted by enforcement on June 27, 2013, June 9, 2014, June 17, 2015, June 30, 2016, October 26, 2016, June 26, 2019, June 26, 2020, June 25, 2021.
6. Monitoring Report Forms (MRFs) dated January 2016 to December 2022.
7. Review of LTCP Financial Capability Assessment by Industrial Economics Incorporated dated March 15, 2023.

Permits / Applications:

1. NJPDES/DSW Permit Application dated December 27, 2019 and received January 2, 2020.
2. Existing Major Modification to NJPDES/DSW Permit NJ0108782, issued May 1, 2020 and effective June 1, 2020.
3. Stay Modification to NJPDES/DSW Permit NJ0108782, issued April 15, 2020.
4. Draft Major Modification to NJPDES/DSW Permit NJ0108782, issued March 17, 2020.
5. Stay Modification to NJPDES/DSW Permit NJ0108782, issued February 2, 2018
6. Minor Modification to NJPDES/DSW Permit NJ0108723, issued October 7, 2015 and effective July 1, 2015.
7. Final Renewal NJPDES/DSW Permit NJ0108782, issued March 12, 2015 and effective July 1, 2015.
8. Draft Renewal NJPDES/DSW Permit NJ0108723, issued November 20 2013.

LTCP Report Submissions:

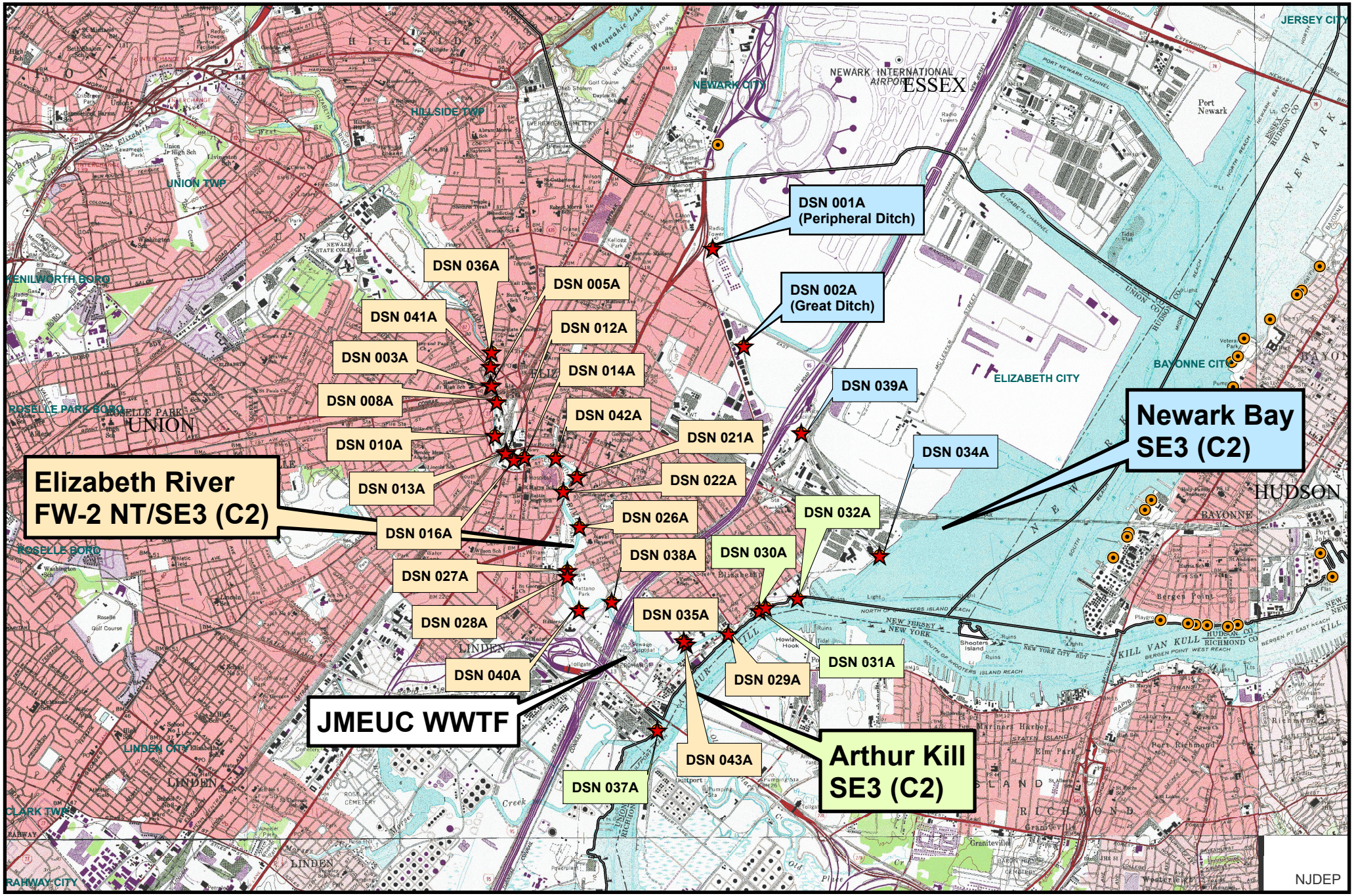
1. "System Characterization Work Plan" dated December 2015, revised May 12, 2016 and amended June 13, 2016.
2. "System Characterization Report" dated June 27, 2018, revised December 5, 2018.
3. "NJCSO Group Compliance Monitoring Program Quality Assurance Project Plan (QAPP)" dated December 31, 2015, 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 March 30, 2016 with the approval letter dated May 26, 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, 2018, 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.

Footnotes:

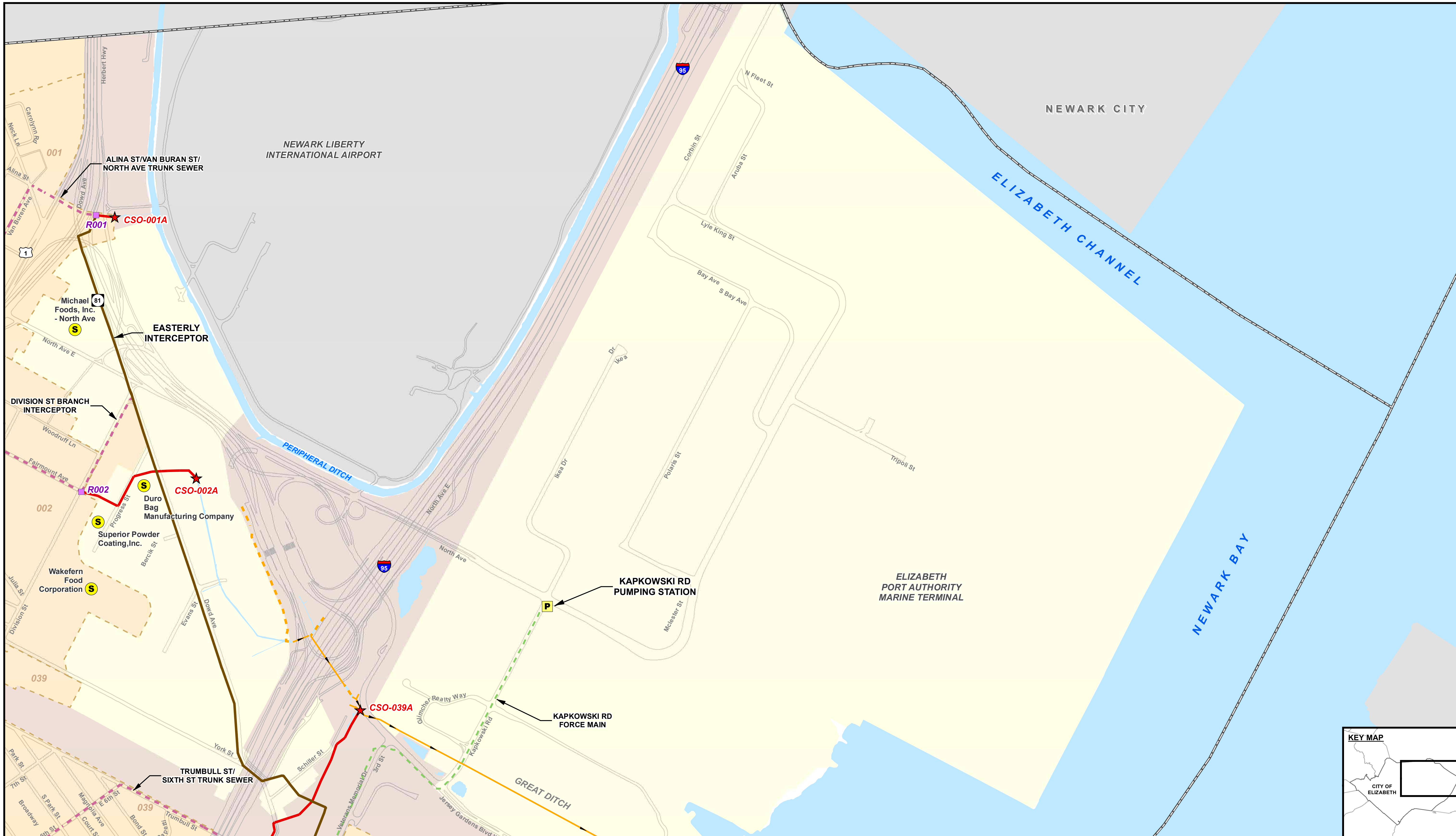
[A] Denotes items that may be found on the Department's website located at "http://www.state.nj.us/dep/".
[B] Denotes items that may be found on the USEPA website at "http://www.epa.gov/".



USGS Topographic Map
City of Elizabeth CSOs
City of Elizabeth, Union County
NJPDES# NJ0108782

N W E S

0 2,150 4,300 8,600 Feet


NEWARK LIBERTY
INTERNATIONAL AIRPORT
NEWARK CITY
ELIZABETH CHANNEL
NEWARK BAY
ELIZABETH
PORT AUTHORITY
MARINE TERMINAL
PERIPHERAL DITCH
GREAT DITCH
ALINA ST/VAN BURAN ST/
NORTH AVE TRUNK SEWER
CSO-001A
R001
001
Michael
Foods, Inc.
- North Ave
EASTERLY
INTERCEPTOR
DIVISION ST BRANCH
INTERCEPTOR
R002
CSO-002A
002
Duro
Bag
Manufacturing Company
Superior Powder
Coating,Inc.
Wakefern
Food
Corporation
039
KAPKOWSKI RD
PUMPING STATION
KAPKOWSKI RD
FORCE MAIN
CSO-039A
TRUMBULL ST/
SIXTH ST TRUNK SEWER
Herbert Hwy
Carolynn Rd
Neck Ln
Alina St
Van Buren Ave
Dowd Ave
North Ave E
Woodruff Ln
Fairmount Ave
Progress St
Bercik St
Julia St
Division St
Evans St
York St
Schiller St
Veterans Memorial Dr
3rd St
Glimcher Realty Way
Kapkowski Rd
Jersey Gardens Blvd W
N Fleet St
Corbin St
Aruba St
Lyle King St
Bay Ave
S Bay Ave
Ikea Dr
Polaris St
Tripoli St
Mclester St
North Ave
Park St
7th St
Broadway
S Park St
6th St
Magnolia Ave
Court St
E 6th St
Bond St
Trumbull St
KEY MAP
CITY OF
ELIZABETH

Legend

S	Significant Industrial Users
STP	JMEUC Treatment Plant
P	Pumping Station
★	CSO Discharge
■	Regulator
	Elizabeth City Hall
	Force Main
	Siphon Main
	Trunk Sewer
	CSO Outfall

Interceptor Alignment

- Easterly Interceptor
- Westerly Interceptor
- JMEUC Trunk Sewer
- Municipal Boundary

Regulator Basin

Sewer System Drainage Types

- Combined Sewer System
- Seperated Sewer System
- No Contributing Flow

N E S W

0 1,200 2,400 Feet

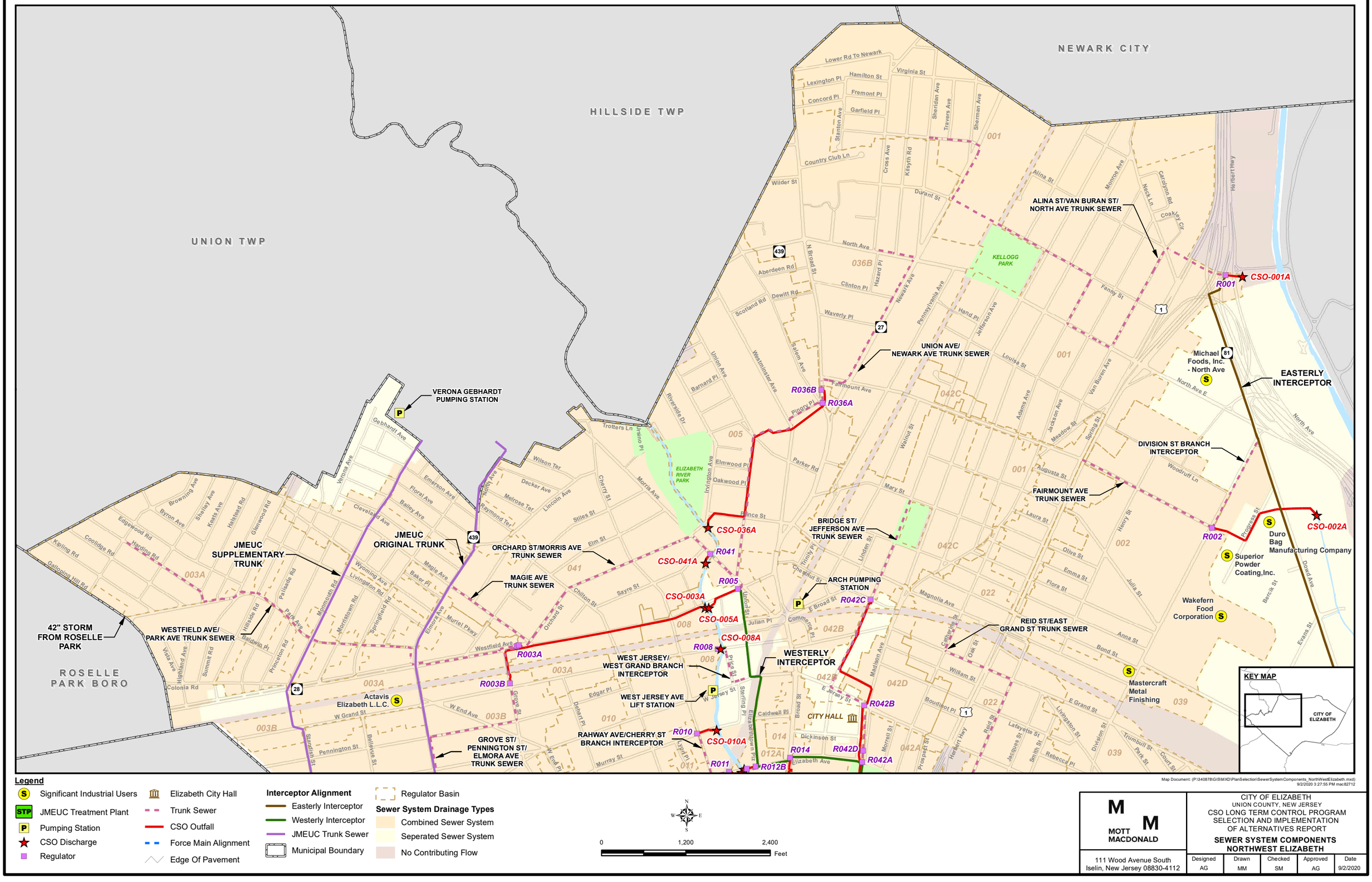
MOTT MACDONALD

111 Wood Avenue South
Iselin, New Jersey 08830-4112

CITY OF ELIZABETH
UNION COUNTY, NEW JERSEY
CSO LONG TERM CONTROL PROGRAM
SELECTION AND IMPLEMENTATION
OF ALTERNATIVE REPORT

SEWER SYSTEM COMPONENTS
NORTHEAST ELIZABETH

Designed	Drawn	Checked	Approved	Date
AG	MM	SM	AG	9/2/2020



Legend

- Significant Industrial Users
- JMEUC Treatment Plant
- Pumping Station
- CSO Discharge
- Regulator
- Elizabeth City Hall
- Trunk Sewer
- CSO Outfall
- Force Main Alignment
- Edge Of Pavement
- Municipal Boundary
- Regulator Basin

Interceptor Alignment

- Easterly Interceptor
- Westerly Interceptor
- JMEUC Trunk Sewer

Sewer System Drainage Types

- Combined Sewer System
- Seperated Sewer System
- No Contributing Flow

0 1,200 2,400 Feet

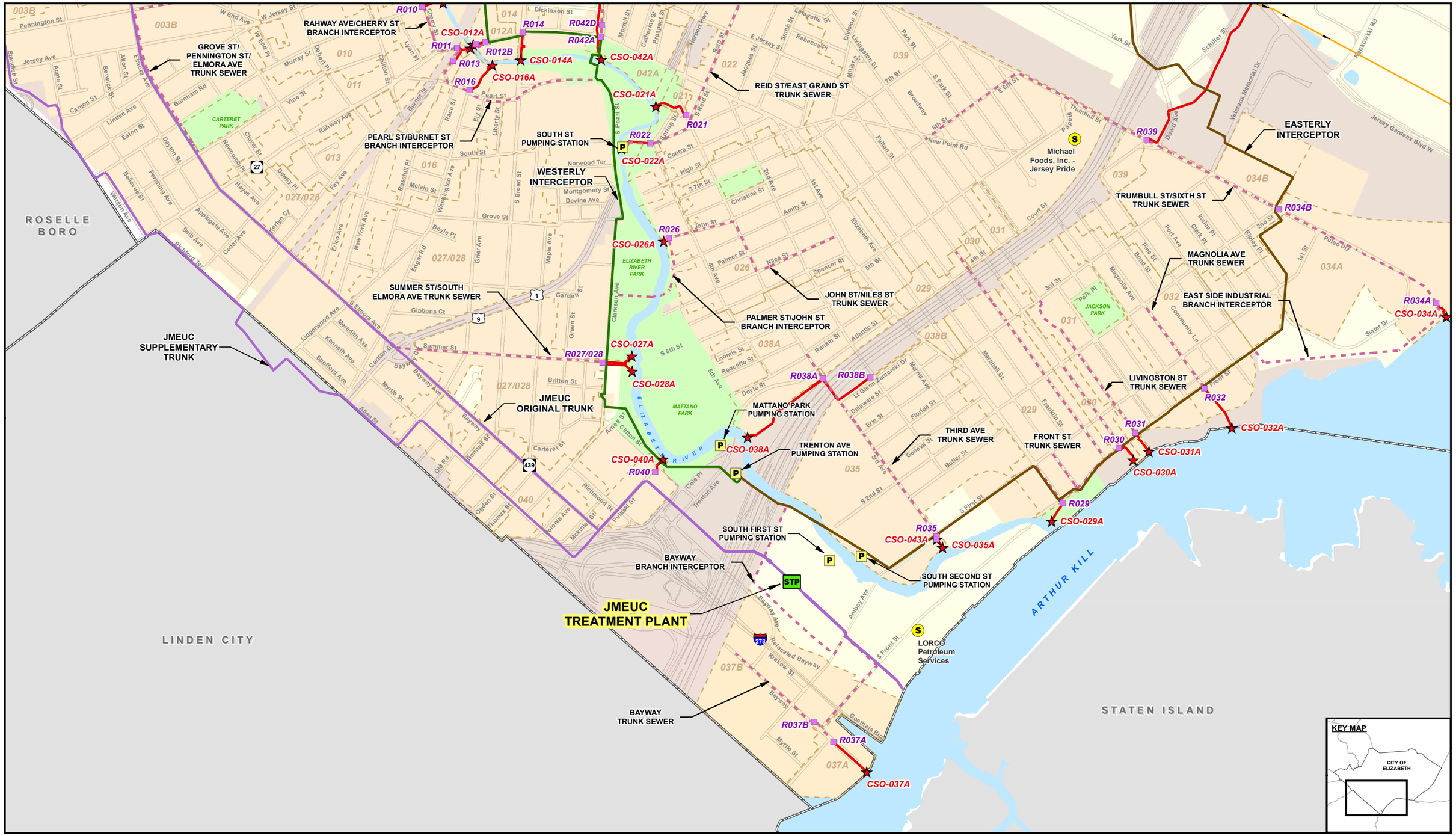
Map Document: (P:\34087\6\GIS\MXD\PlanSelection\SewerSystemComponents_NorthWestElizabeth.mxd) 9/2/2020 3:27:55 PM mac82712

MOTT MACDONALD
111 Wood Avenue South
Iselin, New Jersey 08830-4112

CITY OF ELIZABETH
UNION COUNTY, NEW JERSEY
CSO LONG TERM CONTROL PROGRAM
SELECTION AND IMPLEMENTATION OF ALTERNATIVES REPORT

SEWER SYSTEM COMPONENTS NORTHWEST ELIZABETH

Designed	Drawn	Checked	Approved	Date
AG	MM	SM	AG	9/2/2020



Legend

- Significant Industrial Users
- JMEUC Treatment Plant
- Pumping Station
- CSO Discharge
- Regulator
- Elizabeth City Hall
- Trunk Sewer
- CSO Outfall
- Force Main
- Edge Of Pavement

Interceptor Alignment

- Easterly Interceptor
- Westerly Interceptor
- JMEUC Trunk Sewer
- Municipal Boundary
- Regulator Basin

Sewer System Drainage Types

- Combined Sewer System
- Seperated Sewer System
- No Contributing Flow

0 1,200 2,400 Feet

Map Document: (P:\340878\GIS\MXD\PlanSelection\SewerSystemComponents_South.mxd) 9/2/2020 3:25:07 PM mac82712

MOTT MACDONALD
111 Wood Avenue South
Iselin, New Jersey 08830-4112

CITY OF ELIZABETH
UNION COUNTY, NEW JERSEY
CSO LONG TERM CONTROL PROGRAM
SELECTION AND IMPLEMENTATION OF ALTERNATIVES REPORT
SEWER SYSTEM COMPONENTS SOUTH ELIZABETH

Designed	Drawn	Checked	Approved	Date
AG	MM	SM	AG	9/2/2020

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: NJ0108782

Draft: Surface Water Renewal Permit Action

Permittee:
City of Elizabeth
50 Winfield Scott Plaza
Elizabeth City, New Jersey 07201

Co-Permittee:

Property Owner:
City of Elizabeth
50 Winfield Scott Plaza
Elizabeth City, New Jersey 07201

Location Of Activity:
City of Elizabeth
50 Winfield Scott Plaza
Elizabeth City, New Jersey 07201
Union County

Authorization Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
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.

i. Non-compliance reports required by N.J.A.C. 7:14A-6.10 and 40 CFR 122.41(1)(6) and (7) related to combined sewer overflows(see Part II.B.3.c).

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 CSO	Peripheral Ditch	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 001A located at Airport South Area into the Peripheral Ditch at latitude 40° 40' 50.7" N and longitude 74° 11' 30.444" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

For this outfall, Precipitation may be reported from a rain gauge representative of the area, and Duration of Discharge shall be reported as a whole day for any day when a discharge occurs. The total quantity of Solids/Floatables removed from all outfalls shall be reported here when the solid waste is measured for disposal.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids/Floatables	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	CU YARDS	1/Month	Measured
January thru December	QL	***	***		***	***	***			
Precipitation	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# INCHES	1/Month	Measured
January thru December	QL	***	***		***	***	***			
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
002A CSO	Great Ditch	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 002A located at Dowd Avenue into the Great Ditch at latitude 40° 40' 19" N and longitude 74° 11' 26" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
003A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 003A located at Westfield Avenue and Magie Avenue into the Elizabeth River at latitude 40° 40' 4.44" N and longitude 74° 13' 9.3" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
005A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 005A located at Westfield Avenue into the Elizabeth River at latitude 40° 40' 4.512" N and longitude 74° 13' 9.804" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
008A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 008A located at West Grant Street/Price Street into the Elizabeth River at at latitude 40° 39' 58.68" N and longitude 74° 13' 6.96" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
010A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 010A located at Murray Street/Cherry Street into the Elizabeth River at latitude 40° 39' 47.232" N and longitude 74° 13' 7.752" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
012A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 012A located at Rahway Avenue into the Elizabeth River at latitude 40° 39' 41.76" N and longitude 74° 13' 2.712" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
013A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 013A located at Rahway Avenue/Burnet Street into the Elizabeth River at latitude 40° 39' 41.22" N and longitude 74° 13' 3.072" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
014A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 014A located at Broad Street/Rahway Avenue into the Elizabeth River at latitude 40° 39' 39.816" N and longitude 74° 12' 54.612" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
016A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 016A located at Washington Avenue/Pearl Street into the Elizabeth River at latitude 40° 39' 39.096" N and longitude 74° 12' 59.472" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
021A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 021A located at South Spring Street/Third Avenue into the Elizabeth River at latitude 40° 39' 33.192" N and longitude 74° 12' 31.248" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
022A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 022A located at South Sreet into the Elizabeth River at latitude 40° 39' 28.152" N and longitude 74° 12' 37.404" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
026A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 026A located at John Street into the Elizabeth River at latitude 40° 39' 16.056" N and longitude 74° 12' 30.276" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
027A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 027A located at Summer Street/Arnett Street into the Elizabeth River at latitude 40° 39' 1.224" N and longitude 74° 12' 35.748" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
028A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 028A located at Summer Street/Arnett Street into the Elizabeth River at latitude 40° 38' 59.208" N and longitude 74° 12' 35.748" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
029A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 029A located at South Front Street into the Elizabeth River at latitude 40° 38' 40" N and longitude 74° 11' 26" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
030A CSO	Arthur Kill	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 030A located at Front Street/East Jersey Street into the Arthur Killl at latitude 40° 38' 46.46" N and longitude 74° 11' 10.212" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
031A CSO	Arthur Kill	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 031A located at Front Street/Livingston Street into the Arthur Kill at latitude 40° 38' 48.444" N and longitude 74° 11' 7.548" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
032A CSO	Authur Kill	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 032A located at Front Street/Magnolia Avenue into the Arthur Killl at latitude 40° 38' 51.576" N and longitude 74° 10' 53.292" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
034A CSO	Newark Bay	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 034A located at Atalanta Place into the Newark Bay at latitude 40° 39' 6.084" N and longitude 74° 10' 16.464" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
035A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 035A located at South First Street/Third Avenue into the Elizabeth River at latitude 40° 38' 36.132" N and longitude 74° 11' 42.756" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
036A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 036A located at Irvington Avenue/Dod Court into the Elizabeth River at latitude 40° 40' 15.708" N and longitude 74° 13' 9.264" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
037A CSO	Arthur Kill	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 037A located at Bayway/South Front Street into the Arthur Killl at latitude 40° 38' 6.972" N and longitude 74° 11' 55.932" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
038A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 038A located at Third Avenue into the Elizabeth Riverat latitude 40° 38' 50.568" N and longitude 74° 12' 16.092" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
039A CSO	Newark Bay	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 039A located at Schiller Street/Great Ditch into the Newark Bay at latitude 40° 39' 46" N and longitude 74° 12' 52" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
040A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 040A located at Pulaski Street/Clifton Street into the Elizabeth River at latitude 40° 38' 47.796" N and longitude 74° 12' 30.528" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
041A CSO	Elizabeth River	FW2-NT(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 041A located at Morris Avenue/Sayre Street the Elizabeth River at latitude 40° 40' 10.668" N and longitude 74° 13' 9.696" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
042A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 042A located at Bridge Street/Elizabeth River into the Elizabeth River at latitude 40° 39' 39.744" N and longitude 74° 11' 40.788" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
043A CSO	Elizabeth River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 043A located at Army Corp Flood Control Structure into the Elizabeth River at latitude 40° 38' 37.5" N and longitude 74° 11' 44.124" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

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:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

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

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

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Notes and Definitions

A. Footnotes

1. These notes are specific to this permit

a. EDP means the Effective Date of the Permit which can be found on the final permit authorization page

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**

Combined Sewer Management (IP)

A. MONITORING REQUIREMENTS

1. CSO Monitoring Requirements

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

b. All monitoring frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.

c. Discharges shall be directly monitored or predicted using a DEP approved up-to-date model.

B. RECORDKEEPING

1. 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.

b. The permittee shall retain records of all monitoring information for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record, including:

i. all calibration and any other methods of monitoring which may be employed, maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable),

ii. copies of all reports required by this NJPDES permit,

iii. all data used to complete the application for a NJPDES permit, and

iv. monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.

c. Records of monitoring information shall include the following:

i. the date, locations, and time of sampling or measurements,

ii. the individual(s) who performed the sampling or measurements,

iii. the date(s) the analyses were performed,

iv. the individual(s) who performed the analyses,

v. the analytical techniques or methods used, and

vi. the results of such analyses.

d. The permittee shall retain records to document implementation of the Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) requirements in Sections F and G. The permittee shall utilize this information when preparing and submitting progress reports required in Section D, including residential complaints, inspection records, and maintenance records. This information shall be made available to the Department upon request.

C. REPORTING

1. Reporting Requirements

a. The permittee shall submit all required monitoring results to the Department on the forms provided by the Department. The Monitoring Report Forms (MRFs) are provided to the permittee in an electronic file format.

b. The permittee shall summarize the information for the total quantity of solids/floatables removed from ALL outfalls on the MRF for the first CSO outfall only. This information needs to be reported on the MRF only when the solids/floatables solid waste is measured for disposal. For the months when no solids/floatables are disposed of, the permittee shall report 'CODE = N'.

c. The permittee shall report Precipitation from a rain gauge representative of the area on the MRF for the first CSO outfall only.

d. The permittee shall report Duration of Discharge on the MRF for each CSO outfall as a whole day for any calendar day when a discharge occurs.

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

f. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the combined sewer system.

g. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

h. Monitoring results shall be submitted in accordance with the current Monitoring Report Form Manual and any updates thereof.

i. If there are no CSO discharges during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the electronic version of the monitoring report submittal form.

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 also notify the Joint Meeting of Essex and Union Counties of all CSO construction related activities in their collection system on a semi-annual basis. Notification through the TWA process is sufficient for this purpose.

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. 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 discharges shall not produce objectionable color or odor in the receiving stream.

d. The permittee's discharges shall not exhibit a visible sheen.

2. Interstate Environmental Commission (IEC)

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

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 the City of Elizabeth, the total system is approximately 200 miles long.

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 the City of Elizabeth:

- 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.

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. Dry weather overflows (DWOs) are prohibited from any CSO outfall in the entire collection system owned/operated by the permittee.

b. All DWOs must be reported to the Department as incidents of non-compliance in accordance with the requirements at N.J.A.C. 7:14A-6.10(c) and (e), along with a description of the corrective actions taken.

c. The permittee shall inspect the combined sewer system as required under Section F.1 to minimize the potential of DWOs and to abate DWOs that occur.

d. The permittee shall prohibit any connections, including but not limited to construction dewatering, remediation activities or similar activities, downstream of a CSO regulator, that will convey flow to the 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. Any use under this provision must be specifically approved by the Department.

6. Control of Solids/Floatables in CSOs

a. The permittee shall continue to implement measures to capture and remove solids/floatables which cannot pass through a bar screen having a bar or netting spacing of 0.5 inches from all CSOs.

b. The permittee shall not utilize treatment, including mechanical measures used to reduce the particle size of the solids/floatables in the wastewater collection system prior to discharge to the waters of the state to achieve compliance with paragraph F.6.a.

c. The captured debris shall be removed from each solids/floatables control system as necessary to ensure that there will be no flow restrictions during the next CSO discharge event.

d. All captured debris removed from the solids/floatables control system must be disposed of properly at a permitted solid waste facility authorized to accept grit and screening materials from wastewater treatment facilities in accordance with N.J.A.C. 7:14A and Part II of this permit.

7. Implementation of Pollution Prevention Measures

a. The permittee shall continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned/operated by the permittee that conveys flows to the treatment works. Unless demonstrated to the Department to be impracticable measures, shall include, but not be limited to, the following:.

i. Implementation of a regular street cleaning program.

ii. Retrofitting of existing storm drains to meet the standards in Appendix A, 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 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 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. The permittee shall ensure that CSO Identification Signs are posted and maintained at every CSO outfall location identified in Part III of this permit. The signs shall conform to the following specifications unless alternatives have been approved by the Department.

i. Signs shall be installed in such a manner as to have the same information visible from both the land and from the water, within 100' from the outfall pipe along the shoreline.

ii. Signs shall be at least 18" x 24" and printed with reflective material.

iii. Signs shall be in compliance with applicable local ordinances.

iv. The signs shall depict the following information below:

- Warning, possible sewage overflows during and following wet weather. Contact with water may also cause illness.
- Report dry weather discharge to NJDEP Hotline at 1 (877) 927-6337 (WARN-DEP).
- Report foul odors or unusual discoloration to NJDEP Hotline or (Permittee) at (phone number).
- NJPDES Permit Number NJ0108782
- Discharge Serial No. (eg. 001A).
- www.state.nj.us/dep/dwq/cso.htm
- Signs that depict symbols prohibiting swimming, fishing and kayaking.

b. The permittee shall continue to employ measures to provide reasonable assurance that the affected public is informed of CSO discharges in a timely manner. These measures shall include, but are not limited to, the items listed below:

i. Posting leaflets/flyers/signs with general information at affected use areas such as beaches, marinas, docks, fishing piers, boat ramps, parks and other public places (within 100 feet of outfall) to inform the public what CSOs are, the location(s) of the CSO outfall(s) and the frequency and nature of the discharges and precautions that should be undertaken for public health/safety and web sites where additional CSO/CSS information can be found.

ii. Notification to all residents by either US Postal Service or email, (with copies sent to the NJDEP) in the permittee's sewer service area. This notification shall provide additional information as to what efforts the permittee has made and plans to continue to undertake to reduce/eliminate the CSOs and related threat to public health. Updated notifications shall be mailed on an annual basis.

iii. The permittee shall maintain on a daily basis a CSO Notification System website to inform interested citizens of CSO discharges that are occurring or have occurred.

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

a. The permittee shall 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 through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, and report the required information on the MRF as required by Part III of this permit.

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, the City of Elizabeth 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. This renewal permit action requires that the CSO outfalls identified in the Identification of Sensitive Areas Report as discharging to a Sensitive Area be given priority with respect to controlling overflows through the LTCP implementation of CSO control projects to meet the minimum 85% wet weather capture requirement consistent with the Presumption Approach.

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.

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 permittee shall implement CSO control projects in accordance with the LTCP construction schedule

b. Implementation Schedule is as follows:.

i. Year One (EDP to EDP + 1 year): Complete construction of Lincoln Avenue Stormwater Drainage Improvements.

ii. Year Two (EDP + 1 year to EDP + 2 years): Complete construction of South Second Street Stormwater Control Project; commence construction of CSO Basin 012 Sewer Separation and Atlantic Street CSO Storage Facility.

iii. Year Three (EDP + 2 years to EDP + 3 years): Complete construction of CSO Basin 012 Sewer Separation; award detailed design contract for Park Avenue Stormwater Control Project (contingent on legal agreement with Roselle Park for removal of storm sewer connection).

iv. Year Four (EDP + 3 years to EDP + 4 years): Award detailed design contract for CSO Basin 037 Sewer Separation.

v. Year Five (EDP + 4 years to EDP + 5 years): Complete construction of Atlantic Street CSO Storage Facility; solicit bids for construction of Green Infrastructure Pilot Program; complete detailed design of Trenton Avenue Pumping Station - Phase 2 upgrade.

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 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.

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 A

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.