Woodard & Curran

2022 COMBINED SEWER OVERFLOW ANNUAL REPORT

47 Pleasant Street | Suite 2N
Northampton, Massachusetts 01060
800.426.4262

woodardcurran.com

Veolia Water North America on behalf of the City of Holyoke

4/30/2023

Woodard & Curran

Prepared on behalf of Veolia Water North America by:
Woodard & Curran Inc

Printed Name: Michael Headd

Signature:

Title: Vice President

Date: 4/28/2022

Submitted on behalf of the City of Holyoke, Massachusetts by:
Veolia Water North America

Printed Name: Michael Williams

Signature:

Title: Project Manager

Date: 5/3/2023

Woodard & Curran

TABLE OF CONTENTS

APPENDICES

Woodard & Curran

April 30, 2023

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Western Regional Office
436 Dwight Street
Springfield, Massachusetts 01103
and

U.S. Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 100 (OES-SMR)
Boston, Massachusetts 02109-3912

Subject: Combined Sewer Overflow Annual Report and Operation and Maintenance of the Sewer System Annual Report for Year 2022
City of Holyoke, Massachusetts

Dear Sir or Madam:

This letter has been prepared on behalf of Veolia Water North America (Veolia) and the City of Holyoke (City) to serve as the 2022 Combined Sewer Overflow (CSO) Annual Report and Operation and Maintenance (O&M) of the Sewer System Annual Report. The annual reports are a requirement of the City of Holyoke's National Pollutant Discharge Elimination System (NPDES) permit (No. MA0101630, effective January 1, 2017). This 2022 Annual Report summarizes activities during the previous calendar year relating to compliance with the Nine Minimum Controls (NMC):

(1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows;

(2) Maximum use of the collection system for storage;

(3) Review and modification of the pretreatment program to assure CSO impacts are minimized;

(4) Maximization of flow to the POTW for treatment;

(5) Prohibition of dry weather overflows from CSOs;

(6) Control of solid and floatable materials in CSOs;

(7) Pollution prevention programs that focus on contaminant reduction activities;

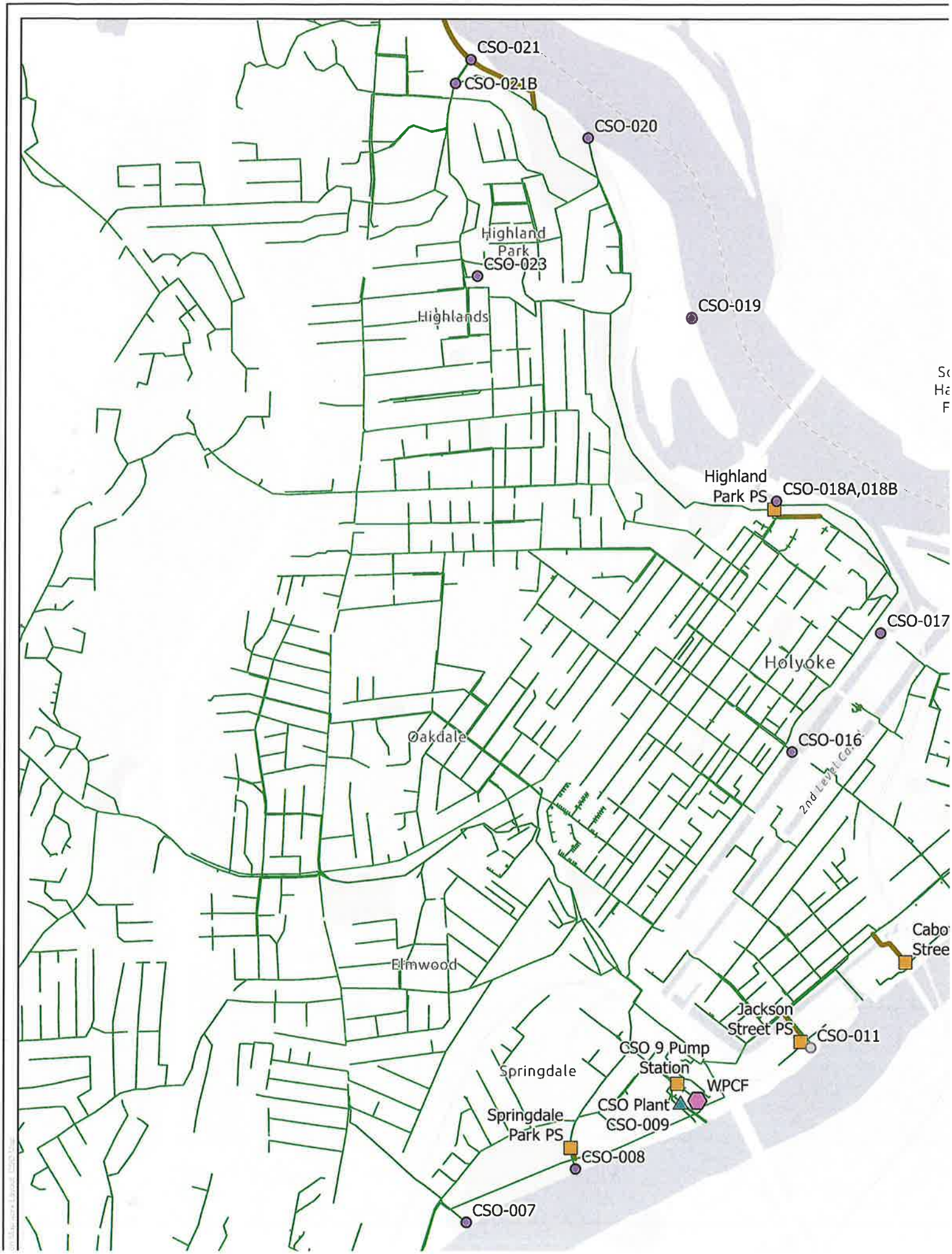
(8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts; and

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

The City of Holyoke has reported on CSO maintenance and compliance with the NMCs since 2009. Annual CSO reports dating from that time can be referred to for background information and details of the City's CSO system. An historical accord of CSO maintenance, separation, and improvement activities is provided below in Table 1-1. The location of CSO pump stations, regulators, and outfall locations are shown on Figure 1-1 for reference.

Table 1-1 CSO Historical Upgrades

Structure	Upgrades	Date
CSO-002	Pressure sensor replaced	2014
CSO-003	Separated	2011/2012
Jones Ferry Road Pump Station	New channel grinder installed	2012
	Pumps rebuilt	2013
CSO-007	Pressure sensor replaced and ultrasonic sensor added	2014
CSO-008	Pressure sensor replaced	2014
	Tide valve installed	2019
CSO-011	Pressure sensor replaced	2014
	Separated	2022
Jackson Street Pump Station	Three pumps rebuilt	2017
CSO-013	Separated	2011/2012
CSO-016	Pressure sensor replaced	2014
CSO-018A	Pressure sensor replaced and ultrasonic sensor added	2014
CSO-018B	Pressure sensor replaced and ultrasonic sensor added	2014
CSO-019	Pressure sensor replaced and ultrasonic sensor added	2014
CSO-020	Pressure sensor replaced and ultrasonic sensor added	2014
CSO-021	Pressure sensor replaced and ultrasonic sensor added	2014
CSO-023	Pressure sensor replaced	2014
All CSO Structures	5G Modems installed by Flow Assessment	2021
	Upgraded all sensors	2021


CSO-021
CSO-021B
CSO-020
Highland Park
CSO-023
Highlands
CSO-019
Highland Park PS
CSO-018A,018B
CSO-017
Holyoke
Oakdale
CSO-016
2nd Level Co
Elmwood
Jackson Street PS
CSO-011
CSO 9 Pump Station
WPCF
Springdale
CSO Plant
CSO-009
Springdale Park PS
CSO-008
CSO-007

1. EVALUATION OF APPROVED NINE MINIMUM CONTROLS PROGRAM

In 2022, the City and Veolia have complied with the Minimum Implementation Levels of the Nine Minimum Controls (NMCs) as documented in the NPDES permit and further described in the Water Pollution Control Facility's (WPCF) Combined Sewer Overflow Monitoring Plan and Inflow/Infiltration Control Plan (the O&M Plan).

NMC #1, 2, and 4, Inspection and Maintenance: Each CSO structure/regulator and pumping station has been routinely inspected as certified in Section 2.7.

NMC #3, 6, and 7: There were no discharges to the combined system of septage, holding tank wastes, or other material which caused a visible oil sheen or contained floatable material during wet weather when CSO discharges may have been active. All the City's Significant Industrial Users (SIU) are located in a separated sewer system. The Jackson Street Sewer Separation project was completed in 2022, permanently separating the sewer system in the Jackson Street sewerage.

NMC #5: Dry weather overflows are prohibited and are reported if they occur. The City and Veolia have reviewed the monitoring data and found no evidence of dry weather overflows in 2022.

NMC #8: Signs at outfalls are routinely inspected and maintained in accordance with the Public Information program described in the O&M Plan. Additionally, public CSO notification, as required by 314 Code of Massachusetts Regulations 16.00, was implemented using Everbridge. Electronic notifications are also made to the public on the City of Holyoke webpage with an interactive map.

NMC #9: During 2010, the City/Veolia implemented CSO monitoring improvements that included installation of instruments for remote flow monitoring and precipitation data collection as documented in Section 2.1 below. These improvements allow the City/Veolia to quantify and record all discharges from combined sewer outfalls. In 2014, pressure sensors were replaced by ultrasonic meters at CSOs 2, 7, 11, 16, 18A, 18B, 19, 20, 21, and 23. In 2021, Flow Assessment Services upgraded modems to 5G service at all sites with appropriate sensors providing more reliable data.

In 2018, an additional CSO (CSO 17) was located at the Front Street/Lyman Street intersection. Monitoring equipment was installed on October 17, 2018 and removed on February 27, 2020. No activations were recorded during that time. In December 2022, a contractor blocked the CSO to 50% closed position. No CSO discharges have been observed at this CSO. The CSO is regularly monitored by wood block.

2. COMBINED SEWER OVERFLOWS (CSO)

2.1 CSO Overflow Measurement

The City/Veolia operations staff monitor overflow occurrences at CSO locations through woodblock observations approximately three times per week and after every rain event measuring at least 0.4-inches. The operations staff record whether the woodblock is still in-place since the last inspection (i.e., no overflow has occurred since the last inspection), if there is an active overflow occurring, or if there is no active overflow but the woodblock has been displaced from its location (i.e., an overflow has caused the woodblock to be moved since the last inspection). If the woodblock has moved since the last inspection, rainfall data, records of overflows that occurred at other locations, and analysis of CSO instrumentation data are used to estimate the day the overflow occurred.

Beginning in 2008, the City/Veolia initiated work to automate CSO overflow monitoring and data collection to allow for continuous monitoring of event occurrences, flow volumes, and overflow duration at each CSO. As a result, remote flow monitoring stations with remote flow pressure sensors (installed June 2009) and area velocity flow meters (installed February 2010) now exist at each CSO location. Pressure sensors were replaced with ultrasonic meters (November and December 2014) at the Providence Hospital (002), Northampton & Glen (007), Jackson Street (011), Front and Appleton Street (016), Essex Street at Walnut Street (018A), Highland Park (018B), Yale Street (019), Cleveland Street (020), River Terrace (021), and Jefferson Street (023) CSOs, as shown on Figure 1-1. In conjunction with the remote monitoring instrumentation, the construction of a sharp crested weir (from 4 to 6 inches high) or a weir extension for existing diversion walls was completed in each overflow pipeline at CSOs 002, 007, 008, 011, 013, 018A, 019, 020, and 023. The weir wall crest elevations at these locations were increased to minimize the occurrence of overflows.

Flow Assessment installed a weir on CSO 21B, relocating the baffle and sensors and resurveying the chamber to improve flow measurement on December 6, 2018. In 2021, modems were upgraded to 5G for all CSOs with compatible sensors in appropriate locations.

2.2 2022 CSO Overflows

The data from remote monitoring was analyzed with precipitation data from one of several rain gauges. The rain gauge used for each CSO was based on proximity in accordance with NMC #9. Overflows for each CSO were compared to the corresponding rain events. The smallest rain event resulting in overflows are reported for each CSO to identify areas where improvements will have the greatest impact. A report for each CSO, detailing overflow events and associated rain data from the Smith's Ferry rain gauge for 2022, is included in Appendix 1. The reports include CSO events that occurred continuously over multiple days and multiple events within a single day. A summary of the overflow data is provided in Table 2-1 and Table 2-2 below summarizes the rain events resulting in CSO overflows.

Table 2-1: Rainfall, CSO Events, and Flow Metering Summary[1]

	WPCF Rainfall Gauge Recorded Rainfall (inches)	CSO 002 Rainfall (inches)	CSO 002 Providence Hospital Number Woodblock Activations	CSO 002 CSO Events	CSO 002 Discharged Volume (million gallons)	CSO 007 Rainfall (inches)	CSO 007 Northampton Woodblock Activations	CSO 007 CSO Events	CSO 007 Discharged Volume (million gallons)	CSO 008 Rainfall (inches)	CSO 008 Springdal Park Woodblo Activatior
January	1.45	0.00	0	0	0.0000	0.00	0	0	0.0000	0.7	0
February	4.34	0.00	2	0	0.0000	1.78	2	2	0.0375	1.78	1
March	2.88	0.32	2	1	0.0010	0.81	1	2	0.0029	0.73	2
April	4.21	2.42	2	2	0.0109	2.42	2	2	0.0213	2.84	4
May	3.72	3.66	3	4	0.0325	3.25	2	3	0.0237	3.66	2
June	1.82	0.00	1	0	0.0000	0.00	0	0	0.0000	1.1	0
July	4.26	3.06	4	3	0.0345	4.32	5	5	0.1363	4.32	3
August	3.69	0.98	3	1	0.0084	1.41	2	2	0.0506	1.49	2
September	5.95	4.94	3	4	0.0150	6.08	3	5	0.0377	4.9	2
October	2.93	1.34	3	1	0.0003	1.34	3	1	0.0041	2.55	0
November	4.09	1.62	1	2	0.0078	1.62	1	2	0.0096	2.97	1
December	4.47	0.00	1	0	0.0000	1.58	1	2	0.0005	4.66	0
Totals	43.81	18.34	25	18	0.1103	24.61	22	26	0.3239	31.7	17

	WPCF Rainfall Gauge Recorded Rainfall (inches)	CSO 011 Rainfall (inches)	CSO 011 Jackson Street Woodblock Activations	CSO 011 CSO Events	CSO 011 Discharged Volume (million gallons)	CSO 016 Rainfall (inches)	CSO 016 Front/ Appleton Woodblock Activations	CSO 016 CSO Events[2]	CSO 016 Volume (million gallons)	CSO 017 Rainfall (inches)	CSO 017 Lyman/ Front Woodblo Activatior
January	1.45	0.70	0	1	0.0011	1.02	0	3	0.0325	0.7	0
February	4.34	1.78	0	2	0.0070	2.18	1	4	0.1862	1.78	0
March	2.88	0.32	0	1	0.0011	3.22	1	12	0.0848	0.73	0
April	4.21	2.42	1	2	0.3989	4.08	3	13	0.2452	2.84	0
May	3.72	Removed sensors 5/11/2022	0	-	-	4.51	2	9	0.0803	3.66	0
June	1.82	-	0	-	-	0.00	1	0	0.0000	1.1	0

	WPCF Rainfall Gauge (inches)	CSO 018A Rainfall (inches)	CSO 018A Essex/ Walnut Woodblock Activations[3]	CSO 018A CSO Events	CSO 018A Discharged Volume (million gallons)	CSO 018B Rainfall (inches)	CSO 018B Highland Park Woodblock Activations	CSO 018B CSO Events	CSO 018B Discharged Volume (million gallons)	CSO 019 Rainfall (inches)	CSO 019 Yale Stree Woodbloc Activation
January	1.45	0.00	0	0	0.0000	0.70	1	1	0.1569	0.00	1
February	4.34	0.00	0	0	0.0000	2.18	4	4	2.1533	2.75	2
March	2.88	0.00	1	0	0.0000	1.98	2	5	0.6619	0.32	2
April	4.21	0.00	2	0	0.0000	3.59	5	6	0.2434	2.42	3
May	3.72	0.00	2	0	0.0000	3.66	3	4	0.1835	0.41	1
June	1.82	0.00	0	0	0.0000	1.09	2	2	0.2434	0.80	2
July	4.26	1.38	5	1	0.0050	3.73	5	4	0.4313	4.32	5
August	3.69	1.41	3	2	0.0078	1.79	4	4	0.4261	1.79	4
September	5.95	2.56	3	3	0.0075	5.30	2	4	2.4383	7.32	3
October	2.93	0.00	4	0	0.0000	2.69	3	4	0.3935	1.34	2
November	4.09	0.00	2	0	0.0000	3.46	2	5	1.3653	1.37	1
December	4.47	0.00	1	0	0.0000	2.92	5	5	2.2542	0.00	4
Totals	43.81	5.35	23	6	0.0203	33.09	38	48	10.9510	22.84	30

	WPCF Rainfall Gauge (inches)	CSO 021 Rainfall (inches)	CSO 021 River Terrace Woodblock Activations	CSO 021 CSO Events	CSO 021 Discharged Volume (million gallons)	CSO 021B Rainfall (inches)	CSO 021B River Terrace B Woodblock Activations	CSO 021B CSO Events	CSO 021B Discharged Volume (million gallons)	CSO 023 Rainfall (inches)	CSO 023 Jefferson Street Woodblock Activations
January	1.45	0.70	1	1	0.0069	0.70	1	1	0.0281	0.00	0
February	4.34	1.78	2	2	2.8712	1.78	4	2	0.2358	1.78	2
March	2.88	1.22	2	3	0.1649	2.15	3	5	0.0198	0.73	1
April	4.21	2.59	5	3	1.5085	3.39	6	5	0.8772	2.42	2
May	3.72	1.83	2	2	0.4081	1.83	3	2	0.0914	0.41	2
June	1.82	0.80	1	1	0.2285	1.09	2	2	0.0821	0.80	1
July	4.26	4.32	5	5	0.8517	5.26	5	6	0.2501	4.32	5
August	3.69	1.87	5	5	0.4828	1.87	5	5	0.2186	1.61	5
September	5.95	6.08	3	5	0.8897	6.08	3	5	0.6137	4.94	3
October	2.93	2.69	4	4	0.4073	2.69	4	4	0.2299	1.95	3
November	4.09	1.37	1	1	0.2290	2.07	2	4	0.2161	1.37	1

Table 2-2: Small Storm Discharges

	CSO 002	CSO 007	CSO 011	CSO 016	CSO 018	CSO 018A	CSO 018B	CSO 019	CSO 020	CSO 021	CSO 021B	CSO 023
24-hour rainfall accumulation from a minimum storm event lasting at least 5 minutes and generating discharge >1,000 gallons (inches)	0.41"	0.25"	0.32"	0.06"	0.08"	0.6"	0.12"	0.32"	0.01"	0.08"	0.08"	0.12"
Discharge volume (gallons)	2,140	1,774	1,057	1,432	5,960	5,936	25,915	80	4,922	38,876	30,800	4,454

Table 2-2 summarizing the smallest storms generating significant discharge at a CSO provides a clear prioritization for future CSO remediation efforts. CSO 021 and CSO 021B discharged significant volumes – roughly 39,000 and 31,000 gallons respectively – after experiencing small storm accumulation: each CSO discharged after receiving 0.08" of rain over a 24-hour period. This prioritization supports in-progress and incipient CSO remediation projects at the WPCF. As described later in Section 3.4, the City of Holyoke is undertaking sewer separation projects in these two CSOs. It is evident that sewer separation in these two CSOs will be significantly impactful in reducing CSO discharges across the Holyoke system.

2.3 Berkshire Street CSO 009 Facility

The Berkshire Street CSO Treatment Facility continues to capture the majority of CSO 009 regulator overflows. The Berkshire CSO Report, provided in Appendix 2, details the daily activity at this CSO in 2022. The following is a summary of significant occurrences:

- During 2022, there were 120 discrete storm events that had measurable rainfall totaling approximately 44 inches. The rainfall volume and intensity during 97 of the 2022 storm events did not result in a combined sewer flow discharge to the CSO 009 facility.
- There were 23 events in 2022 that resulted in activations (i.e., flow recorded to the CSO 9 facility). The total volume of flow to the CSO 009 facility was 117 million gallons (MG) in 2022. This value is significantly lower than the 2021 recorded flow of 155 MG, but more in-line with 2020 and 2019 recorded flows, which were between 120-130 MG. The 2022 annual flow was significantly less than the peak total recorded flow of 277 MG in 2018.
- Of the CSO 009 activations in 2022, 34.1 MG of the 117 MG discharged to the CSO 009 facility were captured within the CSO 009 facility storage basin(s) and returned to the WPCF for secondary treatment.
- In 2022, there were 23 events that caused combined sewer flow to exceed the storage tank volume. Excess flows from these events were disinfected and discharged. The approximate volume that discharged through the basins was 89 MG in 2022.
- Eight storm events in 2022 were significant enough that overflows occurred without treatment. The total annual volume of CSO that went untreated was 27.6 MG in 2022. The smallest rainfall event leading to an overflow without treatment was approximately 0.35 inches on August 26, 2022.

2.4 Dry Weather Overflows

The City and Veolia monitor for dry weather overflows (DWO). No DWOs occurred during 2022.

2.5 Sanitary Sewer Overflows (SSO)

The City of Holyoke and Veolia monitor the city collection system for sanitary sewer overflows (SSOs). Throughout 2022, four SSOs were reported. The Massachusetts Department of Environmental Protection (MassDEP), the Environmental Protection Agency (EPA), and the Board of Health were contacted about the discharges as required for notification about the discharges. Documentation of each SSO has been attached to this report as Appendix 3.

Chronologically, the first event occurred on April 26, 2022. The discharge occurred near 63 Canal Street over 36 minutes from 11:44 until 12:20 pm and released an estimated 225 gallons. The overflow was released from a sanitary sewer manhole to a catch basin and ultimately discharged to the Connecticut River receiving water. The cause of the SSO was a sewer system blockage that resulted from a buildup of debris in the sewer main. The staff at the WPCF were deployed to resolve the blockage. The crew jet cleaned the sewer main until the obstruction was cleared and free flow was observed in the main. Once the blockage was cleared, manhole SMH-5992.1 was vacuumed out to remove debris.

The second SSO in 2022 occurred on June 10 at Whiting Reservoir Road. The SSO discharged from a sanitary sewer manhole to the surrounding ground surface. The SSO was discovered at 3:45 pm and stopped at 7:00 pm, discharging a visually estimated 900 gallons on the ground. The WPCF crew was deployed to correct the backup. The crew found the discharge to be caused by a sewer system blockage caused by grease. The crew jet cleaned the sewer main which removed the blockage in manhole E28-6668. The main was jetted until free flow was once again observed.

The third sanitary sewer overflow in 2022 occurred on August 23. Between 300-500 gallons were discharged to the ground surface in the City of Holyoke Right-of-Way near Yale Street CSO 019. The WPCF crew was dispatched to resolve the discharge, and upon locating it, discovered that a pressure bolted manhole cover was unsecured. The bolts for the manhole cover were broken off allowing sewage to discharge from the manhole when the sewer system was surcharged. The defective manhole bolts were replaced, securing the manhole.

The last SSO in 2022 occurred on December 8 at 50 Holy Family Road. The SSO was discovered at 6:57 am and resolved at 8:00 am, discharging an estimated 1500 gallons to the ground surface and adjacent catch basins which ultimately discharged to the Tannery Brook receiving water. The WPCF crew jet cleaned the sewer main until the obstruction was cleared and free flow was observed. Manhole SMH-4278 and four area catch basins were vacuumed out after the blockage was removed. The WPCF crew determined the SSO to have been caused by a sewer system blockage of grease, rags, and wipes.

Smart Cover technology has also been implemented at two locations within the City of Holyoke system. One smart cover was installed on the Log Cabin Route 141, at Center and Ely Streets. The other cover was installed in Beaudion Village. The implementation of this technology has eliminated SSOs at these locations.

2.6 Inspections

Each of the City's CSO structures/regulators and pumping stations are physically inspected three times per week, or after a discharge of 0.04" of rain. Daily electronic checks of CSO structures are completed using the Flow Assessment platform. Inspections ensure the CSO structures are in good working condition and are adjusted as needed to minimize combined sewer discharges and intrusion of flow due to high river stage. Physical inspection results are recorded and include: the date and time of the inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the following is recorded: a description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. All records of inspection are maintained for at least three years.

Veolia and the City of Holyoke certify that the year 2022 inspections were conducted, physical inspection results recorded, and records maintained. The following is a certification that inspections were completed for 2022, as required by the permit:

I certify to the best of my knowledge that: inspections of the Combined Sewer Overflow system structures, regulators, and pumping stations were conducted in 2022; that the results of the physical inspections were recorded, and the records are maintained.

_____ _____

Michael Williams Date
Project Manager
Veolia Water North America

3. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

3.1 Operations and Maintenance Staff

Veolia Water North America operated with 17 personnel to complete the operation, maintenance, repair, and testing functions required to ensure compliance with terms and conditions of the NPDES permit in partnership with the City of Holyoke. There is currently one open position at the WPCF. Veolia submits a staffing report to MassDEP regarding the operation of the WPCF. This report was filed for the 2022 operational year and is included with this report as Appendix 4.

3.2 Inspection and Maintenance Activities and Corrective Actions

Routine maintenance activities related to the system were completed in accordance with the WPCF O&M plan throughout the City of Holyoke's CSO system.

Inspections identified an additional CSO (CSO 17), located at the Front Street/Lyman Street intersection. CSO 17 was incorporated into the CSO monitoring program between October 17, 2018, and February 27, 2020. In 2022 a contractor blocked CSO 17 to a 50% closed position and no discharge has been observed. This CSO is monitored by woodblock.

A tide valve was installed at the Springdale Park CSO 008 in 2019 to prevent river water from entering the combined system when the river level is high.

During routine maintenance on December 6, 2021, WPCF staff noticed a high outlet for a manhole on Jefferson Street submerged. Staff jetted the sewer and the water level receded avoiding a CSO through their due diligence.

Capacity, Management, Operations, and Maintenance Program
The City/Veolia implemented the Capacity, Management, Operations, and Maintenance (CMOM) program that was developed in 2013.

In 2022, approximately 84,727 linear feet of sewer were cleaned via vacuuming and jetting. Approximately 7,726 linear feet of sewer were inspected by CCTV. Clean-outs were performed on 243 catch basins. All streets in the City were swept at least once. Those streets that lie within the City's separated Municipal Separate Storm Sewer System (MS4) area were swept twice in 2022 per the MS4 permit.

I/I at Springdale Park and Jackson Street Pump Stations
Monitoring and field investigations have identified two primary sources of potential I/I at the Springdale Park and Jackson Street pump stations. In 2009, the City/Veolia began a program at these locations to investigate the quantity and source of this extraneous water by televising several the toe drains related to the dikes and floodwalls in those areas and through inspections of the pump station structures. In 2011, the City/Veolia determined river water likely back flows into the Springdale Park and Jackson Street pump stations when the river stage reached certain elevations. To remediate this concern, a tide valve was installed in 2019. Since that time, no back flow from the river has been received in the pump stations.

In 2022, Jackson Street CSO was separated into stormwater collection and sanitary sewer. The design of this separation project was completed in 2019 and the City awarded the project bid in February 2020. Initial construction began in summer 2020. The project completed construction in 2022. Detail on CSO separation is provided in the City's Long-Term Control Plan (LTCP).

In 2020 an interconnection between the Berkshire Street pond and City system was identified. During 2021 and 2022 the City designed a separation project for this area. The separation of the Berkshire Street pond from the City sewer infrastructure was completed in summer 2022. This separation removed approximately 250,000 gallons of inflow to the WPCF daily.

3.3 Collection System Maintenance Expenditures

In 2022, $418,962 was spent on collection system maintenance activities and corrective actions.

3.4 Investigations and Corrective Actions

The City and Veolia are completing several sewer separation projects in compliance with the requirements of CSO Remedial Measures identified in Consent Decree Case 3:19-cv-10332-MGM. Those activities are as follows:

1. Submission of design of sewer separation for River Terrace (CSO Area 21A) to MassDEP by July 1, 2024
2. Submission of design of sewer separation for River Terrace (CSO Area 21B) to MassDEP by July 1, 2026
3. Construction completion of sewer separation projects for River Terrace (CSO Area 21A) by December 31, 2027
4. Construction completion of sewer separation projects for River Terrace (CSO Area 21B) by December 31, 2029
5. Submission of design of sewer separation for Springdale Park (CSO Area 8) to MassDEP by July 1, 2034
6. Construction completion of sewer separation projects for Springdale Park (CSO Area 8) by December 31, 2037.

Based on ongoing sewer separation work within the Holyoke collection system, it is estimated that the quantity of extraneous clean water entering the sewer system is dominated by stormwater runoff during wet weather rather than groundwater infiltration. The City will continue to reduce inflow and infiltration where practical during implementation of the on-going streets improvement program and through mitigation efforts described in the City's LCTP. Where streets are scheduled to be reconstructed, existing underground utilities such as sewer, water, and, if existing, stormwater piping are separated, rehabilitated, or replaced. As this improvement program continues, combined sewer system lines will continue to be replaced or separated and the volume of inflow and infiltration will be decreased.

A summary of the maximum and average monthly flows to the WPCF and the total monthly rainfalls during 2022 is provided in Table 3-1.

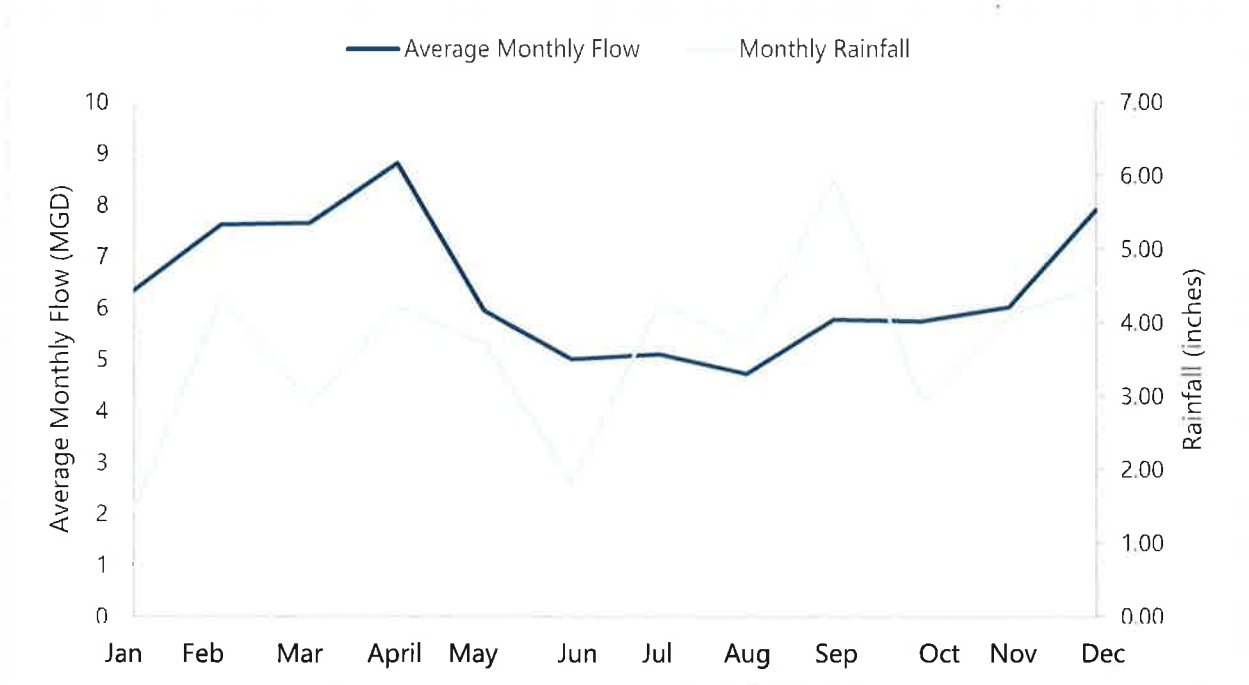
Table 3-1

Month	Monthly Rainfall[1] (in)	Maximum Daily Flow[2] (MGD)	Average Monthly Flow[2] (MGD)
January	1.45	11.8	6.3
February	4.34	17.1	7.6
March	2.88	12.6	7.6
April	4.21	15.8	8.8
May	3.72	10.3	5.9
June	1.82	9.3	5.0
July	4.26	9.1	5.1
August	3.69	6.9	4.7
September	5.95	19.7	5.8
October	2.93	12.1	5.7
November	4.09	12.2	6.0
December	4.47	19.0	7.9
Average	3.65	12.7	6.4

1. Rainfall values observed at WPCF rain gauge.
2. Based on total daily flow data

The correlation between average monthly sanitary sewer flows and monthly rainfall is represented in Figure 3-1. The flow trends are indicative of CSO systems: basal sanitary flows are maintained throughout the year, and account for stable flow contributions to the WPCF, with increased plant flows experienced with stormwater inflow. The steady sanitary flows dampen the impact of the rainfall to the system, yet the overall directionality of the rainfall trend is still legible in the WPCF flow data. The Holyoke system is characterized by this dynamic: direct stormwater contributions of inflow to the WPCF.

Figure 3-1



Further analysis was conducted on the impact of each rain event on the WPCF flow. Rain events were separated into four ranges: greater than 1 inch; between 1 inch and 0.5 inch; between 0.5 inch and 0.1 inch; and less than 0.1 inch. The WPCF flow for the day of each event was averaged for the appropriate range. The results indicate a clear correlation between the rain events and WPCF flow, as shown in Table 3-2.

TABLE 3-2
2022 RAIN EVENT IMPACT ANALYSIS

Rain Event Size	Average WPCF Flow (MGD)	Number of Days in Range
>1"	11.3	8
0.5"-1"	9.0	25
0.1"-0.5"	7.6	52
<0.1"	5.7	34
No Rain Event	5.8	245

As seen in the table above, the impact of storm inflow on the Holyoke system is marked. Sixty-seven percent of days in 2022 were observed with no rain event, at an average WPCF influent flow of 5.8 MGD. This flow roughly approximates basal sanitary wastewater flow in the Holyoke system. The average annual flow for the WPCF across the whole year, however, is 6.4 MGD. The significant increase in the magnitude of influent flow to the WPCF on days with rainfall is enough to counteract the majority of days recording no rain events.

3.5 Assessment of WPCF Flow

A summary of the year 2022 daily average and maximum flows to the Holyoke WPCF is provided in Table 3-1. The average daily flow through the WPCF is calculated at 6.4 MGD in 2022. By permit, the WPCF is required to calculate and address inflow and infiltration to the WPCF when the annual average plant flow exceeds eighty percent of design capacity. The Holyoke WPCF is permitted with a design capacity of 17.5 MGD, which results in a threshold capacity of 14 MGD to remain within permit. Despite the impact of stormwater inflow to the system, the WPCF operates with significant additional treatment capacity. The Berkshire Street CSO Facility discharged overflows in 2022 that are attributable to the hydraulic limitations of the collection and treatment systems, and not the result of an exceedance of WPCF treatment capacity.

A significant source of inflow in the City's wastewater collection system is stormwater. Based on Table 3-2, it is approximated that 5.8 MGD is the result of sanitary water use and infiltration. Therefore, in 2022, inflow regularly contributed approximately 0.6 MGD to the WPCF. Ongoing sewer separation projects will meaningfully reduce the quantity of stormwater treated at the WPCF and are recommended.

3.6 Unauthorized Discharges

No unauthorized discharges were identified in 2022.

If you have any questions, comments, or require more information, please feel free to contact Kris Baker at the City of Holyoke (413-322-5605), Michael Williams at Veolia Water North America (413-478-5773)

Sincerely,

Woodard & Curran Inc.

Appendices:
Appendix 1: CSO Overflow Reports
Appendix 2: Berkshire CSO Report
Appendix 3: SSO Reports
Appendix 4: Holyoke WPCF Staffing Plan

cc: Michael Williams, Veolia Water North America
Jason Swain, Veolia Water North America
Kevin Lukasiewicz, Veolia Water North America
Kris Baker, City of Holyoke

APPENDIX 1: CSO OVERFLOW REPORTS

Holyoke, MA
CSO 002
Main Street at Lug Handle Road
2022 Overflow Summary (1-1/22-12-31-22)

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	3/7/2022 21:55	3/7/2022 22:00	5	0.32	0.18	973	0.000973
2	4/7/2022 23:35	4/8/2022 2:25	170	1.02	0.38	14,000	0.004279
3	4/19/2022 2:00	4/19/2022 3:55	115	1.4	0.46	17,630	0.006608
4	5/15/2022 18:35	5/15/2022 18:45	10	0.41	0.21	2,140	0.00214
5	5/16/2022 17:50	5/16/2022 18:05	15	0.41	0.36	3,780	0.00378
6	5/28/2022 2:30	5/28/2022 2:35	5	1.42	0.54	1,938	0.001938
7	5/28/2022 12:45	5/28/2022 14:30	105	1.42	0.54	24,638	0.024638
8	7/12/2022 17:10	7/12/2022 17:25	15	0.59	0.49	3,144	0.003144
9	7/13/2022 22:15	7/14/2022 0:45	150	1.09	0.85	18,187	0.018187
10	7/28/2022 18:45	7/28/2022 19:35	50	1.38	1.38	13,153	0.013153
11	8/23/2022 14:20	8/23/2022 15:05	45	0.98	0.93	8,435	0.008435
12	9/5/2022 22:45	9/6/2022 1:10	145	2.38	0.37	4,927	0.004927
13	9/13/2022 18:25	9/13/2022 18:50	25	0.6	0.49	422	0.000422
14	9/19/2022 18:20	9/19/2022 18:40	20	0.78	0.68	2,505	0.002505
15	9/22/2022 6:50	9/22/2022 11:30	280	1.18	0.61	7,111	0.007111
16	10/5/2022 3:50	10/5/2022 3:55	5	1.34	0.42	259	0.000259
17	11/11/2022 19:20	11/11/2022 21:35	135	1.37	0.44	6,619	0.006619
18	11/12/2022 7:30	11/12/2022 7:35	5	0.25	0.21	1,175	0.001175

Total Overflow (MG): 0.110293

Holyoke, MA
CSO 007
Glen Street and Northampton
2022 Overflow Summary (1/1/22-12/31/22)

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	2/3/22 19:30	2/4/22 8:55	805	0.99	0.17	36,564	0.036564
2	2/22/22 20:20	2/22/22 20:50	30	0.79	0.27	898	0.000898
3	3/7/22 21:50	3/7/22 22:00	10	0.32	0.18	1,413	0.001413
4	3/31/22 21:35	3/31/22 21:40	5	0.49	0.13	1,456	0.001456
5	4/7/22 23:35	4/8/22 3:10	215	1.02	0.38	15,001	0.015001
6	4/19/22 1:55	4/19/22 3:50	115	1.4	0.46	6,249	0.006249
7	5/16/22 17:45	5/16/22 18:05	20	0.41	0.36	11,600	0.0116
8	5/28/22 2:35	5/28/22 2:45	10	1.42	0.54	4,526	0.004526
9	5/28/22 13:05	5/28/22 14:15	70	1.42	0.54	7,527	0.007527
10	7/2/22 16:50	7/2/22 17:10	20	0.32	0.17	3,146	0.003146
11	7/12/22 17:00	7/12/22 17:20	20	0.59	0.49	11,335	0.011335
12	7/13/22 22:55	7/13/22 23:35	40	1.09	0.85	7,423	0.007423
13	7/18/22 22:50	7/18/22 23:05	15	0.94	0.37	1,890	0.001890
14	7/28/22 18:35	7/28/22 19:25	50	1.38	1.38	112,493	0.112493
15	8/23/22 14:15	8/23/22 15:15	60	0.98	0.93	47,457	0.047457
16	8/26/22 13:10	8/26/22 13:25	15	0.43	0.36	3,137	0.003137
17	9/5/22 22:55	9/5/22 23:55	60	1.14	0.44	6,008	0.006008
18	9/6/22 10:05	9/6/22 10:10	5	2.38	0.37	28	0.000028
19	9/13/22 18:15	9/13/22 18:40	25	0.6	0.49	12,845	0.012845
20	9/19/22 18:15	9/19/22 18:35	20	0.78	0.68	12,375	0.012375
21	9/22/22 6:45	9/22/22 7:15	30	1.18	0.61	6,444	0.006444
22	10/5/22 5:30	10/5/22 6:30	60	1.34	0.42	4,054	0.004054
23	11/11/22 19:30	11/11/22 21:35	125	1.37	0.44	7,809	0.007809
24	11/12/22 7:25	11/12/22 7:40	15	0.25	0.21	1,774	0.001774
25	12/23/22 6:45	12/23/22 7:15	30	0.79	0.19	386	0.000386
26	12/23/22 15:25	12/23/22 15:40	15	0.79	0.19	65	0.000065

Total Overflow (MG): 0.323903

Holyoke, MA
CSO 008
Springdale Park
2022 Overflow Summary (1/1/22-12/31/22)

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/17/2022 10:30	1/17/2022 13:00	150	0.7	0.29	470,129	0.470129
2	2/3/2022 16:25	2/4/2022 9:10	1005	0.99	0.17	3,394,190	3.39419
3	2/22/2022 18:10	2/22/2022 21:35	205	0.79	0.27	940,742	0.940742
4	3/7/2022 21:50	3/7/2022 22:20	30	0.32	0.18	175,085	0.175085
5	3/19/2022 20:50	3/19/2022 23:00	130	0.41	0.3	119,128	0.119128
6	3/31/2022 20:10	3/31/2022 23:55	225	0.49	0.13	55,362	0.055362
7	4/7/2022 21:15	4/8/2022 4:00	405	1.02	0.38	2,106,794	2.106794
8	4/16/2022 20:40	4/16/2022 21:20	40	0.42	0.2	49,936	0.049936
9	4/19/2022 1:15	4/19/2022 4:30	195	1.4	0.46	839,085	0.839085
10	5/15/2022 18:35	5/15/2022 20:15	100	0.41	0.21	34,604	0.034604
11	5/16/2022 17:45	5/16/2022 18:20	35	0.41	0.36	43,971	0.043971
12	5/28/2022 2:25	5/28/2022 3:30	65	1.42	0.54	142,503	0.142503
13	5/28/2022 12:55	5/28/2022 15:05	130	1.42	0.54	572,735	0.572735
14	6/9/2022 4:40	6/9/2022 7:40	180	0.8	0.37	403,980	0.40398
15	6/22/2022 13:00	6/22/2022 13:25	25	0.29	0.18	28,109	0.028109
16	7/2/2022 16:55	7/2/2022 17:25	30	0.32	0.17	14,750	0.01475
17	7/12/2022 17:05	7/12/2022 17:40	35	0.59	0.49	236,959	0.236959
18	7/13/2022 22:15	7/14/2022 1:00	165	1.09	0.85	1,071,139	1.071139
19	7/18/2022 14:45	7/18/2022 23:20	515	0.94	0.37	62,953	0.062953
20	7/28/2022 18:40	7/28/2022 20:00	80	1.38	1.38	1,129,088	1.129088
21	8/2/2022 13:10	8/2/2022 13:20	10	0.08	0.07	13,165	0.013165
22	8/23/2022 14:20	8/23/2022 15:35	75	0.98	0.93	703,938	0.703938
23	8/26/2022 13:10	8/26/2022 13:40	30	0.43	0.36	154,979	0.154979
24	9/5/2022 22:45	9/6/2022 11:20	755	2.38	0.37	1,516,965	1.516965
25	9/13/2022 18:20	9/13/2022 19:05	45	0.6	0.49	363,941	0.363941
26	9/19/2022 18:20	9/19/2022 19:10	50	0.78	0.68	437,990	0.437990
27	9/22/2022 6:45	9/22/2022 11:50	305	1.18	0.61	560,441	0.560441
28	10/4/2022 21:15	10/5/2022 7:35	620	1.34	0.42	899,509	0.899509
29	10/13/2022 18:45	10/14/2022 2:35	470	0.61	0.24	21,590	0.021590
30	10/24/2022 12:05	10/24/2022 13:10	65	0.6	0.24	51,504	0.051504
31	11/11/2022 18:35	11/11/2022 22:10	215	1.37	0.44	1,290,284	1.290284
32	11/12/2022 7:25	11/12/2022 8:05	40	0.25	0.21	44,548	0.044548
33	11/16/2022 3:15	11/16/2022 7:30	255	0.85	0.19	260,610	0.260610
34	11/27/2022 18:20	11/27/2022 18:25	5	0.5	0.16	894	0.000894
					Total		18.211600

35	12/7/2022 1:30	12/7/2022 2:00	30	0.65	0.18	7,885	0.007885
36	12/16/2022 5:30	12/16/2022 5:55	25	1.18	0.15	11,106	0.011106
37	12/22/2022 22:05	12/22/2022 22:40	35	0.46	0.16	19,918	0.019918
38	12/23/2022 6:45	12/23/2022 7:25	40	0.79	0.19	144,609	0.144609
39	12/23/2022 11:55	12/23/2022 12:15	20	0.79	0.19	8,291	0.008291
40	12/23/2022 15:30	12/23/2022 16:00	30	0.79	0.19	9,442	0.009442

Total	18.412851

Holyoke, MA
CSO 011
Jackson Street
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/17/2022 11:00	1/17/2022 11:45	45	0.7	0.29	1,147	0.001147
2	2/3/2022 21:50	2/3/2022 23:10	80	0.99	0.17	3,073	0.003073
3	2/22/2022 20:05	2/22/2022 21:00	55	0.79	0.27	3,899	0.003899
4	3/7/2022 22:00	3/7/2022 22:10	10	0.32	0.18	1,057	0.001057
5	4/7/2022 21:45	4/8/2022 3:15	330	1.02	0.38	9,596	0.009596
6	4/19/2022 1:40	4/19/2022 4:25	165	1.4	0.46	389,332	0.389332
	Removed	5/11/2022 0:00					

Total: 0.408104

Total:	0.408104

Holyoke, MA

CSO 016

Appleton Street at Nick Cosmo Way

2022 Overflow Summary (1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/1/2022 22:45	1/2/2022 4:45	360	0.19	0.07	3,492	0.003492
2	1/5/2022 9:25	1/5/2022 11:20	115	0.13	0.07	344	0.000344
3	1/17/2022 8:10	1/17/2022 16:35	505	0.7	0.29	28,619	0.028619
4	2/3/2022 12:05	2/4/2022 15:05	1620	0.99	0.17	124,655	0.124655
5	2/7/2022 16:10	2/8/2022 4:00	710	0.22	0.07	4,205	0.004205
6	2/17/2022 22:35	2/18/2022 8:10	575	0.18	0.11	10,130	0.010130
7	2/22/2022 16:40	2/23/2022 0:35	475	0.79	0.27	47,197	0.047197
8	3/6/2022 14:00	3/6/2022 16:20	140	0.01	0.01	68	0.000068
9	3/7/2022 19:00	3/7/2022 22:35	215	0.32	0.18	13,407	0.013407
10	3/9/2022 14:45	3/9/2022 15:30	45	0	0	95	0.000095
11	3/10/2022 12:00	3/10/2022 13:30	90	0.31	0.31	221	0.000221
12	3/12/2022 10:05	3/12/2022 16:10	365	0.32	0.11	4225	0.004225
13	3/15/2022 21:30	3/15/2022 23:00	90	0.09	0.07	1,169	0.001169
14	3/19/2022 6:10	3/19/2022 7:45	95	0.41	0.3	1,243	0.001243
15	3/19/2022 20:55	3/19/2022 22:15	80	0.41	0.3	11,657	0.011657
16	3/23/2022 22:50	3/24/2022 8:15	565	0.08	0.05	13618	0.013618
17	3/24/2022 22:05	3/25/2022 3:35	330	0.68	0.14	20,307	0.020307
18	3/26/2022 14:40	3/26/2022 16:50	130	0.1	0.07	2,215	0.002215
19	3/31/2022 19:30	3/31/2022 23:55	265	0.49	0.13	16,588	0.016588
20	4/1/2022 0:00	4/1/2022 7:45	465	0.2	0.08	5,484	0.005484
21	4/6/2022 7:00	4/6/2022 8:15	75	0.2	0.07	333	0.000333
22	4/6/2022 14:30	4/6/2022 15:50	80	0.02	0.07	130	0.000130
23	4/7/2022 19:15	4/8/2022 4:15	540	1.02	0.38	113,902	0.113902
24	4/9/2022 8:10	4/9/2022 14:35	385	0.38	0.23	15341	0.015341
25	4/11/2022 19:35	4/11/2022 19:40	5	0	0	186	0.000186
26	4/12/2022 9:40	4/12/2022 10:15	35	0.06	0.06	1,432	0.001432
27	4/14/2022 18:00	4/14/2022 19:25	85	0.17	0.15	5,853	0.005853
28	4/16/2022 18:25	4/16/2022 21:55	210	0.42	0.2	15416	0.015416
29	4/19/2022 1:10	4/19/2022 9:15	485	1.4	0.46	85,530	0.08553
30	4/26/2022 15:45	4/26/2022 20:05	260	0.2	0.07	1,391	0.001391
31	4/27/2022 0:00	4/27/2022 0:05	5	0.01	0.01	15	0.000015
32	4/29/2022 9:30	4/29/2022 9:45	15	0	0	156	0.000156

Subtotal Pg1 Overflow (MG): 0.548624

CSO 016
2022 Activations

33	5/2/2022 18:50	5/2/2022 21:35	165	0.21	0.12	648	0.000648
34	5/4/2022 5:10	5/4/2022 8:05	175	0.15	0.05	1,091	0.001091
35	5/4/2022 13:00	5/4/2022 13:40	40	0.15	0.05	153	0.000153
36	5/15/2022 18:35	5/15/2022 21:00	145	0.41	0.21	8,500	0.008500
37	5/16/2022 18:00	5/16/2022 22:15	255	0.41	0.36	8791	0.008791
38	5/19/2022 5:00	5/19/2022 10:05	305	0.24	0.07	3,105	0.003105
39	5/22/2022 21:05	5/22/2022 21:30	25	0.1	0.09	68	0.000068
40	5/28/2022 2:00	5/28/2022 3:55	115	1.42	0.54	20,826	0.020826
41	5/28/2022 13:00	5/28/2022 15:15	135	1.42	0.54	37077	0.037077
42	7/2/2022 16:55	7/2/2022 17:05	10	0.32	0.17	13,688	0.013688
43	7/13/2022 23:15	7/14/2022 0:25	70	1.09	0.85	41,182	0.041182
44	7/18/2022 22:05	7/18/2022 23:00	55	0.94	0.37	14,209	0.014209
45	7/28/2022 18:35	7/28/2022 19:15	40	1.38	1.38	88,108	0.088108
46	8/23/2022 14:20	8/23/2022 15:05	45	0.98	0.93	47,458	0.047458
47	8/26/2022 13:05	8/26/2022 13:30	25	0.43	0.36	57,759	0.057759
48	9/13/2022 18:20	9/13/2022 18:40	20	0.6	0.49	37,958	0.037958
49	9/19/2022 18:15	9/19/2022 18:40	25	0.78	0.68	129,307	0.129307
50	9/22/2022 7:00	9/22/2022 7:10	10	1.18	0.61	15,948	0.015948
51	10/5/2022 5:30	10/5/2022 6:30	60	1.34	0.42	17,885	0.017885
52	11/11/2022 21:15	11/11/2022 21:25	10	1.37	0.44	12,024	0.012024

Total 1.104409

Total	1.104409

Holyoke, MA
CSO 018
Walnut Street
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume (MG)
1	1/17/2022 10:20	1/17/2022 14:40	260	0.7	0.29	0.720520
2	2/3/2022 15:00	2/4/2022 12:25	1285	0.99	0.17	4.091272
3	2/7/2022 17:00	2/7/2022 21:05	245	0.22	0.07	0.008630
4	2/17/2022 23:05	2/18/2022 7:30	505	0.18	0.11	0.049139
5	2/22/2022 17:45	2/22/2022 22:00	255	0.79	0.27	1.252128
6	3/7/2022 21:50	3/7/2022 22:40	50	0.32	0.18	0.257890
7	3/12/2022 11:45	3/12/2022 11:50	5	0.32	0.11	0.000028
8	3/19/2022 20:50	3/19/2022 22:00	70	0.41	0.3	0.236826
9	3/24/2022 1:40	3/24/2022 3:15	95	0.68	0.14	0.104744
10	3/24/2022 22:25	3/25/2022 3:05	280	0.68	0.14	0.284881
11	3/31/2022 20:00	3/31/2022 23:55	235	0.49	0.13	0.226578
12	4/1/2022 0:00	4/1/2022 0:25	25	0.2	0.08	0.048536
13	4/1/2022 7:05	4/1/2022 7:10	5	0.2	0.08	0.000325
14	4/7/2022 19:40	4/8/2022 3:55	495	1.02	0.38	2.393368
15	4/9/2022 13:40	4/9/2022 14:30	50	0.38	0.23	0.066774
16	4/14/2022 18:10	4/14/2022 19:00	50	0.17	0.15	0.102246
17	4/16/2022 18:40	4/16/2022 21:40	180	0.42	0.2	0.317938
18	4/19/2022 1:15	4/19/2022 6:35	320	1.4	0.46	1.667071
19	5/15/2022 19:35	5/15/2022 20:35	60	0.41	0.21	0.123684
20	5/16/2022 17:45	5/16/2022 18:40	55	0.41	0.36	0.548452
21	5/28/2022 2:30	5/28/2022 3:40	70	1.42	0.54	0.354797
22	5/28/2022 12:55	5/28/2022 15:05	130	1.42	0.54	0.624938
23	6/9/2022 4:30	6/9/2022 7:50	200	0.8	0.37	0.862792
24	6/22/2022 12:30	6/22/2022 13:50	80	0.29	0.18	0.172257
25	6/27/2022 10:00	6/27/2022 10:15	15	0.08	0.06	0.005960
26	7/2/2022 3:30	7/2/2022 3:50	20	0.32	0.17	0.005265
27	7/2/2022 16:55	7/2/2022 17:50	55	0.32	0.17	0.440327
28	7/5/2022 19:35	7/5/2022 20:00	25	0.19	0.11	0.021273
29	7/12/2022 17:05	7/12/2022 19:50	165	0.59	0.49	0.425584
30	7/13/2022 22:20	7/14/2022 1:15	175	1.09	0.85	1.254020
31	7/18/2022 12:00	7/18/2022 23:45	705	0.94	0.37	1.178435
32	7/28/2022 18:35	7/28/2022 20:20	105	1.38	1.38	4.718873
					Total	**22.565551**

CSO 018
2022 Activations

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume (MG)
33	8/8/2022 21:05	8/8/2022 22:05	60	0.12	0.12	0.125018
34	8/23/2022 14:20	8/23/2022 16:05	105	0.98	0.93	1.247997
35	8/26/2022 13:05	8/26/2022 15:40	155	0.43	0.36	1.198701
36	9/5/2022 4:55	9/5/2022 7:30	155	1.14	0.44	0.057800
37	9/5/2022 19:05	9/6/2022 18:05	1380	2.38	0.37	1.550055
38	9/13/2022 18:20	9/13/2022 19:25	65	0.6	0.49	0.986942
39	9/19/2022 18:20	9/19/2022 19:05	45	0.78	0.68	0.365558
40	9/22/2022 6:45	9/22/2022 13:00	375	1.18	0.61	0.632429
41	10/4/2022 20:55	10/5/2022 15:30	1115	1.34	0.42	1.942976
42	10/13/2022 18:40	10/14/2022 3:30	530	0.61	0.24	0.669731
43	10/17/2022 20:10	10/17/2022 21:20	70	0.14	0.1	0.197650
44	10/24/2022 11:15	10/24/2022 14:10	175	0.6	0.24	0.404493
45	11/11/2022 18:05	11/11/2022 22:15	250	1.37	0.44	1.504737
46	11/12/2022 7:25	11/12/2022 8:05	40	0.25	0.21	0.143385
47	11/16/2022 3:00	11/16/2022 7:00	240	0.85	0.19	0.359818
48	11/27/2022 15:55	11/27/2022 18:55	180	0.5	0.16	0.241129
49	11/30/2022 14:35	11/30/2022 18:35	240	0.49	0.13	0.356990
50	12/3/2022 11:55	12/3/2022 18:35	400	0.29	0.08	0.065856
51	12/7/2022 0:30	12/7/2022 6:45	375	0.65	0.18	0.645820
52	12/16/2022 0:40	12/16/2022 15:20	880	1.18	0.15	0.345151
53	12/22/2022 21:15	12/23/2022 16:20	1145	0.46	0.16	1.027060
54	12/31/2022 22:55	12/31/2022 23:40	45	0.34	0.11	0.036584
					Total	36.671431

Holyoke, MA
CSO 018A
Essex Street at Walnut Street
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	7/28/2022 18:35	7/28/2022 18:50	15	1.38	1.38	5,000	0.005000
2	8/23/2022 14:20	8/23/2022 14:30	10	0.98	0.93	7,423	0.007423
3	8/26/2022 13:20	8/26/2022 13:25	5	0.43	0.36	353	0.000353
4	9/13/2022 18:20	9/13/2022 18:35	15	0.6	0.49	5,936	0.005936
5	9/19/2022 18:25	9/19/2022 18:30	5	0.78	0.68	642	0.000642
6	9/22/2022 6:55	9/22/2022 7:20	25	1.18	0.61	952	0.000952

Total Overflow (MG): 0.020306

Holyoke, MA
CSO 018B
Highland Pump Station
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/17/2022 11:10	1/17/2022 14:55	225	0.7	0.29	156,903	0.156903
2	2/3/2022 16:20	2/4/2022 13:00	1240	0.99	0.17	1,642,671	1.642671
3	2/7/2022 21:00	2/7/2022 21:30	30	0.22	0.07	14,867	0.014867
4	2/17/2022 23:40	2/18/2022 7:45	485	0.18	0.11	47,740	0.047740
5	2/22/2022 18:00	2/22/2022 22:20	260	0.79	0.27	448,001	0.448001
6	3/7/2022 22:15	3/7/2022 22:55	40	0.32	0.18	63,050	0.063050
7	3/12/2022 11:55	3/12/2022 12:10	15	0.32	0.11	9,830	0.009830
8	3/19/2022 21:40	3/19/2022 21:55	15	0.41	0.3	5,114	0.005114
9	3/24/2022 1:45	3/24/2022 4:10	145	0.68	0.14	502,882	0.502882
10	3/25/2022 0:00	3/25/2022 3:15	195	0.25	0.14	81,010	0.081010
11	4/1/2022 0:05	4/1/2022 0:25	20	0.2	0.08	6,586	0.006586
12	4/7/2022 20:30	4/8/2022 4:10	460	1.02	0.38	545,394	0.545394
13	4/9/2022 13:45	4/9/2022 14:40	55	0.38	0.23	51,323	0.051323
14	4/14/2022 18:40	4/14/2022 19:15	35	0.17	0.15	22,839	0.022839
15	4/16/2022 19:05	4/16/2022 21:50	165	0.42	0.2	112,087	0.112087
16	4/19/2022 1:55	4/19/2022 6:50	295	1.4	0.46	307,907	0.307907
17	5/15/2022 20:35	5/15/2022 20:50	15	0.41	0.21	6,767	0.006767
18	5/16/2022 18:15	5/16/2022 18:55	40	0.41	0.36	41,653	0.041653
19	5/28/2022 3:15	5/28/2022 3:55	40	1.42	0.54	33,129	0.033129
20	5/28/2022 13:45	5/28/2022 15:20	95	1.42	0.54	101,975	0.101975
21	6/9/2022 5:20	6/9/2022 8:20	180	0.8	0.37	212,912	0.212912
22	6/22/2022 13:15	6/22/2022 14:00	45	0.29	0.18	30,445	0.030445
23	7/2/2022 17:25	7/2/2022 17:50	25	0.32	0.17	12,511	0.012511
24	7/13/2022 23:20	7/14/2022 1:10	110	1.09	0.85	104,212	0.104212
25	7/18/2022 22:25	7/18/2022 23:45	80	0.94	0.37	71,662	0.071662
26	7/28/2022 18:45	7/28/2022 20:20	95	1.38	1.38	242,866	0.242866
27	8/8/2022 21:35	8/8/2022 22:05	30	0.12	0.12	25,915	0.025915
28	8/22/2022 15:00	8/22/2022 15:55	55	0.26	0.11	60,004	0.060004
29	8/23/2022 14:30	8/23/2022 16:05	95	0.98	0.93	172,545	0.172545
30	8/26/2022 13:20	8/26/2022 15:40	140	0.43	0.36	167,684	0.167684
31	9/5/2022 5:00	9/5/2022 7:30	150	1.14	0.44	91,145	0.091145
32	9/5/2022 19:15	9/6/2022 18:05	1370	2.38	0.37	2,234,262	2.234262
33	9/13/2022 18:35	9/13/2022 19:25	50	0.6	0.49	41,906	0.041906
34	9/22/2022 7:10	9/22/2022 13:00	350	1.18	0.61	71,021	0.071021

Subtotal Pg1 Overflow (MG): 7.740818

FLOW
ASSESSMENT SERVICES

CSO 018B
2022 Activations

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
35	10/5/2022 5:20	10/5/2022 8:30	190	1.34	0.42	137,477	0.137477
36	10/13/2022 19:35	10/14/2022 3:30	475	0.61	0.24	98,387	0.098387
37	10/17/2022 20:55	10/17/2022 21:20	25	0.14	0.1	13,401	0.013401
38	10/24/2022 11:50	10/24/2022 14:10	140	0.6	0.24	144,224	0.144224
39	11/11/2022 18:35	11/11/2022 22:40	245	1.37	0.44	376,179	0.376179
40	11/12/2022 7:55	11/12/2022 8:25	30	0.25	0.21	22,926	0.022926
41	11/16/2022 3:25	11/16/2022 7:55	270	0.85	0.19	330,524	0.330524
42	11/27/2022 16:25	11/27/2022 19:25	180	0.5	0.16	220,235	0.220235
43	11/30/2022 14:40	11/30/2022 18:55	255	0.49	0.13	415,452	0.415452
44	12/3/2022 12:05	12/3/2022 14:30	145	0.29	0.08	206,615	0.206615
45	12/7/2022 0:35	12/7/2022 7:15	400	0.65	0.18	568,846	0.568846
46	12/16/2022 0:55	12/16/2022 16:55	960	1.18	0.15	785,796	0.785796
47	12/22/2022 21:20	12/23/2022 16:35	1155	0.46	0.16	674,082	0.674082
48	12/31/2022 23:25	12/31/2022 23:55	30	0.34	0.11	18,852	0.018852
					Total		11.753814

Holyoke, MA
CSO 019
Pleasant Street R.O.W.
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	2/3/2022 21:40	2/3/2022 22:50	70	0.99	0.17	1,050	0.001050
2	2/4/2022 3:30	2/4/2022 3:50	20	0.97	0.15	129	0.000129
3	2/22/2022 20:00	2/22/2022 21:00	60	0.79	0.27	3,014	0.003014
4	3/7/2022 21:55	3/7/2022 22:05	10	0.32	0.18	80	0.000080
5	4/7/2022 23:40	4/8/2022 2:15	155	1.02	0.38	2,788	0.002788
6	4/19/2022 2:05	4/19/2022 2:20	15	1.4	0.46	359	0.000359
7	5/16/2022 17:50	5/16/2022 18:05	15	0.41	0.36	787	0.000787
8	6/9/2022 5:50	6/9/2022 5:55	5	0.8	0.37	104	0.000104
9	7/2/2022 16:55	7/2/2022 17:15	20	0.32	0.17	1,354	0.001354
10	7/12/2022 19:05	7/12/2022 19:15	10	0.59	0.49	72	0.000072
11	7/13/2022 23:05	7/14/2022 0:25	80	1.09	0.85	2,618	0.002618
12	7/18/2022 22:05	7/18/2022 23:10	65	0.94	0.37	3,447	0.003447
13	7/28/2022 18:35	7/28/2022 19:20	45	1.38	1.38	8,566	0.008566
14	8/8/2022 21:10	8/8/2022 21:20	10	0.12	0.12	564	0.000564
15	8/22/2022 14:35	8/22/2022 14:40	5	0.26	0.11	36	0.000036
16	8/23/2022 14:20	8/23/2022 15:20	60	0.98	0.93	5,584	0.005584
17	8/26/2022 13:10	8/26/2022 15:00	110	0.43	0.36	4,645	0.004645
18	9/5/2022 23:20	9/6/2022 1:30	130	2.38	0.37	3,457	0.003457
19	9/6/2022 10:50	9/6/2022 10:55	5	2.38	0.37	21	0.000021
20	9/13/2022 18:20	9/13/2022 18:40	20	0.6	0.49	3,279	0.003279
21	9/19/2022 18:25	9/19/2022 18:35	10	0.78	0.68	991	0.000991
22	9/22/2022 6:45	9/22/2022 7:10	25	1.18	0.61	1,584	0.001584
23	10/5/2022 5:30	10/5/2022 6:45	75	1.34	0.42	4,840	0.004840
24	11/11/2022 19:35	11/11/2022 19:45	10	1.37	0.44	323	0.000323

Total Overflow (MG): 0.049692

Holyoke, MA

CSO 020

Cleveland Street at Oxford Road

2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/17/2022 10:30	1/17/2022 15:05	275	0.7	0.29	298,607	0.298607
2	2/3/2022 15:15	2/4/2022 15:45	1470	0.99	0.17	2,308,271	2.308271
3	2/7/2022 20:30	2/8/2022 14:35	1085	0.22	0.07	111,667	0.111667
4	2/17/2022 23:10	2/18/2022 1:10	120	0.18	0.11	30,987	0.030987
5	2/18/2022 6:55	2/18/2022 7:20	25	0.21	0.08	600	0.000600
6	2/22/2022 18:00	2/22/2022 22:35	275	0.79	0.27	399,505	0.399505
7	3/6/2022 14:55	3/6/2022 17:00	125	0.01	0.01	4,922	0.004922
8	3/7/2022 21:45	3/7/2022 23:05	80	0.32	0.18	61,488	0.061488
9	3/19/2022 20:50	3/19/2022 22:00	70	0.41	0.3	57,814	0.057814
10	3/24/2022 1:40	3/24/2022 4:40	180	0.68	0.14	31,124	0.031124
11	3/24/2022 22:25	3/25/2022 3:35	310	0.68	0.14	146,775	0.146775
12	3/26/2022 15:45	3/26/2022 15:50	5	0.1	0.07	233	0.000233
13	3/31/2022 20:10	3/31/2022 23:55	225	0.49	0.13	38,664	0.038664
14	4/1/2022 0:00	4/1/2022 0:50	50	0.2	0.08	19,788	0.019788
15	4/1/2022 6:25	4/1/2022 7:35	70	0.2	0.08	13,529	0.013529
16	4/7/2022 20:05	4/8/2022 19:45	1420	1.02	0.38	810,408	0.810408
17	4/9/2022 12:25	4/9/2022 15:10	165	0.38	0.23	47,001	0.047001
18	4/12/2022 9:55	4/12/2022 10:00	5	0.06	0.06	2,327	0.002327
19	4/14/2022 18:10	4/14/2022 19:00	50	0.17	0.15	25,151	0.025151
20	4/16/2022 18:35	4/16/2022 21:50	195	0.42	0.2	134,346	0.134346
21	4/19/2022 1:20	4/19/2022 12:10	650	1.4	0.46	446206	0.446206
22	5/15/2022 19:45	5/15/2022 20:30	45	0.41	0.21	20,868	0.020868
23	5/16/2022 17:45	5/16/2022 18:40	55	0.41	0.36	72,606	0.072606
24	5/28/2022 2:30	5/28/2022 3:40	70	1.42	0.54	64,677	0.064677
25	5/28/2022 13:00	5/28/2022 15:00	120	1.42	0.54	142,429	0.142429
26	6/9/2022 4:25	6/9/2022 7:50	205	0.8	0.37	262,199	0.262199
27	6/22/2022 12:35	6/22/2022 13:40	65	0.29	0.18	63,011	0.063011
28	7/2/2022 16:50	7/2/2022 17:45	55	0.32	0.17	81,170	0.081170
29	7/12/2022 17:15	7/12/2022 19:55	160	0.59	0.49	81,194	0.081194
30	7/13/2022 22:55	7/14/2022 1:05	130	1.09	0.85	143,374	0.143374
31	7/18/2022 12:00	7/18/2022 23:30	690	0.94	0.37	240,043	0.240043
32	7/28/2022 18:35	7/28/2022 19:40	65	1.38	1.38	169,034	0.169034
					Total		6.330018

CSO 020
2022 Activations

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
33	8/2/2022 12:50	8/2/2022 13:30	40	0.08	0.07	29,563	0.029563
34	8/8/2022 21:05	8/8/2022 21:45	40	0.12	0.12	55,817	0.055817
35	8/22/2022 14:25	8/22/2022 15:20	55	0.26	0.11	61,766	0.061766
36	8/23/2022 14:20	8/23/2022 15:45	85	0.98	0.93	207,816	0.207816
37	8/26/2022 13:05	8/26/2022 15:30	145	0.43	0.36	183,606	0.183606
38	9/5/2022 3:55	9/5/2022 6:20	145	1.14	0.44	124,844	0.124844
39	9/5/2022 19:15	9/6/2022 17:30	1335	2.38	0.37	1,614,528	1.614528
40	9/13/2022 6:05	9/13/2022 6:20	15	0.6	0.49	5,053	0.005053
41	9/13/2022 18:15	9/13/2022 19:20	65	0.6	0.49	123,640	0.123640
42	9/19/2022 18:20	9/19/2022 19:25	65	0.78	0.68	105,625	0.105625
43	9/22/2022 6:40	9/22/2022 13:15	395	1.18	0.61	365,432	0.365432
44	10/4/2022 21:05	10/5/2022 15:40	1115	1.34	0.42	569,017	0.569017
45	10/13/2022 18:35	10/14/2022 3:10	515	0.61	0.24	267,405	0.267405
46	10/17/2022 20:05	10/17/2022 21:10	65	0.14	0.1	70,421	0.070421
47	10/24/2022 11:20	10/24/2022 13:35	135	0.6	0.24	165,300	0.165300
48	11/11/2022 18:10	11/11/2022 22:25	255	1.37	0.44	427,481	0.427481
49	11/12/2022 7:25	11/12/2022 8:15	50	0.25	0.21	42,724	0.042724
50	11/16/2022 3:25	11/16/2022 7:05	220	0.85	0.19	186,339	0.186339
51	11/27/2022 16:10	11/27/2022 18:55	165	0.5	0.16	107,448	0.107448
52	11/30/2022 14:45	11/30/2022 18:25	220	0.49	0.13	188,033	0.188033
53	12/3/2022 13:00	12/3/2022 14:10	70	0.29	0.08	17,194	0.017194
54	12/7/2022 0:35	12/7/2022 6:55	380	0.65	0.18	324,323	0.324323
55	12/16/2022 1:10	12/16/2022 15:45	875	1.18	0.15	191,601	0.191601
56	12/17/2022 3:30	12/17/2022 4:15	45	0.14	0.05	1,139	0.001139
57	12/22/2022 21:25	12/23/2022 18:00	1235	0.46	0.16	438,569	0.438569
58	12/31/2022 23:10	12/31/2022 23:20	10	0.34	0.11	1,345	0.001345
					Total		12.206047

Holyoke, MA

CSO 021

Pleasant Street at River Terrace

2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/17/2022 11:15	1/17/2022 11:20	5	0.7	0.29	6,853	0.006853
2	2/3/2022 17:00	2/4/2022 9:50	1010	0.99	0.17	2,169,998	2.169998
3	2/22/2022 18:50	2/22/2022 21:30	160	0.79	0.27	701,201	0.701201
4	3/7/2022 21:45	3/7/2022 22:20	35	0.32	0.18	114,001	0.114001
5	3/19/2022 20:55	3/19/2022 21:15	20	0.41	0.3	23,472	0.023472
6	3/31/2022 21:30	3/31/2022 21:50	20	0.49	0.13	27,395	0.027395
7	4/7/2022 21:20	4/8/2022 3:30	370	1.02	0.38	853,638	0.853638
8	4/14/2022 18:15	4/14/2022 18:35	20	0.17	0.15	43,381	0.043381
9	4/19/2022 1:35	4/19/2022 4:15	160	1.4	0.46	611,499	0.611499
10	5/16/2022 17:45	5/16/2022 18:20	35	0.41	0.36	314,702	0.314702
11	5/28/2022 2:35	5/28/2022 3:00	25	1.42	0.54	93,396	0.093396
12	6/9/2022 5:15	6/9/2022 6:45	90	0.8	0.37	228,493	0.228493
13	7/2/2022 16:50	7/2/2022 17:25	35	0.32	0.17	266,025	0.266025
14	7/12/2022 17:10	7/12/2022 19:30	140	0.59	0.49	94,723	0.094723
15	7/13/2022 23:00	7/14/2022 0:45	105	1.09	0.85	214,286	0.214286
16	7/18/2022 12:05	7/18/2022 23:20	675	0.94	0.37	132,498	0.132498
17	7/28/2022 18:35	7/28/2022 19:35	60	1.38	1.38	144,141	0.144141
18	8/2/2022 12:50	8/2/2022 13:15	25	0.08	0.07	38,876	0.038876
19	8/8/2022 21:00	8/8/2022 21:30	30	0.12	0.12	83,819	0.083819
20	8/22/2022 14:30	8/22/2022 15:00	30	0.26	0.11	39,926	0.039926
21	8/23/2022 14:20	8/23/2022 15:35	75	0.98	0.93	151,587	0.151587
22	8/26/2022 13:05	8/26/2022 13:50	45	0.43	0.36	168,626	0.168626
23	9/5/2022 3:50	9/5/2022 6:00	130	1.14	0.44	79,339	0.079339
24	9/5/2022 19:55	9/6/2022 12:20	985	2.38	0.37	477,983	0.477983
25	9/13/2022 18:15	9/13/2022 19:00	45	0.6	0.49	83,186	0.083186
26	9/19/2022 18:20	9/19/2022 19:00	40	0.78	0.68	54,591	0.054591
27	9/22/2022 6:40	9/22/2022 11:55	315	1.18	0.61	194,594	0.194594
28	10/5/2022 5:05	10/5/2022 8:00	175	1.34	0.42	315,764	0.315764
29	10/13/2022 18:40	10/14/2022 2:40	480	0.61	0.24	70,563	0.070563
						Total	7.798556

CSO 021
2022 Activations

30	10/17/2022 20:05	10/17/2022 20:30	25	0.14	0.1	16,270	0.016270
31	10/24/2022 12:10	10/24/2022 13:10	60	0.6	0.24	4,682	0.004682
32	11/11/2022 19:10	11/11/2022 21:50	160	1.37	0.44	228,993	0.228993
33	12/7/2022 1:00	12/7/2022 1:20	20	0.65	0.18	9,957	0.009957
34	12/23/2022 6:45	12/23/2022 7:20	35	0.79	0.19	31,590	0.031590
35	12/23/2022 15:25	12/23/2022 16:00	35	0.79	0.19	83,059	0.083059

Total 8.173107

Holyoke, MA
CSO 021B
Pleasant Street at River Terrace
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	1/17/2022 10:40	1/17/2022 12:15	95	0.7	0.29	28,087	0.028087
2	2/3/2022 16:20	2/4/2022 10:20	1080	0.99	0.17	224,881	0.224881
3	2/22/2022 18:25	2/22/2022 21:25	180	0.79	0.27	10,933	0.010933
4	3/7/2022 21:45	3/7/2022 22:20	35	0.32	0.18	7,875	0.007875
5	3/19/2022 20:50	3/19/2022 21:40	50	0.41	0.3	9,625	0.009625
6	3/24/2022 2:45	3/24/2022 2:55	10	0.68	0.14	1,091	0.001091
7	3/25/2022 1:30	3/25/2022 2:05	35	0.25	0.14	409	0.000409
8	3/31/2022 21:45	3/31/2022 21:55	10	0.49	0.13	780	0.00078
9	4/7/2022 19:55	4/8/2022 7:50	715	1.02	0.38	441,376	0.441376
10	4/9/2022 14:00	4/9/2022 14:10	10	0.38	0.23	667	0.000667
11	4/14/2022 18:05	4/14/2022 18:55	50	0.17	0.15	44,430	0.04443
12	4/16/2022 18:45	4/16/2022 21:30	165	0.42	0.2	82,074	0.082074
13	4/19/2022 1:20	4/19/2022 8:45	445	1.4	0.46	308,645	0.308645
14	5/16/2022 17:45	5/16/2022 18:25	40	0.41	0.36	32,973	0.032973
15	5/28/2022 2:30	5/28/2022 14:35	725	1.42	0.54	58,466	0.058466
16	6/9/2022 4:40	6/9/2022 6:55	135	0.8	0.37	73,788	0.073788
17	6/22/2022 12:55	6/22/2022 13:15	20	0.29	0.18	8,331	0.008331
18	7/2/2022 16:50	7/2/2022 17:25	35	0.32	0.17	33,764	0.033764
19	7/12/2022 17:10	7/12/2022 19:30	140	0.59	0.49	23,334	0.023334
20	7/13/2022 23:00	7/14/2022 0:45	105	1.09	0.85	63,507	0.063507
21	7/18/2022 12:05	7/18/2022 15:35	210	0.94	0.37	33,114	0.033114
22	7/18/2022 22:05	7/18/2022 23:20	75	0.94	0.37	44,946	0.044946
23	7/28/2022 18:35	7/28/2022 19:35	60	1.38	1.38	51400	0.0514
24	8/2/2022 12:50	8/2/2022 13:15	25	0.08	0.07	30,800	0.030800
25	8/8/2022 21:00	8/8/2022 21:30	30	0.12	0.12	26,532	0.026532
26	8/22/2022 14:30	8/22/2022 15:00	30	0.26	0.11	19,087	0.019087
27	8/23/2022 14:20	8/23/2022 15:35	75	0.98	0.93	67,893	0.067893
28	8/26/2022 13:05	8/26/2022 15:15	130	0.43	0.36	74,321	0.074321
					Total:		1.803129

CSO 021B
2022 Activations

28	9/5/2022 3:50	9/5/2022 6:00	130	1.14	0.44	44,385	0.044385
29	9/5/2022 19:55	9/6/2022 12:20	985	2.38	0.37	372,418	0.372418
30	9/13/2022 18:15	9/13/2022 19:00	45	0.6	0.49	40,573	0.040573
31	9/19/2022 18:20	9/19/2022 19:00	40	0.78	0.68	29,678	0.029678
32	9/22/2022 6:40	9/22/2022 11:55	315	1.18	0.61	126,600	0.1266
33	10/5/2022 4:40	10/5/2022 8:00	200	1.34	0.42	127,398	0.127398
34	10/13/2022 18:40	10/14/2022 2:40	480	0.61	0.24	43,328	0.043328
35	10/17/2022 20:05	10/17/2022 20:30	25	0.14	0.1	19,340	0.01934
36	10/24/2022 12:10	10/24/2022 13:10	60	0.6	0.24	39,855	0.039855
37	11/11/2022 18:30	11/11/2022 22:05	215	1.37	0.44	192,978	0.192978
38	11/12/2022 7:25	11/12/2022 7:50	25	0.25	0.21	20,410	0.02041
39	11/16/2022 4:10	11/16/2022 4:30	20	0.85	0.19	1,227	0.001227
40	11/27/2022 16:40	11/27/2022 18:30	110	0.5	0.16	1,454	0.001454
41	12/7/2022 0:40	12/7/2022 3:30	170	0.65	0.18	65,421	0.065421
42	12/16/2022 5:30	12/16/2022 6:10	40	1.18	0.15	15,453	0.015453
43	12/22/2022 21:30	12/23/2022 16:15	1125	0.46	0.16	229,066	0.229066
44	12/31/2022 23:10	12/31/2022 23:40	30	0.34	0.11	2,115	0.002115

Total: 3.174828

CSO 023
2021 Activations

Holyoke, MA
CSO 023
Jefferson Street
2022 Overflow Summary 1/1/22-12/31/22

Monthly Overflow Event	Event Start Date/Time	Event Stop Date/Time	Event Duration (minutes)	24-hour Rainfall[(1)] (inches)	Peak Hourly Rainfall[(1)] (inches)	Discharge Volume Gallons	Discharge Volume (MG)
1	2/3/2022 21:05	2/4/2022 7:35	630	0.99	0.17	5,697	0.005697
2	2/22/2022 19:15	2/22/2022 21:05	110	0.79	0.27	13,534	0.013534
3	3/7/2022 21:45	3/7/2022 22:05	20	0.32	0.18	5,842	0.005842
4	3/19/2022 20:55	3/19/2022 21:00	5	0.41	0.3	3,390	0.00339
5	4/7/2022 22:00	4/8/2022 3:10	310	1.02	0.38	25,968	0.025968
6	4/19/2022 1:45	4/19/2022 4:00	135	1.4	0.46	7,218	0.007218
7	5/16/2022 17:45	5/16/2022 18:05	20	0.41	0.36	16,110	0.016110
8	6/9/2022 5:40	6/9/2022 6:00	20	0.8	0.37	885	0.000885
9	7/2/2022 16:50	7/2/2022 17:10	20	0.32	0.17	12,087	0.012087
10	7/12/2022 19:00	7/12/2022 19:15	15	0.59	0.49	8,006	0.008006
11	7/13/2022 23:00	7/14/2022 0:25	85	1.09	0.85	11,922	0.011922
12	7/18/2022 12:00	7/18/2022 23:05	665	0.94	0.37	20,501	0.020501
13	7/28/2022 18:35	7/28/2022 19:15	40	1.38	1.38	95,677	0.095677
14	8/2/2022 13:00	8/2/2022 13:05	5	0.08	0.07	710	0.000710
15	8/8/2022 21:05	8/8/2022 21:20	15	0.12	0.12	4,454	0.004454
16	8/23/2022 14:20	8/23/2022 15:15	55	0.98	0.93	81,314	0.081314
17	8/26/2022 13:05	8/26/2022 15:00	115	0.43	0.36	100,011	0.100011
18	9/5/2022 22:50	9/6/2022 1:15	145	2.38	0.37	6,628	0.006628
19	9/13/2022 18:15	9/13/2022 18:45	30	0.6	0.49	41,021	0.041021
20	9/19/2022 18:20	9/19/2022 18:40	20	0.78	0.68	23,455	0.023455
21	9/22/2022 6:40	9/22/2022 10:40	240	1.18	0.61	47,273	0.047273
22	10/5/2022 5:25	10/5/2022 6:45	80	1.34	0.42	25,076	0.025076
23	10/13/2022 18:40	10/13/2022 18:55	15	0.61	0.24	1,126	0.001126
24	11/11/2022 19:15	11/11/2022 21:30	135	1.37	0.44	10,627	0.010627
25	12/23/2022 6:50	12/23/2022 7:00	10	0.79	0.19	28	0.000028
26	12/23/2022 15:25	12/23/2022 15:45	20	0.79	0.19	1,951	0.001951

Total Overflow (MG): 0.570511

APPENDIX 2: BERKSHIRE STREET CSO 009 FACILITY REPORT

MONTHLY CSO #09 REPORT
January, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Sat	01/01/22	0.11	0.000	0.000	0.00	0.026		0.000	0.000	0.00	0
Sun	01/02/22	0.15	0.000	0.050	0.40	0.031		0.000	0.000	0.00	0
Mon	01/03/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	01/04/22	0.00	0.000	0.000	0.00	0.032		0.000	0.000	0.00	0
Wed	01/05/22	0.15	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	01/06/22	0.10	0.000	0.000	0.00	0.011		0.000	0.000	0.00	0
Fri	01/07/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	01/08/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	01/09/22	0.06	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	01/10/22	0.00	0.000	0.000	0.00	0.008		0.000	0.000	0.00	0
Tue	01/11/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	01/12/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	01/13/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	01/14/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	01/15/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	01/16/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	01/17/22	0.60	2.075	2.330	3.90	0.376		0.000	1.275	1.00	1
Tue	01/18/22	0.00	0.000	0.000	0.00	0.656		0.000	0.000	0.00	0
Wed	01/19/22	0.00	0.000	0.000	0.00	0.024		0.000	0.000	0.00	0
Thu	01/20/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	01/21/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	01/22/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	01/23/22	0.01	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	01/24/22	0.02	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	01/25/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	01/26/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	01/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	01/28/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	01/29/22	0.25	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	01/30/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	01/31/22	0.00	0.000	0.000	0.00	0.000	48.9	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	48.9	0.000	0.000	0.00	0
	Max	0.60	2.075	2.330	3.90	0.656	48.9	0.000	1.275	1.00	1
	Total	1.45	2.075	2.380	4.30	***1.164***	48.9	***0.000***	***1.275***	1.00	***1***
	Avg	0.05	0.067	0.077	0.14	0.038	48.9	0.000	0.041	0.03	0
										TOTAL # of EVENTS in the MONTH	***1***

MONTHLY CSO #09 REPORT
February, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Tue	02/01/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	02/02/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	02/03/22	1.63	7.567	5.910	7.50	0.003		0.000	6.767	5.10	1
Fri	02/04/22	0.45	14.427	16.920	11.50	0.608		0.000	13.627	10.00	1
Sat	02/05/22	0.00	0.000	0.000	0.00	0.239		0.000	0.000	0.00	0
Sun	02/06/22	0.00	0.000	0.000	0.00	0.001		0.000	0.000	0.00	0
Mon	02/07/22	0.27	0.000	0.000	0.00	0.334		0.000	0.000	0.00	0
Tue	02/08/22	0.00	0.000	0.000	0.00	0.082		0.000	0.000	0.00	0
Wed	02/09/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	02/10/22	0.00	0.000	0.000	0.00	0.008		0.000	0.000	0.00	0
Fri	02/11/22	0.00	0.000	0.000	0.00	0.004		0.000	0.000	0.00	0
Sat	02/12/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	02/13/22	0.04	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	02/14/22	0.00	0.000	0.000	0.00	0.012		0.000	0.000	0.00	0
Tue	02/15/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	02/16/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	02/17/22	0.35	0.000	0.040	0.10	0.002		0.000	0.000	0.00	0
Fri	02/18/22	0.15	0.177	0.290	2.00	0.391		0.000	0.000	0.00	0
Sat	02/19/22	0.04	0.000	0.000	0.00	0.039		0.000	0.000	0.00	0
Sun	02/20/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	02/21/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	02/22/22	0.83	5.356	5.790	4.00	0.097		0.000	4.556	2.60	1
Wed	02/23/22	0.00	0.000	0.040	0.10	0.665		0.000	0.000	0.00	0
Thu	02/24/22	0.00	0.000	0.000	0.00	0.225		0.000	0.000	0.00	0
Fri	02/25/22	0.58	0.000	0.000	0.00	0.045		0.000	0.000	0.00	0
Sat	02/26/22	0.00	0.000	0.000	0.00	0.058		0.000	0.000	0.00	0
Sun	02/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	02/28/22	0.00	0.000	0.000	0.00	0.000	9.7	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	9.7	0.000	0.000	0.00	0
	Max	1.63	14.427	16.920	11.50	0.665	9.7	0.000	13.627	10.00	1
	Total	4.34	27.527	28.990	25.20	***2.813***	9.7	***0.000***	***24.950***	17.70	***3***
	Avg	0.16	0.983	1.035	0.90	0.100	9.7	0.000	0.891	0.63	0
										TOTAL # of EVENTS in the MONTH	***3***

MONTHLY CSO #09 REPORT
March, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Tue	03/01/22	0.16	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	03/02/22	0.04	0.000	0.000	0.00	0.057		0.000	0.000	0.00	0
Thu	03/03/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	03/04/22	0.00	0.000	0.000	0.00	0.011		0.000	0.000	0.00	0
Sat	03/05/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	03/06/22	0.02	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	03/07/22	0.34	0.608	0.880	0.80	0.035		0.000	0.000	0.00	0
Tue	03/08/22	0.01	0.000	0.000	0.00	0.709		0.000	0.000	0.00	0
Wed	03/09/22	0.22	0.000	0.000	0.00	0.225		0.000	0.000	0.00	0
Thu	03/10/22	0.00	0.000	0.000	0.00	0.061		0.000	0.000	0.00	0
Fri	03/11/22	0.00	0.000	0.000	0.00	0.079		0.000	0.000	0.00	0
Sat	03/12/22	0.20	0.000	0.000	0.00	0.037		0.000	0.000	0.00	0
Sun	03/13/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	03/14/22	0.00	0.000	0.000	0.00	0.026		0.000	0.000	0.00	0
Tue	03/15/22	0.11	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	03/16/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	03/17/22	0.05	0.000	0.000	0.00	0.004		0.000	0.000	0.00	0
Fri	03/18/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	03/19/22	0.45	0.277	0.250	1.00	0.026		0.000	0.000	0.00	0
Sun	03/20/22	0.02	0.000	0.000	0.00	0.269		0.000	0.000	0.00	0
Mon	03/21/22	0.00	0.000	0.000	0.00	0.012		0.000	0.000	0.00	0
Tue	03/22/22	0.00	0.124	0.000	0.00	0.142		0.000	0.000	0.00	0
Wed	03/23/22	0.00	0.000	0.000	0.00	0.086		0.000	0.000	0.00	0
Thu	03/24/22	0.45	0.000	0.040	0.30	0.088		0.000	0.000	0.00	0
Fri	03/25/22	0.00	0.456	0.540	1.00	0.385		0.000	0.000	0.00	0
Sat	03/26/22	0.22	0.000	0.000	0.00	0.139		0.000	0.000	0.00	0
Sun	03/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	03/28/22	0.00	0.000	0.000	0.00	0.095		0.000	0.000	0.00	0
Tue	03/29/22	0.00	0.000	0.000	0.00	0.035		0.000	0.000	0.00	0
Wed	03/30/22	0.00	0.000	0.000	0.00	0.004		0.000	0.000	0.00	0
Thu	03/31/22	0.54	0.236	0.110	0.20	0.057	141.9	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	141.9	0.000	0.000	0.00	0
	Max	0.54	0.608	0.880	1.00	0.709	141.9	0.000	0.000	0.00	0
	Total	2.88	1.701	1.820	3.30	***2.582***	141.9	***0.000***	***0.000***	0.00	***0***
	Avg	0.09	0.055	0.059	0.11	0.083	141.9	0.000	0.000	0.00	0
									TOTAL # of EVENTS in the MONTH		***0***

MONTHLY CSO #09 REPORT
April, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Fri	04/01/22	0.40	0.000	0.220	0.30	0.651		0.000	0.000	0.00	0
Sat	04/02/22	0.00	0.000	0.000	0.00	0.150		0.000	0.000	0.00	0
Sun	04/03/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	04/04/22	0.00	0.000	0.000	0.00	0.039		0.000	0.000	0.00	0
Tue	04/05/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	04/06/22	0.25	0.000	0.000	0.00	0.009		0.000	0.000	0.00	0
Thu	04/07/22	0.75	1.830	1.500	1.80	0.024		0.000	1.030	0.90	1
Fri	04/08/22	0.00	11.230	12.230	5.40	0.546		2.200	10.430	5.00	1
Sat	04/09/22	0.45	0.126	0.040	0.30	0.356		0.000	0.000	0.00	0
Sun	04/10/22	0.00	0.000	0.000	0.00	0.474		0.000	0.000	0.00	0
Mon	04/11/22	0.00	0.000	0.000	0.00	0.096		0.000	0.000	0.00	0
Tue	04/12/22	0.10	0.073	0.000	0.00	0.067		0.000	0.000	0.00	0
Wed	04/13/22	0.00	0.045	0.000	0.00	0.037		0.000	0.000	0.00	0
Thu	04/14/22	0.20	0.000	0.030	0.30	0.000		0.000	0.000	0.00	0
Fri	04/15/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	04/16/22	0.43	0.738	0.770	1.50	0.061		0.000	0.000	0.00	0
Sun	04/17/22	0.00	0.000	0.000	0.00	0.637		0.000	0.000	0.00	0
Mon	04/18/22	0.00	0.000	0.000	0.00	0.059		0.000	0.000	0.00	0
Tue	04/19/22	1.33	8.321	8.240	3.80	0.530		0.000	7.521	2.60	1
Wed	04/20/22	0.00	0.091	0.000	0.00	0.415		0.000	0.000	0.00	0
Thu	04/21/22	0.00	0.000	0.000	0.00	0.100		0.000	0.000	0.00	0
Fri	04/22/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	04/23/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	04/24/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	04/25/22	0.00	0.054	0.000	0.00	0.079		0.000	0.000	0.00	0
Tue	04/26/22	0.25	0.039	0.000	0.00	0.044		0.000	0.000	0.00	0
Wed	04/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	04/28/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	04/29/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	04/30/22	0.00	0.000	0.000	0.00	0.000	19.0	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	19.0	0.000	0.000	0.00	0
	Max	1.33	11.230	12.230	5.40	0.651	19.0	2.200	10.430	5.00	1
	Total	4.21	22.547	23.030	13.40	***4.374***	19.0	***2.200***	***18.981***	8.50	***3***
	Avg	0.14	0.752	0.768	0.45	0.146	19.0	0.073	0.633	0.28	0
										TOTAL # of EVENTS in the MONTH	***3***

MONTHLY CSO #09 REPORT
May, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Sun	05/01/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	05/02/22	0.25	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	05/03/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	05/04/22	0.15	0.034	0.000	0.00	0.043		0.000	0.000	0.00	0
Thu	05/05/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	05/06/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	05/07/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	05/08/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	05/09/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	05/10/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	05/11/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	05/12/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	05/13/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	05/14/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	05/15/22	0.42	0.000	0.010	0.30	0.000		0.000	0.000	0.00	0
Mon	05/16/22	0.43	1.231	1.810	0.80	0.224		0.000	0.431	0.50	1
Tue	05/17/22	0.02	0.179	0.080	0.90	0.615		0.000	0.000	0.00	0
Wed	05/18/22	0.00	0.000	0.000	0.00	0.301		0.000	0.000	0.00	0
Thu	05/19/22	0.26	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	05/20/22	0.05	0.000	0.000	0.00	0.012		0.000	0.000	0.00	0
Sat	05/21/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	05/22/22	0.10	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	05/23/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	05/24/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	05/25/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	05/26/22	0.60	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	05/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	05/28/22	1.44	4.547	4.790	3.20	0.523		0.000	3.747	2.10	1
Sun	05/29/22	0.00	0.000	0.000	0.00	0.307		0.000	0.000	0.00	0
Mon	05/30/22	0.00	0.000	0.000	0.00	0.315		0.000	0.000	0.00	0
Tue	05/31/22	0.00	0.106	0.000	0.00	0.122	36.8	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	36.8	0.000	0.000	0.00	0
	Max	1.44	4.547	4.790	3.20	0.615	36.8	0.000	3.747	2.10	1
	Total	3.72	6.097	6.690	5.20	***2.462***	36.8	***0.000***	***4.178***	2.60	***2***
	Avg	0.12	0.197	0.216	0.17	0.079	36.8	0.000	0.135	0.08	0
										TOTAL # of EVENTS in the MONTH	***2***

MONTHLY CSO #09 REPORT

June, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Wed	06/01/22	0.06	0.000	0.000	0.00	0.019		0.000	0.000	0.00	0
Thu	06/02/22	0.05	0.000	0.000	0.00	0.005		0.000	0.000	0.00	0
Fri	06/03/22	0.10	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	06/04/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	06/05/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	06/06/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	06/07/22	0.10	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	06/08/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	06/09/22	0.85	2.101	2.490	2.90	0.438		0.000	1.301	1.10	1
Fri	06/10/22	0.00	0.178	0.000	0.00	0.439		0.000	0.000	0.00	0
Sat	06/11/22	0.00	0.000	0.000	0.00	0.134		0.000	0.000	0.00	0
Sun	06/12/22	0.10	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	06/13/22	0.00	0.000	0.000	0.00	0.033		0.000	0.000	0.00	0
Tue	06/14/22	0.00	0.000	0.000	0.00	0.015		0.000	0.000	0.00	0
Wed	06/15/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	06/16/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	06/17/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	06/18/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	06/19/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	06/20/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	06/21/22	0.07	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	06/22/22	0.27	0.000	0.060	0.30	0.000		0.000	0.000	0.00	0
Thu	06/23/22	0.00	0.061	0.000	0.00	0.066		0.000	0.000	0.00	0
Fri	06/24/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	06/25/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	06/26/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	06/27/22	0.12	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	06/28/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	06/29/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	06/30/22	0.00	0.000	0.000	0.00	0.000	45.1	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	45.1	0.000	0.000	0.00	0
	Max	0.85	2.101	2.490	2.90	0.439	45.1	0.000	1.301	1.10	1
	Total	1.82	2.340	2.550	3.20	***1.149***	45.1	***0.000***	***1.301***	1.10	***1***
	Avg	0.06	0.078	0.085	0.11	0.038	45.1	0.000	0.043	0.04	0
										TOTAL # of EVENTS in the MONTH	***1***

MONTHLY CSO #09 REPORT
July, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Fri	07/01/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	07/02/22	0.38	1.310	1.410	0.70	0.150		0.000	0.510	0.40	1
Sun	07/03/22	0.00	0.000	0.000	0.00	0.307		0.000	0.000	0.00	0
Mon	07/04/22	0.00	0.000	0.000	0.00	0.243		0.000	0.000	0.00	0
Tue	07/05/22	0.21	0.000	0.000	0.00	0.141		0.000	0.000	0.00	0
Wed	07/06/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	07/07/22	0.00	0.000	0.000	0.00	0.005		0.000	0.000	0.00	0
Fri	07/08/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	07/09/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	07/10/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	07/11/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	07/12/22	0.54	0.771	0.660	0.60	0.129		0.000	0.000	0.00	0
Wed	07/13/22	0.80	0.000	0.070	0.10	0.461		0.000	0.000	0.00	0
Thu	07/14/22	0.00	5.460	5.940	2.50	0.537		0.000	4.660	2.10	1
Fri	07/15/22	0.00	0.000	0.000	0.00	0.254		0.000	0.000	0.00	0
Sat	07/16/22	0.00	0.000	0.000	0.00	0.058		0.000	0.000	0.00	0
Sun	07/17/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	07/18/22	0.96	2.521	1.710	1.40	0.120		0.000	1.721	0.10	0
Tue	07/19/22	0.00	2.602	2.630	0.70	0.434		0.000	1.802	0.60	1
Wed	07/20/22	0.00	0.000	0.000	0.00	0.333		0.000	0.000	0.00	0
Thu	07/21/22	0.00	0.000	0.000	0.00	0.305		0.000	0.000	0.00	0
Fri	07/22/22	0.00	0.000	0.000	0.00	0.093		0.000	0.000	0.00	0
Sat	07/23/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	07/24/22	0.02	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	07/25/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	07/26/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	07/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	07/28/22	1.30	1.379	9.900	1.50	0.097		8.610	0.579	0.50	1
Fri	07/29/22	0.00	0.000	0.000	0.00	0.390		0.000	0.000	0.00	0
Sat	07/30/22	0.00	0.000	0.000	0.00	0.204		0.000	0.000	0.00	0
Sun	07/31/22	0.00	0.000	0.000	0.00	0.108	19.6	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	19.6	0.000	0.000	0.00	0
	Max	1.30	5.460	9.900	2.50	0.537	19.6	8.610	4.660	2.10	1
	Total	4.26	14.043	22.320	7.50	***4.369***	19.6	***8.610***	***9.272***	3.70	***4***
	Avg	0.14	0.453	0.720	0.24	0.141	19.6	0.278	0.299	0.12	0
										TOTAL # of EVENTS in the MONTH	***4***

MONTHLY CSO #09 REPORT

August, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Mon	08/01/22	0.09	0.000	0.000	0.00	0.158		0.000	0.000	0.00	0
Tue	08/02/22	0.50	0.000	0.010	0.10	0.043		0.000	0.000	0.00	0
Wed	08/03/22	0.00	0.018	0.000	0.00	0.004		0.000	0.000	0.00	0
Thu	08/04/22	0.00	0.000	0.000	0.00	0.039		0.000	0.000	0.00	0
Fri	08/05/22	0.00	0.000	0.000	0.00	0.023		0.000	0.000	0.00	0
Sat	08/06/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	08/07/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	08/08/22	1.35	0.000	0.380	0.40	0.004		0.000	0.000	0.00	0
Tue	08/09/22	0.00	0.000	0.000	0.00	0.051		0.000	0.000	0.00	0
Wed	08/10/22	0.00	0.000	0.000	0.00	0.196		0.000	0.000	0.00	0
Thu	08/11/22	0.00	0.000	0.000	0.00	0.117		0.000	0.000	0.00	0
Fri	08/12/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	08/13/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	08/14/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	08/15/22	0.00	0.000	0.000	0.00	0.001		0.000	0.000	0.00	0
Tue	08/16/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	08/17/22	0.10	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	08/18/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	08/19/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	08/20/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	08/21/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	08/22/22	0.25	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	08/23/22	0.95	2.201	8.610	1.60	0.231		6.581	1.401	1.20	1
Wed	08/24/22	0.00	0.000	0.000	0.00	0.585		0.000	0.000	0.00	0
Thu	08/25/22	0.00	0.000	0.000	0.00	0.150		0.000	0.000	0.00	0
Fri	08/26/22	0.35	0.913	2.510	0.90	0.364		1.605	0.113	0.00	0
Sat	08/27/22	0.00	0.000	0.000	0.00	0.551		0.000	0.000	0.00	0
Sun	08/28/22	0.00	0.108	0.000	0.00	0.095		0.000	0.000	0.00	0
Mon	08/29/22	0.00	0.000	0.000	0.00	0.159		0.000	0.000	0.00	0
Tue	08/30/22	0.10	0.009	0.000	0.00	0.038		0.000	0.000	0.00	0
Wed	08/31/22	0.00	0.000	0.000	0.00	0.000	24.4	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	24.4	0.000	0.000	0.00	0
	Max	1.35	2.201	8.610	1.60	0.585	24.4	6.581	1.401	1.20	1
	Total	3.69	3.249	11.510	3.00	***2.809***	24.4	***8.186***	***1.514***	1.20	***1***
	Avg	0.12	0.105	0.371	0.10	0.091	24.4	0.264	0.049	0.04	0
										TOTAL # of EVENTS in the MONTH	***1***

MONTHLY CSO #09 REPORT
September, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Thu	09/01/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	09/02/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	09/03/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	09/04/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	09/05/22	2.20	0.000	0.280	0.60	0.000		0.000	0.000	0.00	0
Tue	09/06/22	1.33	13.311	13.410	13.40	0.596		0.000	12.511	7.00	1
Wed	09/07/22	0.00	0.000	0.000	0.00	0.530		0.000	0.000	0.00	0
Thu	09/08/22	0.00	0.131	0.000	0.00	0.186		0.000	0.000	0.00	0
Fri	09/09/22	0.00	0.000	0.000	0.00	0.028		0.000	0.000	0.00	0
Sat	09/10/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	09/11/22	0.20	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	09/12/22	0.04	0.000	0.000	0.00	0.006		0.000	0.000	0.00	0
Tue	09/13/22	0.53	1.107	3.870	0.90	0.103		2.862	0.307	0.10	1
Wed	09/14/22	0.00	0.000	0.000	0.00	0.591		0.000	0.000	0.00	0
Thu	09/15/22	0.00	0.000	0.000	0.00	0.159		0.000	0.000	0.00	0
Fri	09/16/22	0.00	0.000	0.000	0.00	0.014		0.000	0.000	0.00	0
Sat	09/17/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	09/18/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	09/19/22	0.80	1.179	3.640	0.90	0.185		2.544	0.379	0.20	1
Tue	09/20/22	0.08	0.000	0.000	0.00	0.499		0.000	0.000	0.00	0
Wed	09/21/22	0.00	0.000	0.000	0.00	0.212		0.000	0.000	0.00	0
Thu	09/22/22	0.70	3.886	5.620	3.50	0.442		1.870	3.086	2.00	1
Fri	09/23/22	0.00	0.000	0.000	0.00	0.424		0.000	0.000	0.00	0
Sat	09/24/22	0.00	0.000	0.000	0.00	0.150		0.000	0.000	0.00	0
Sun	09/25/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	09/26/22	0.02	0.000	0.000	0.00	0.016		0.000	0.000	0.00	0
Tue	09/27/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	09/28/22	0.00	0.000	0.000	0.00	0.010		0.000	0.000	0.00	0
Thu	09/29/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	09/30/22	0.00	0.000	0.000	0.00	0.000	15.5	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	15.5	0.000	0.000	0.00	0
	Max	2.20	13.311	13.410	13.40	0.596	15.5	2.862	12.511	7.00	1
	Total	5.95	19.614	26.820	19.30	***4.151***	15.5	***7.276***	***16.283***	9.30	***4***
	Avg	0.20	0.654	0.894	0.64	0.138	15.5	0.243	0.543	0.31	0
										TOTAL # of EVENTS in the MONTH	***4***

MONTHLY CSO #09 REPORT
October, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF *DMR #50050-O*	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER *DMR #50050-B*	TREATED EFFLUENT FLOW *DMR# 50050-1*	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Sat	10/01/22	0.02	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	10/02/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	10/03/22	0.00	0.075	0.000	0.00	0.116		0.000	0.000	0.00	0
Tue	10/04/22	0.65	0.002	0.030	0.30	0.000		0.000	0.000	0.00	0
Wed	10/05/22	1.11	6.533	7.700	4.00	0.410		1.342	5.733	2.30	1
Thu	10/06/22	0.00	0.000	0.000	0.00	0.452		0.000	0.000	0.00	0
Fri	10/07/22	0.03	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	10/08/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	10/09/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	10/10/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	10/11/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	10/12/22	0.00	0.107	0.000	0.00	0.105		0.000	0.000	0.00	0
Thu	10/13/22	0.25	1.093	1.190	2.00	0.102		0.000	0.293	0.10	0
Fri	10/14/22	0.00	0.000	0.150	0.80	0.642		0.000	0.000	0.00	0
Sat	10/15/22	0.00	0.000	0.000	0.00	0.143		0.000	0.000	0.00	0
Sun	10/16/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	10/17/22	0.16	0.191	0.020	0.20	0.239		0.000	0.000	0.00	0
Tue	10/18/22	0.00	0.000	0.000	0.00	0.015		0.000	0.000	0.00	0
Wed	10/19/22	0.00	0.057	0.000	0.00	0.064		0.000	0.000	0.00	0
Thu	10/20/22	0.00	0.000	0.000	0.00	0.007		0.000	0.000	0.00	0
Fri	10/21/22	0.00	0.005	0.000	0.00	0.004		0.000	0.000	0.00	0
Sat	10/22/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	10/23/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	10/24/22	0.62	0.750	0.990	1.70	0.093		0.000	0.000	0.00	0
Tue	10/25/22	0.02	0.367	0.000	0.00	0.247		0.000	0.000	0.00	0
Wed	10/26/22	0.02	0.000	0.000	0.00	0.139		0.000	0.000	0.00	0
Thu	10/27/22	0.00	0.185	0.000	0.00	0.039		0.000	0.000	0.00	0
Fri	10/28/22	0.00	0.020	0.000	0.00	0.373		0.000	0.000	0.00	0
Sat	10/29/22	0.00	0.000	0.000	0.00	0.012		0.000	0.000	0.00	0
Sun	10/30/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	10/31/22	0.00	0.000	0.000	0.00	0.018	31.9	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	31.9	0.000	0.000	0.00	0
	Max	1.11	6.533	7.700	4.00	0.642	31.9	1.342	5.733	2.30	1
	Total	2.93	9.385	10.080	9.00	***3.220***	31.9	***1.342***	***6.026***	2.40	***1***
	Avg	0.09	0.303	0.325	0.29	0.104	31.9	0.043	0.194	0.08	0
									TOTAL # of EVENTS in the MONTH		***1***

MONTHLY CSO #09 REPORT
November, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF *DMR #50050-O*	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER *DMR #50050-B*	TREATED EFFLUENT FLOW *DMR# 50050-1*	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Tue	11/01/22	0.15	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	11/02/22	0.00	0.000	0.000	0.00	0.013		0.000	0.000	0.00	0
Thu	11/03/22	0.00	0.000	0.000	0.00	0.024		0.000	0.000	0.00	0
Fri	11/04/22	0.00	0.000	0.000	0.00	0.005		0.000	0.000	0.00	0
Sat	11/05/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	11/06/22	0.04	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	11/07/22	0.14	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	11/08/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	11/09/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	11/10/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	11/11/22	0.95	5.960	7.510	3.80	0.086		0.000	5.160	2.10	1
Sat	11/12/22	0.20	0.000	0.640	0.50	0.704		0.000	0.000	0.20	0
Sun	11/13/22	0.60	0.000	0.000	0.00	0.511		0.000	0.000	0.00	0
Mon	11/14/22	0.00	0.000	0.000	0.00	0.015		0.000	0.000	0.00	0
Tue	11/15/22	0.05	0.000	0.000	0.00	0.055		0.000	0.000	0.00	0
Wed	11/16/22	0.83	0.319	0.540	2.20	0.354		0.000	0.000	0.00	0
Thu	11/17/22	0.00	0.000	0.000	0.00	0.135		0.000	0.000	0.00	0
Fri	11/18/22	0.00	0.000	0.000	0.00	0.029		0.000	0.000	0.00	0
Sat	11/19/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	11/20/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Mon	11/21/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Tue	11/22/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Wed	11/23/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Thu	11/24/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Fri	11/25/22	0.05	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sat	11/26/22	0.00	0.000	0.000	0.00	0.000		0.000	0.000	0.00	0
Sun	11/27/22	0.55	0.000	0.060	0.60	0.010		0.000	0.000	0.00	0
Mon	11/28/22	0.00	0.000	0.000	0.00	0.095		0.000	0.000	0.00	0
Tue	11/29/22	0.00	0.000	0.000	0.00	0.013		0.000	0.000	0.00	0
Wed	11/30/22	0.53	0.000	0.340	1.60	0.176	24.5	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.000	0.00	0.000	24.5	0.000	0.000	0.00	0
	Max	0.95	5.960	7.510	3.80	0.704	24.5	0.000	5.160	2.10	1
	Total	4.09	6.279	9.090	8.70	***2.225***	24.5	***0.000***	***5.160***	2.30	***1***
	Avg	0.14	0.209	0.303	0.29	0.074	24.5	0.000	0.172	0.08	0
										TOTAL # of EVENTS in the MONTH	***1***

MONTHLY CSO #09 REPORT

December, 2022

DAY	DATE	RAINFALL	TOTAL INFLUENT FLOW	SOUTH ST FLOW TOTAL	SOUTH ST FLOW DURATION	RETURN FLOW to WPCF	% RETURN FLOW to WPCF for SECONDARY TREATMENT	UNTREATED/ BYPASS FLOW to RIVER	TREATED EFFLUENT FLOW	EVENT/ ACTIVATION DURATION	EVENTS/ ACTIVATIONS
						DMR #50050-O		*DMR #50050-B*	*DMR# 50050-1*		
		Inches	MGD	MGD	Hours	MGD	%	MGD	MGD	Hours	Number
Thu	12/01/22	0.00	0.000	3.420	0.00	0.039		0.000	0.000	0.00	0
Fri	12/02/22	0.00	0.000	3.110	0.00	0.000		0.000	0.000	0.00	0
Sat	12/03/22	0.31	0.000	4.820	0.00	0.000		0.000	0.000	0.00	0
Sun	12/04/22	0.00	0.000	1.030	0.00	0.000		0.000	0.000	0.00	0
Mon	12/05/22	0.00	0.000	3.230	0.00	0.022		0.000	0.000	0.00	0
Tue	12/06/22	0.45	0.000	3.230	0.00	0.000		0.000	0.000	0.00	0
Wed	12/07/22	0.40	1.000	8.320	0.00	0.565		0.000	0.200	0.20	1
Thu	12/08/22	0.00	0.000	4.080	0.00	0.426		0.000	0.000	0.00	0
Fri	12/09/22	0.00	0.000	3.760	0.00	0.000		0.000	0.000	0.00	0
Sat	12/10/22	0.00	0.000	3.680	0.00	0.000		0.000	0.000	0.00	0
Sun	12/11/22	0.25	0.000	3.690	0.00	0.000		0.000	0.000	0.00	0
Mon	12/12/22	0.00	0.000	3.930	0.00	0.000		0.000	0.000	0.00	0
Tue	12/13/22	0.00	0.000	3.650	0.00	0.000		0.000	0.000	0.00	0
Wed	12/14/22	0.00	0.000	2.720	0.00	0.000		0.000	0.000	0.00	0
Thu	12/15/22	0.48	0.000	0.020	0.00	0.000		0.000	0.000	0.00	0
Fri	12/16/22	0.90	0.000	0.020	0.00	0.214		0.000	0.000	0.00	0
Sat	12/17/22	0.00	0.000	0.020	0.00	0.070		0.000	0.000	0.00	0
Sun	12/18/22	0.00	0.000	0.020	0.00	0.000		0.000	0.000	0.00	0
Mon	12/19/22	0.00	0.000	0.020	0.00	0.000		0.000	0.000	0.00	0
Tue	12/20/22	0.00	0.000	0.020	0.00	0.000		0.000	0.000	0.00	0
Wed	12/21/22	0.00	0.000	0.020	0.00	0.003		0.000	0.000	0.00	0
Thu	12/22/22	0.52	0.000	0.020	0.00	0.007		0.000	0.000	0.00	0
Fri	12/23/22	0.75	1.000	0.020	0.00	0.525		0.000	0.200	0.20	1
Sat	12/24/22	0.00	0.000	0.010	0.00	0.534		0.000	0.000	0.00	0
Sun	12/25/22	0.00	0.000	0.010	0.00	0.000		0.000	0.000	0.00	0
Mon	12/26/22	0.00	0.000	0.020	0.00	0.111		0.000	0.000	0.00	0
Tue	12/27/22	0.00	0.000	0.020	0.00	0.237		0.000	0.000	0.00	0
Wed	12/28/22	0.00	0.000	0.020	0.00	0.035		0.000	0.000	0.00	0
Thu	12/29/22	0.00	0.000	0.020	0.00	0.000		0.000	0.000	0.00	0
Fri	12/30/22	0.00	0.000	0.020	0.00	0.000		0.000	0.000	0.00	0
Sat	12/31/22	0.41	0.000	0.020	0.00	0.000	5.3	0.000	0.000	0.00	0
TOTALS	**Min**	0.00	0.000	0.010	0.00	0.000	5.3	0.000	0.000	0.00	0
	Max	0.90	1.000	8.320	0.00	0.565	5.3	0.000	0.200	0.20	1
	Total	4.47	2.000	52.990	0.00	***2.788***	5.3	***0.000***	***0.400***	0.40	***2***
	Avg	0.14	0.065	1.709	0.00	0.090	5.3	0.000	0.013	0.01	0
										TOTAL # of EVENTS in the MONTH	***2***

APPENDIX 3: SSO REPORTS

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

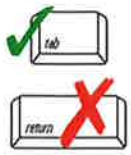
Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

A. Reporting Facility

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility Information

Holyoke Water Pollution Control Facility/Veolia North America (Reporting Sewer Authority) | MA101630 (Permit #)

2. Authorized Representative Transmitting Form:

Kevin (First Name) | Lukasiewicz (Last Name) | 413-534-2222 (Telephone No.)

Collections System Manager (Title) | Kevin.Lukasiewicz@suez.com (E-mail Address)

B. Phone Notifications:

See DEP Regional Office telephone and fax numbers at the end of this form.

1. **MassDEP staff** contacted: Dan (first name) | Kurpaska (last name)

   Date/Time contacted: 04/26/2022 (Date) | 12:39 (Time) ☐ am ☒ pm

2. **EPA staff** contacted: Douglas (first name) | Koopman (last name)

   Date/Time EPA contacted: 04/26/2022 (Date) | 12:46 (Time) ☐ am ☒ pm

3. Board of Health contacted: Sean (First Name) | Gonsalves (Last Name)

   Date/Time contacted: 04/26/2022 (Date) | 12:41 (Time) ☐ am ☒ pm

4. Others notified (select all that apply); ☐ Conservation Commission

   ☐ Harbormaster ☐ Shellfish Warden ☐ Division of Marine Fisheries

   ☐ Downstream Drinking Water Supplier ☐ Watershed Association

   ☐ Beach Resource Manager ☐ Other: (specify)

C. SSO Information

1. SSO Discovered: 04/26/2022 (Date) | 11:44 (Time) ☐ am ☒ pm

   By: Robert Peirent

2. SSO Stopped: 04/26/2022 (Date) | 12:20 (Time) ☐ am ☒ pm

3. SSO Discharge from: ☒ Sanitary Sewer Manhole ☐ Pump Station

   ☐ Backup into Property ☐ Other: (specify)

4. SSO Discharge to: ☐ Ground Surface (no release to surface water)

   ☐ Direct to Receiving Water (surface water)

   ☒ Catch basin to Receiving Water CT.River (surface water)

   ☐ Backup into Property Basement

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

C. SSO Information (cont.)

Location: Across form 63 Canal St.
(Description of discharge site or closest address)

5. Estimated SSO Volume at time of this Report: 5-10 GPM x .5= 225

Method of Estimating Volume: Visual

6. Cause of SSO Event:

☐ Rain Event ☐ Pump Station Failure ☐ Insufficient Capacity in System

☐ Treatment Unit failure

☒ Sewer System Blockage: ☐ Pipe Collapse ☐ Root Intrusion ☐ Grease Blockage

☒ Other: Buildup of debris.
(Specify)

7. Corrective Actions Taken:

The crew jet cleaned the sewer main to free the blockage. The obstruction was cleared and free flow was observed. Once blockage was cleared, manhole SMH-5992.1 were vacuumed out to remove the debris.

Impact Area cleaned and/or disinfected: ☒ Yes ☐ No

Impacted area vacuumed up.

Corrective Actions Completed: ☒ Yes ☐ No

The City sewer main was jet cleaned.

D. Comments/Attachments/Follow-up

I wish to provide (select all that apply):

☐ Attachment ☒ Additional comments below: ☐ No additional comments or attachments

Additional comments and planned actions:

On Tuesday 4/26/2022 at 11:45am, I received a call from City Enginner Robert Peirent that water was coming out of a manhole onto the roadway across from the DPW offices at 63 Canal St. Collections System personnel were mobilized and responded to the area. Collections Crew found SMH-5992.1 overflowing at about 5-10 gpm. They immediately started to vacuum out the manhole to stop the SSO and jet clean the sewer main to free the blockage. The blockage was due due to a buildup of debris.

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

E. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kevin M. Lukasiewicz
Signature of Authorized Representative

04/29/2022
Date Signed

Please keep a copy of this report for your records. When submitting additional information, include the MassDEP Incident Number from this report.

MassDEP Regional Office and EPA Telephone and Fax Numbers:

Northeast Region	Phone: 978-694-3215	Fax: 978-694-3499
Southeast Region	Phone: 508-946-2750	Fax: 508-947-6557
Central Region	Phone: 508-792-7650	Fax: 508-792-7621
Western Region	Phone: 413-784-1100	Fax: 413-784-1149
EPA	Phone: 617-918-1510	
EPA for Southeast Region, David Turin	Phone: 617-918-1598	Fax: 617-918-0598
EPA for Northeast, Central and Western Regions, Douglas Koopman	Phone: 617-918-1747	Fax: 617-918-0747
DEP 24-hour emergency	Phone: 888-304-1133	

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

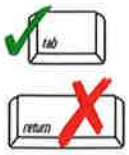
Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

A. Reporting Facility

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility Information

Holyoke Water Pollution Control Facility/Veolia North America (Reporting Sewer Authority) — MA101630 (Permit #)

2. Authorized Representative Transmitting Form:

Kevin (First Name) | Lukasiewicz (Last Name) | 413-534-2222 (Telephone No.)

Collections System Manager (Title) | Kevin.Lukasiewicz@veolia.com (E-mail Address)

B. Phone Notifications:

See DEP Regional Office telephone and fax numbers at the end of this form.

1. **MassDEP staff** contacted: Dan (first name) | Kurpaska (last name)

   Date/Time contacted: 06/07/2022 (Date) | 07:49 (Time) ☐ am ☒ pm

2. **EPA staff** contacted: Douglas (first name) | Koopman (last name)

   Date/Time EPA contacted: 6/07/2022 (Date) | 07:55 (Time) ☐ am ☒ pm

3. Board of Health contacted: Sean (First Name) | Gonsalves (Last Name)

   Date/Time contacted: 06/08/2022 (Date) | 08:33 (Time) ☒ am ☐ pm

4. Others notified (select all that apply); ☐ Conservation Commission

   ☐ Harbormaster ☐ Shellfish Warden ☐ Division of Marine Fisheries

   ☐ Downstream Drinking Water Supplier ☐ Watershed Association

   ☐ Beach Resource Manager ☒ Other: Holyoke Water Works (specify)

C. SSO Information

1. SSO Discovered: 06/07/2022 (Date) | 03:45 (Time) ☐ am ☒ pm

   By: Jerry Milanese

2. SSO Stopped: 06/07/2022 (Date) | 07:00 (Time) ☐ am ☒ pm

3. SSO Discharge from: ☒ Sanitary Sewer Manhole ☐ Pump Station

   ☐ Backup into Property ☐ Other: (specify)

4. SSO Discharge to: ☒ Ground Surface (no release to surface water)

   ☐ Direct to Receiving Water (surface water)

   ☐ Catch basin to Receiving Water (surface water)

   ☐ Backup into Property Basement

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

C. SSO Information (cont.)

Location: Whiting Reservoir Rd.
(Description of discharge site or closest address)

5. Estimated SSO Volume at time of this Report: 10gpmx90mins=900gallons

   Method of Estimating Volume: Visual

6. Cause of SSO Event:

   ☐ Rain Event ☐ Pump Station Failure ☐ Insufficient Capacity in System

   ☐ Treatment Unit failure

   ☒ Sewer System Blockage: ☐ Pipe Collapse ☐ Root Intrusion ☒ Grease Blockage

   ☐ Other: (Specify)

7. Corrective Actions Taken:

   The crew jet cleaned the sewer main to free the blockage in manhole E28-6668

   Impact Area cleaned and/or disinfected: ☒ Yes ☐ No

   Lime was placed on affected area..

   Corrective Actions Completed: ☒ Yes ☐ No

   The City sewer main was jet cleaned.

D. Comments/Attachments/Follow-up

I wish to provide (select all that apply):

☐ Attachment ☒ Additional comments below: ☐ No additional comments or attachments

Additional comments and planned actions:

On Tuesday 6/7/2020 at 3:52pm, I received a call from the WPCF that Mr.Jerry Milanese was walking in Whiting Reservoir and noticed sewage leaking across the road. Collections System personnel mobilzied and drove to the Rte. 141 side of the Reservoir. I confirmed that we did have an active SSO occuring on the road and started looking for the manholes in the wooded area off Whiting Reservoir Rd. We located manhole E28-6668 overflowing at about ten gpm.We then dragged the jet hose into the woods to manhole E28 -6667 to jet clean main to free blockage of grease.

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

E. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kevin M. Lukasiewicz
Signature of Authorized Representative

06/10/2022
Date Signed

Please keep a copy of this report for your records. When submitting additional information, include the MassDEP Incident Number from this report.

MassDEP Regional Office and EPA Telephone and Fax Numbers:

Northeast Region	Phone: 978-694-3215	Fax: 978-694-3499
Southeast Region	Phone: 508-946-2750	Fax: 508-947-6557
Central Region	Phone: 508-792-7650	Fax: 508-792-7621
Western Region	Phone: 413-784-1100	Fax: 413-784-1149
EPA	Phone: 617-918-1510	
EPA for Southeast Region, David Turin	Phone: 617-918-1598	Fax: 617-918-0598
EPA for Northeast, Central and Western Regions, Douglas Koopman	Phone: 617-918-1747	Fax: 617-918-0747
DEP 24-hour emergency	Phone: 888-304-1133	

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

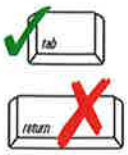
Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

A. Reporting Facility

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility Information

Holyoke Water Pollution Control Facility/Veolia North America (Reporting Sewer Authority) — MA101630 (Permit #)

2. Authorized Representative Transmitting Form:

Kevin (First Name) — Lukasiewicz (Last Name) — 413-534-2222 (Telephone No.)

Collections System Manager (Title) — Kevin.Lukasiewicz@veolia.com (E-mail Address)

B. Phone Notifications:

See DEP Regional Office telephone and fax numbers at the end of this form.

1. **MassDEP staff** contacted: Matt (first name) — Sokop (last name)

   Date/Time contacted: 8/23/2022 (Date) — 9:05 (Time) ☒ am ☐ pm

2. **EPA staff** contacted: _____ (first name) — _____ (last name)

   Date/Time EPA contacted: _____ (Date) — _____ (Time) ☐ am ☐ pm

3. Board of Health contacted: _____ (First Name) — _____ (Last Name)

   Date/Time contacted: _____ (Date) — _____ (Time) ☐ am ☐ pm

4. Others notified (select all that apply); ☐ Conservation Commission

   ☐ Harbormaster ☐ Shellfish Warden ☐ Division of Marine Fisheries

   ☐ Downstream Drinking Water Supplier ☐ Watershed Association

   ☐ Beach Resource Manager ☐ Other: _____ (specify)

C. SSO Information

1. SSO Discovered: 08/23/2022 (Date) — 11:00 (Time) ☒ am ☐ pm

   By: _____

2. SSO Stopped: 08/23/2022 (Date) — 11:00 (Time) ☒ am ☐ pm

3. SSO Discharge from: ☒ Sanitary Sewer Manhole ☐ Pump Station

   ☐ Backup into Property ☐ Other: _____ (specify)

4. SSO Discharge to: ☒ Ground Surface (no release to surface water)

   ☐ Direct to Receiving Water _____ (surface water)

   ☐ Catch basin to Receiving Water _____ (surface water)

   ☐ Backup into Property Basement

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

C. SSO Information (cont.)

Location: Clty of Holyoke Right of Way
(Description of discharge site or closest address)

5. Estimated SSO Volume at time of this Report: 300-500 gallons

   Method of Estimating Volume: Visual

6. Cause of SSO Event:

   ☒ Rain Event ☐ Pump Station Failure ☐ Insufficient Capacity in System

   ☐ Treatment Unit failure

   ☐ Sewer System Blockage: ☐ Pipe Collapse ☐ Root Intrusion ☒ Grease Blockage

   ☒ Other: Bolts holding manhole down were not in place.
   (Specify)

7. Corrective Actions Taken:

   Collections System personnel replaced missing bolts

   Impact Area cleaned and/or disinfected: ☐ Yes ☒ No

   Corrective Actions Completed: ☒ Yes ☐ No

   Collections System personnel replaced missing bolts

D. Comments/Attachments/Follow-up

I wish to provide (select all that apply):

☐ Attachment ☒ Additional comments below: ☐ No additional comments or attachments

Additional comments and planned actions:

On Tuesday 08/23/22, Matt S.of MADEP contacted Veolia about a compliant he received of an SSO spill near a manhole located near Yale St.CSO 019. Mike W. and I met Matt at the Highland Park Pump Station and proceeded to the spot of the alleged spill. Once at the location, it was discovered that a pressure bolted manhole cover was not secured. Opening the manhole we observed the bolts appeared to have broken off, allowing a release of sewage from the sewer system when surcharged. A spill of between 300-500 gallons was confirmed. The missing bolts were replaced on 8/26/22.

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

E. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kevin M. Lukasiewicz
Signature of Authorized Representative

9/22/2022
Date Signed

Please keep a copy of this report for your records. When submitting additional information, include the MassDEP Incident Number from this report.

MassDEP Regional Office and EPA Telephone and Fax Numbers:

Northeast Region	Phone: 978-694-3215	Fax: 978-694-3499
Southeast Region	Phone: 508-946-2750	Fax: 508-947-6557
Central Region	Phone: 508-792-7650	Fax: 508-792-7621
Western Region	Phone: 413-784-1100	Fax: 413-784-1149
EPA	Phone: 617-918-1510	
EPA for Southeast Region, David Turin	Phone: 617-918-1598	Fax: 617-918-0598
EPA for Northeast, Central and Western Regions, Douglas Koopman	Phone: 617-918-1747	Fax: 617-918-0747
DEP 24-hour emergency	Phone: 888-304-1133	

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

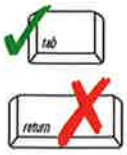
Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

A. Reporting Facility

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility Information

Holyoke Water Pollution Control Facility/Veolia North America (Reporting Sewer Authority) — MA101630 (Permit #)

2. Authorized Representative Transmitting Form:

Kevin (First Name) | Lukasiewicz (Last Name) | 413-534-2222 (Telephone No.)

Collections System Manager (Title) | Kevin.Lukasiewicz@veolia.com (E-mail Address)

B. Phone Notifications:

See DEP Regional Office telephone and fax numbers at the end of this form.

1. **MassDEP staff** contacted: Dan (first name) | Kurpaska (last name)

   Date/Time contacted: 12/08/2022 (Date) | 10:11 (Time) ☒ am ☐ pm

2. **EPA staff** contacted: Douglas (first name) | Koopman (last name)

   Date/Time EPA contacted: 12/08/2022 (Date) | 10:12 (Time) ☒ am ☐ pm

3. Board of Health contacted: Sean (First Name) | Gonsalves (Last Name)

   Date/Time contacted: 12/08/2022 (Date) | 10:15 (Time) ☒ am ☐ pm

4. Others notified (select all that apply); ☐ Conservation Commission

   ☐ Harbormaster ☐ Shellfish Warden ☐ Division of Marine Fisheries

   ☐ Downstream Drinking Water Supplier ☐ Watershed Association

   ☐ Beach Resource Manager ☐ Other: (specify)

C. SSO Information

1. SSO Discovered: 12/08/2022 (Date) | 06:57 (Time) ☒ am ☐ pm

   By: Kris Baker City Engineer

2. SSO Stopped: 12/08/2022 (Date) | 08:00 (Time) ☒ am ☐ pm

3. SSO Discharge from: ☒ Sanitary Sewer Manhole ☐ Pump Station

   ☐ Backup into Property ☐ Other: (specify)

4. SSO Discharge to: ☒ Ground Surface (no release to surface water)

   ☐ Direct to Receiving Water (surface water)

   ☒ Catch basin to Receiving Water — Tannery Brook (surface water)

   ☐ Backup into Property Basement

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

C. SSO Information (cont.)

Location: 50 Holy Family Rd
(Description of discharge site or closest address)

5. Estimated SSO Volume at time of this Report: 25gpmx60mins=1,500 gallons

   Method of Estimating Volume: Visual

6. Cause of SSO Event:

   ☐ Rain Event ☐ Pump Station Failure ☐ Insufficient Capacity in System

   ☐ Treatment Unit failure

   ☒ Sewer System Blockage: ☐ Pipe Collapse ☐ Root Intrusion ☒ Grease Blockage

   ☒ Other: Buildup of grease, rags and wipes.
   (Specify)

7. Corrective Actions Taken:

The crew jet cleaned the sewer main to free the blockage. The obstruction was cleared and free flow was observed. Once blockage was cleared, manhole SMH-4278 and four area catch basins was vacuumed out.

Impact Area cleaned and/or disinfected: ☐ Yes ☒ No

Corrective Actions Completed: ☒ Yes ☐ No

The City sewer main on Tokeneke Rd. was also jet cleaned.

D. Comments/Attachments/Follow-up

I wish to provide (select all that apply):

☐ Attachment ☒ Additional comments below: ☐ No additional comments or attachments

Additional comments and planned actions:

On Thursday 12/08/22 6:57am, The Collections System Manager was notified by City Engineer Kris Baker that a sewer manhole was overflowing at 50 Holy Family Road. Collections System personnel were immediately dispatched and found the SMH-4278 overflowing at a rate of approximately 25 gpm. Collections system personnel jetted/flushed and cleared the line from SMH-4230 to SMH-4278 removing the blockage.. Free flow was observed and flows returned to normal. Affected area was washed and vacuummed up. Four catch basins were also vacuummed out to clear them of sewage.

Massachusetts Department of Environmental Protection
Bureau of Water Protection – Wastewater Management Program

Sanitary Sewer Overflow (SSO)/Bypass Notification Form

FOR DEP USE ONLY

Tax Identification Number

E. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kevin M. Lukasiewicz
Signature of Authorized Representative

12/12/2022
Date Signed

Please keep a copy of this report for your records. When submitting additional information, include the MassDEP Incident Number from this report.

MassDEP Regional Office and EPA Telephone and Fax Numbers:

Northeast Region	Phone: 978-694-3215	Fax: 978-694-3499
Southeast Region	Phone: 508-946-2750	Fax: 508-947-6557
Central Region	Phone: 508-792-7650	Fax: 508-792-7621
Western Region	Phone: 413-784-1100	Fax: 413-784-1149
EPA	Phone: 617-918-1510	
EPA for Southeast Region, David Turin	Phone: 617-918-1598	Fax: 617-918-0598
EPA for Northeast, Central and Western Regions, Douglas Koopman	Phone: 617-918-1747	Fax: 617-918-0747
DEP 24-hour emergency	Phone: 888-304-1133	

APPENDIX 4: HOLYOKE WPCF STAFFING PLAN

Veolia
Holyoke Water Pollution Control Facility
1 Berkshire Street, Holyoke, MA 01040
Tel: 413-534-2222 Fax: 413-536-4213
www.veolianorthamerica.com

February 2023

Veolia
Holyoke Water Pollution Control Facility
1 Berkshire Street
Holyoke, MA 01040

RE: Holyoke WPCF and Collection System Staffing Plan

The Holyoke WPCF has returned to full staff for all of Mgmt. and labor team members. The Weekly Staffing Plan is a One-Plus Shift Operation that includes a one 8- hour shift per day 5 days a week, 8-hour shift on weekends and holidays, details include:

- One shift 5 day per week, Monday-Friday, 8 hours per day, 7am-3pm, staffing will include the Plant/System manager, Assistant Plant/System Manager, Collections System Manager, Administrative Assistant, six Collection System Maintainers, six Facility Operator/Maintainers and one Facility Maintenance/Operators.

- One shift, Weekends and Holidays, 8-hours per day, 5am-1pm, staffing will include one Facility Operator/Maintainer per shift to perform facility, process and equipment rounds, inspections and checks, make adjustments as needed, and perform facility lab sampling an testing.

- 24/7, 365 days per year, during off-hours, two Facility Operator/Maintainer will be on-call, one for WPCF and one for CSO#9 to respond to alarms, emergencies, equipment of process failures, in the event of severe weather conditions and the possible activation of the CSO, or if the need for additional operational or maintenance support for the Facilities is required.

During off –hours the use of an answering service will be utilized for notifications and distribution to proper on-call personnel. Also, two dedicated on-call cell phones and two pagers will be used by the on-call personnel.

The Plant /System manager, Assistant Plant/System manger and Collection System Manager will be on call during off-hours as well if needed.

Covering during off-hours shifts for the WPCF, CSO#9, Pump Stations, Flood Control Stations and Collection System will be handled on a rotational on-call basis.

Weekend and Holiday schedule will include one facility Operator/Maintainer per 8-hour shift with two 24-hour on call Facility Operator/Maintainers and three 24-hour Collection System Maintainers on-call.

24/7, 365, during off-hours the Facilities, CSO's Pump Stations and Flood Stations will be monitored and controlled by operations and Management personnel through SCADA remotely through BLACKBOX software program.

Sludge Processing will take place daily. Full loads are processed Mon-Fri, with a partial load on weekends. Any additional loads to meet operational targets will be conducted on a 2nd shift.

Position/Responsibility	Employee	Certifications / Licenses
Project Manager	Michael Williams	MA Grade VII WW Treatment License, MA Grade IV Collection License, CDL Class (B), Hoisting License, PACP Pipe Inspection MA Drinking Water Distribution License III
Assistant Project Manager	Jason Swain	MA Grade VII WW Treatment License MA Grade IV Collection License
Collection System Manager	Kevin Lukasiewicz	MA Grade IV WW Treatment License MA Grade IV WW Collection License CDL Class (B), Hoisting License
Administrative Assistant	Rolanda Joseph	
Area Manager	Michael Burke	Grade VII MA State issued WWTP license CDL-B, MA Grade IV Collection, Grade III NH WWTP license.
Facility Operators/Maintainers	Tony Orefice	MA Grade VII WW Treatment License MA Grade II WW Collection License CDL Class (B)
	Joe Pease	MA Grade VII WW Treatment License MA Grade IV WW Collection License CDL Class (B), Hoisting License
	Henry Duval	MA Grade VII WW Treatment License MA Grade IV WW Collection License
	Scott Urban	MA Grade VI WW Treatment License MA Grade IV Collection License, Hoisting License
	Tyler Schofield	MA Grade VI WW Treatment License MA Grade IV Collection License, Hoisting License
	Heri Cabrera	MA Grade II Collection License, CDL MA Grade V WW Treatment License CDL Class (B)

Veolia
Holyoke Water Pollution Control Facility
1 Berkshire Street, Holyoke, MA 01040
Tel: 413-534-2222 Fax: 413-536-4213
www.veolianorthamerica.com

Position/Responsibility	Employee	Certifications / Licenses
Collection System Operators/Maintainers Pump/Flood Station, Sewers and Drains	Jesse Danek	MA Grade IV Collection License, CDL Class (B), Vac-Con, Hoisting License, Clam-truck Operator, Sweeper Operator
	Joaquin Lorenzana	MA Grade IV Collection License, CDL Class (B), Vac-Con, Hoisting License, Clam-truck Operator, Sweeper Operator, PACP,MACP,LACP
	Ozzie Pedrosa	MA Grade IV Collection License, CDL Class (B), Vac-Con, Hoisting License, Clam-truck Operator, Sweeper Operator
	Roel Figueroa	MA Grade III Collection License, CDL Class (B), Vac-Con, Hoisting License, Clam truck Operator, Sweeper Operator,
	Chris Pedrosa	MA Grade I Collection License, CDL CDL Class (B), Vac-Con & Street Sweeper Operator
	Open Position	Posted to Smart Recruiters, Indeed,Linkedin No qualified applicants
Facility Laborer	Bernard Smyth	Operator/Maintainer

Woodard & Curran

woodardcurran.com