



2024 Annual Plan Report

Onondaga County, New York

Consent Order R7-202100304-6

J. Ryan McMahon, II, County Executive

**Odean Dyer, P.E., Commissioner,
Department of Water Environment Protection**

Revised: October 2025

**Prepared for:
New York State Department
of Environmental Conservation**

Prepared by:



Jacobs

2024 ANNUAL PLAN REPORT

Prepared for the New York State Department of Environmental Conservation
on behalf of the Onondaga County Department of Water Environment Protection
Revised: October 30, 2025

The information contained in this report was prepared under the supervision and direction of the undersigned, whose seal as a registered professional engineer is affixed below.



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Acronyms and Abbreviations

ACJ	Amended Consent Judgment (Fourth Stipulation)
AMP	Ambient Monitoring Program
ASLF	Atlantic States Legal Foundation
AWQS	Ambient Water Quality Standards
BMP	Best Management Practice
cfu	Colony Forming Units
CFR	Code of Federal Regulations
the City	the City of Syracuse
the County	Onondaga County
CSF	Clinton Storage Facility
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
DUAR	Data Usability Analysis Report
EBSS	Erie Boulevard Storage System
ECL	Environmental Conservation Law
EDO	Effective Date of Order
EIS	Environmental Impact Statement
FC	Fecal Coliform
FCF	Floatables Control Facility
FCOLI	Fecal Coliform
GIF	Green Improvement Fund
HB	Harbor Brook
HBIS	Harbor Brook Interceptor Sewer
ICMP	Interim CSO Corrective Measures Plan
LC	Ley Creek
LHBSF	Lower Harbor Brook Storage Facility
LTCP	Long-Term Control Plan
Metro	Metropolitan Syracuse Wastewater Treatment Plant
MG	Million Gallons
mg/L	Milligrams per Liter
MIS	Main Interceptor Sewer
mL	Milliliter
MOU	Memorandum of Understanding
MTS	Microbial Trackdown Study

Acronyms and Abbreviations

NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
OC	Onondaga Creek
OCDWEP	Onondaga County Department of Water Environment Protection
O&M	Operation and Maintenance
OEI	Onondaga Environmental Institute
%	Percent
PCCM	Post-Construction Compliance Monitoring
POTW	Publicly Owned Treatment Works
POSS	Publicly Owned Sewer System
PWL	Priority Waterbody List
RTF	Regional Treatment Facility
SAPA	State Administrative Procedures Act
SF	Storage Facility
SOP	Standard Operating Procedure
SPDES	State Pollutant Discharge Elimination System
SPRTK	Sewage Pollution Right to Know
SWMM	Stormwater Management Model
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TOGS	Technical & Operational Guidance Series
UAA	Use Attainability Analysis
USEPA	U.S. Environmental Protection Agency
WQS	Water Quality Standards
WQX	Water Quality Exchange
WWTP	Wastewater Treatment Plant
yr	Year

Executive Summary

The 2024 Annual Plan Report for Onondaga County, New York, outlines the County's efforts in managing and controlling combined sewer overflows (CSOs) as part of its compliance with the 2021 State Order on Consent and the State Pollutant Discharge Elimination System (SPDES) permit requirements. This report highlights the progress made in 2024, future planned projects, and the results of various CSO and water quality related monitoring programs to assess compliance.

Combined Sewer System Overview

Onondaga County's combined sewer system (CSS) directs flow to the Metropolitan Syracuse Wastewater Treatment Plant (Metro) and covers approximately 11 square miles. The system includes the Harbor Brook, Onondaga Creek, and Ley Creek basins. Since 1998, the County has implemented 252 green and 23 gray infrastructure projects, leading to the closure or abatement of 61 out of 72 CSO outfalls. A "closed" outfall is defined as a CSO outfall that no longer discharges under any storm event, including extreme events. "Abated" CSO outfalls do not discharge for storms up to the 1-year, 2-hour design storm, however they are still open and may discharge during larger storm events.

2024 CSO Abatement Projects

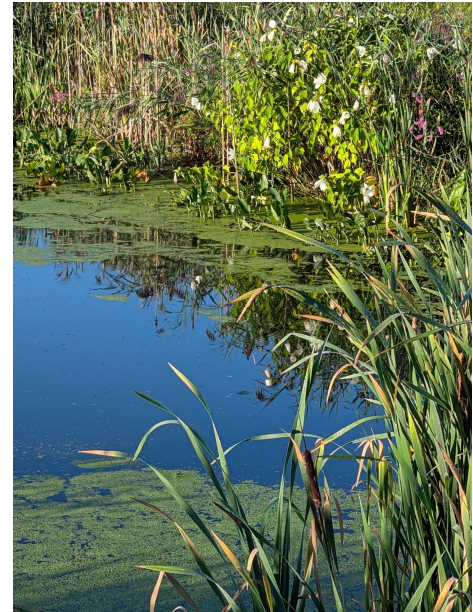
In 2024, the County completed two green infrastructure projects:

1. **Butternut Street Green Corridor Phase 1:** This project involved the installation of infiltration trenches, street trees, and bioretention systems, managing an impervious drainage area of 132,665 square feet and an estimated runoff reduction of 1,690,000 gallons annually.
2. **Evergreen Manufacturing:** Funded by the Green Improvement Fund (GIF), this project included porous pavement installation, managing 58,863 square feet of impervious area and an estimated runoff reduction of 1,375,000 gallons annually.

Future Planned Projects

The County has several CSO control projects planned, with the following projects planned for construction in the near future:

- **CSO 066 Regulator Modification:** Sewer and structure reconfiguration to improve flow management.
- **Fayette Street and Forman Avenue Sewer Separation:** Projects aimed at separating stormwater from the combined sewer system, reducing runoff by 1,190,000 gallons annually.



The Harbor Brook CSO 018 Constructed Wetlands Storage and Treatment Facility is one of the County's most innovative means for CSO control

Interstate 81 Viaduct Project

The I-81 Viaduct Project, led by the New York State Department of Transportation (NYSDOT), involves significant infrastructure improvements that will impact the County's CSO abatement program. The project includes stormwater management features to reduce runoff to the CSS by approximately 87 million gallons. The County is coordinating with NYSDOT on this major opportunistic project, including work for the relocation and replacement of trunk sewers.

Progress in Achieving CSO Control Program Goals

The goal of the County's CSO Control Program is to abate CSOs and optimize system performance to mitigate impacts of water quality in the receiving waters. The County uses a stormwater management model (SWMM) and water quality monitoring to assess progress. The 2024 SWMM update included adjustments to the Metro WWTP and Hiawatha Regional Treatment Facility models. The estimated CSO reduction since 2009 is 657 million gallons, with a capture rate of 98.2%.

2024 Water Quality Tributary Monitoring Program

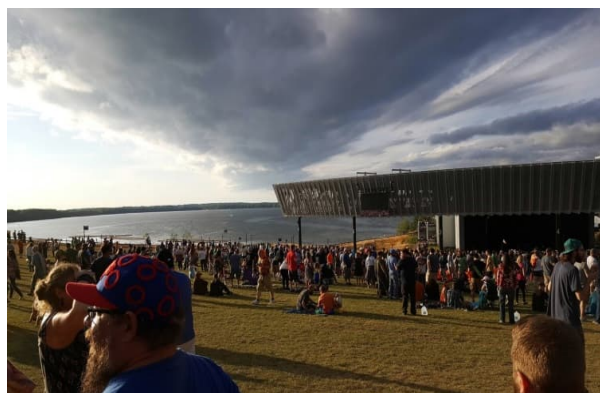
The County's monitoring program continued to track water quality improvements in Onondaga Creek, Harbor Brook, and Ley Creek. The results indicate that long-term compliance with ambient water quality standards for fecal coliform remains challenging, due to non-CSO sources contributing to fecal coliform concentrations upstream of the CSOs.

Flow Metering for the Focused Post Construction Compliance Monitoring Program

The County's compliance monitoring program includes flow metering and water quality monitoring to support the Use Attainability Analysis (UAA) and track water quality improvements. In 2024, metering continued at SPDES required CSO outfalls, and the County progressed with metering for the future recalibration of the Harbor Brook SWMM model.

Conclusion

Onondaga County's 2024 Annual Plan Report demonstrates continued progress in CSO control through the implementation of green and gray infrastructure projects, coordination with major infrastructure projects like the I-81 Viaduct Project, and ongoing monitoring and modeling efforts. The County remains committed to improving water quality with the goal of achieving compliance with applicable New York State Ambient Water Quality Standards and the requirements of the Clean Water Act.



The County's CSO abatement efforts have contributed to the remarkable recovery of Onondaga Lake, turning the Lake into a recreational asset for the community.

1. Introduction

This Annual Plan Report is being submitted by Onondaga County (the County) in accordance with the State Consent Order (Order) between the County and New York State Department of Environmental Conservation (NYSDEC) that was executed on March 16, 2021 and effective on October 8, 2021. The Order imposes requirements related to further abatement of the County's eleven (11) remaining combined sewer overflows (CSOs). In addition to satisfying the reporting requirements of the Order, the Annual Plan Report provides information required by the County's State Pollutant Discharge Elimination System (SPDES) permit related to CSO control. Section 1 of the report describes the annual reporting requirements of the Order and the SPDES permit, provides an overview of the County's combined sewer system, and describes how the Annual Plan Report is organized.

1.1 State Consent Order Requirements

Despite considerable public investment and fulfillment of all construction related milestones and attainment of all CSO capture goals set forth in the Amended Consent Judgment (ACJ), CSOs continue to cause and/or contribute to the non-attainment of Water Quality Standards (WQS) for fecal coliform in the CSO tributaries. On October 8, 2021, the 1998 Amended Consent Judgment (ACJ) between the County, the State of New York, and Atlantic States Legal Foundation (ASLF) was deemed satisfied by the Honorable Frederick J. Scullin Jr., Senior United States District Judge. Upon the termination of the ACJ, the Order between the County and NYSDEC that was executed on March 16, 2021 became effective. The Order required the County to submit an approvable Interim CSO Corrective Measures Plan (ICMP). The County's ICMP dated September 16, 2022, as approved by the NYSDEC defines the County's CSO abatement project plans and includes a Focused Post Construction Compliance Monitoring (PCCM) program to support the Use Attainability Analysis (UAA) efforts, track water quality improvements resulting from abatement efforts and continued maintenance of the County's Storm Water Management Model (SWMM).

Prior to and leading up to the Order, the County and NYSDEC finalized a memorandum of understanding (MOU) in 2020 for the County to complete limited use attainability analyses for CSO affected segments of Onondaga Creek, Harbor Brook, and Ley Creek. The UAAs will be necessary to support NYSDEC's review and, if appropriate, revision of Water Quality Standards and approval of the County's Long-Term Control Plan (LTCP). The goal of the UAAs is to identify what aquatic life, recreational, and aesthetic uses can be attained through implementation of the County's LTCP, as revised. The County will include the UAAs for each waterbody in its future LTCP. Compliance with the Order requires the County to submit an approvable revised LTCP, together with UAA reports for the CSO tributaries, within four (4) years and six (6) months from the effective date of the Order (October 8, 2021).

The Order requires that the County submit an Annual Plan Report, due on or before April 1st of each year while the County is under the Order with the NYSDEC. The requirements for the Annual Plan Report are listed below and form the basis for the content of this Report.

- 1) Status of any County owned/managed/funded CSO abatement projects that have been implemented or are in planning stages over the past year.

- 2) Status of any non-County owned/managed/funded “opportunistic” projects that have been implemented or are in planning stages over the past year, including the upcoming New York State I-81 improvement project.
- 3) Summary of the metering data and review of any discrepancies between the County’s stormwater management model (SWMM) and the metered data obtained over the past year, and an update and recalibration of the County’s system in accordance with the recalibration plan.
- 4) Summary of any post-construction compliance monitoring (PCCM) data and determination of water quality improvements resulting from implementation of CSO abatement projects.



Construction of the Butternut Street Green Corridor Project

1.2 SPDES Permit Requirements

The SPDES permit (No. NY 002 7081) issued by NYSDEC also imposes limits and controls on the Metropolitan Syracuse Wastewater Treatment Plant (Metro) and related conveyances to reduce or eliminate pollutant loads to Onondaga Lake and its tributaries in order to avoid contravention of water quality standards. The current version of the Metro SPDES permit was received on June 16, 2017, effective July 1, 2017, and expired on June 30, 2022. In 2022, the permit was modified on May 24th without an end date extension under the State Administrative Procedures Act (SAPA).

The Metro SPDES permit outlines compliance actions for all CSOs and requires the County to submit to the NYSDEC an annual report addressing compliance with the USEPA National CSO Policy, the SPDES permit, and the ambient water quality standards (AWQS). The permit requires the County to issue an annual report for CSO best management practices (BMPs) (Section VII.15).

The Metro SPDES Permit is available online at:

http://www.ongov.net/wep/MetroSyracuse_SPDES_Permit_Mod_NY0027081_FINAL.pdf.crdownload

Onondaga County has included the annual reporting items required by the Metro SPDES permit in this report, with the intention of consolidating information rather than duplicating it.

1.2.1 Monitoring Program

Section XVI of the current Metro SPDES permit outlines specific monitoring for the CSO facilities.

Section 4 provides details on the County's 2024 monitoring program.



Harbor Brook CSO 018 Constructed Wetlands Storage and Treatment Facility

Section 1 - Introduction

1.2.2 Combined Sewer Overflows Annual Report

The SPDES permit requires the County to implement BMPs for CSOs which include operation and maintenance (O&M) procedures, maximizing the existing treatment facility and collection system to the extent practicable, maximizing pollutant capture, and minimizing water quality impacts from CSOs. The Combined Sewer Overflows Annual Report required by the SPDES permit summarizes the implementation of the BMPs as per Section VII.15 of the SPDES permit. The Annual Combined Sewer Overflow BMP Report is submitted separately by the County to the NYSDEC and is included in this Annual Plan Report as Appendix A.

1.2.3 Special Conditions CSO Control Policy

Pursuant to Section VIII.C. of the SPDES permit, the County is required to submit a PCCM Program Report consistent with the Department-approved PCCM Plan which addresses compliance with the USEPA CSO strategy requirements, the SPDES permit, and water quality standards to the NYSDEC. The County has included this information in this report.



Construction of the Butternut Street Green Corridor was completed in 2024

1.3 Combined Sewer System Overview

The combined sewer system (CSS) directing flow to Metro encompasses 7,337 acres, or approximately 11 square miles. The two major combined sewer areas are the Harbor Brook basin via the Harbor Brook Interceptor Sewer (HBIS) and the Onondaga Creek basin via the Main Interceptor Sewer (MIS). In addition, the upper Butternut/Grant Trunk Sewer and the Hiawatha Trunk Sewer overflow to Ley Creek when pipe capacities are exceeded during wet weather; dry weather flows are conveyed to Metro via the MIS.

Onondaga County manages the CSS to maximize the capture and treatment of combined sewage. Even so, the capacity of the CSS can be overwhelmed during periods of intense or prolonged rainfall and/or snowmelt, which can result in CSO discharges. Beginning in 1998, a phased program of improvements, including sewer separations and other infrastructure projects, has led to closure or abatement of 61 CSO outfalls. Abated CSOs are still open outfalls able to discharge during larger storm events; however, they do not discharge up to the 1-year, 2-hour design storm. Refer to Section 3 for further information on the abated and operational CSO outfalls. No new outfalls were abated in 2024.

Table 1-1 details the pre-abatement and current number of active CSO locations, as well as the acreage of drainage areas tributary to Metro.

Table 1-1. Pre-ACJ and Current CSOs and Drainage Basins Tributary to Metro (as of December 31, 2024)

Drainage Basin	Pre-ACJ Number of Operational CSO Locations (1998) ¹	Current Number of Operational CSO Locations ²	Current Number of Abated CSO Locations ³	Combined Sewer Area (acres)	Percentage of Total Combined Sewer Area
Harbor Brook	20	5	11	1,707	23.3%
Onondaga Creek	50	5	22	5,386	73.4%
Ley Creek	2	1	1	244	3.3%
Total	72	11	34	7,337	100.0%

¹ The number of pre-ACJ operational CSO locations is based on the CSO outfalls listed in Table 1-2.

² Operational CSOs are open CSO outfalls that still discharge .

³ Abated CSOs are open outfalls that do not discharge up to the 1-year, 2-hour design storm, but remain open and discharge during larger storm events.

Table 1-2 includes an updated list of the status of the CSOs along with the information regarding their location, design storm overflow volume, rainfall trigger intensity, imperviousness, land use, CSO abatement strategy, status or scheduled completion date, and current flow monitoring.

Figure 1-1 shows the CSO outfalls listed in Table 1-2 and graphically delineates the CSO basins by receiving waterbody.



Construction of the Evergreen Manufacturing GIF project in CSO 039 was completed in 2024 and featured a porous asphalt parking lot

Section 1 - Introduction

Table 1-2: CSO Outfall Information

CSO Outfall	CSO Status	CSO Location	Latitude	Longitude	Basin Characteristics					CSO Abatement Strategy (completed items in bold)	Status or Scheduled Completion Date (completed items in bold)	Flow Monitoring	
					Area (acres)	Design Storm CSO Overflow Volume (MG) ⁷	Rainfall Trigger Intensity (in/hr)	Imperviousness (%)	Slope (%)				Land Use
Harbor Brook Drainage Basin													
003	Abated	Hiawatha Blvd. (West side of HB)	43° 03' 20" N	76° 11' 07" W	95.4	0.0	>0.9	51	0.9	mostly residential; some commercial and community facilities	Harbor Brook Storage Facility Green Infrastructure	In service 12/31/2013	N/A ⁽⁴⁾
004	Abated	State Fair Blvd.	43° 03' 13" N	76° 10' 54" W	372.6	0.0	>0.9	43	0.9	mostly residential; some commercial	Harbor Brook Storage Facility Green Infrastructure	In service 12/31/2013	N/A ⁽⁴⁾
04A (LHBSF)	Abated	Lower Harbor Brook Storage Facility Main Outfall	43° 03' 15" N	76° 10' 58" W	-	0.0	>0.9	-	-	-	Harbor Brook Storage Facility	In service 12/31/2013	Ultrasonic Level Sensor ⁽³⁾
005	Abated	W. Genesee and Sackett Street	43° 03' 11" N	76° 10' 38" W	11.2	0.0	0.4	81	0.4	mostly commercial; some residential	Sewer Reconfiguration	12/31/2019	Water Level Sensor ⁽²⁾
006	Abated	Park Ave. and Sackett Street (West side of HB)	43° 03' 07" N	76° 10' 35" W	15.1	0.0	>0.9	61	0.5	mostly commercial and residential; some community facilities and open space	Green Infrastructure	12/31/2019	Water Level Sensor ⁽²⁾
06A	Abated	Park Ave. and Sackett Street (East side of HB)	43° 03' 07" N	76° 10' 35" W	13.8	0.0	0.4	62	0.4	mostly commercial and residential; some community facilities and open space	Green Infrastructure	12/31/2019	Water Level Sensor ⁽²⁾
007	Operational	Richmond Avenue and Liberty Street	43° 03' 00" N	76° 10' 26" W	31.3	0.2	0.3	62	0.5	mostly commercial and residential; some community facilities and vacant land	Green or Gray Infrastructure	ICMP ⁽⁶⁾	Water Level Sensor ⁽²⁾
008	Closed	Lakeview Avenue and Liberty Street	43° 02' 57" N	76° 10' 59" W	5.1	-	-	51	0.9	mostly residential; some commercial			
009	Operational	W. Fayette Street (West side of HB)	43° 02' 47" N	76° 10' 33" W	28.6	0.4	0.6	37	1.4	mostly residential and open space; some commercial	Green or Gray Infrastructure	ICMP ⁽⁶⁾	Water Level Sensor ⁽²⁾
010	Abated	W. Fayette Street (East side of HB)	43° 02' 45" N	76° 10' 21" W	16.9	0.1	>0.9	44	0.6	mostly commercial and public; some residential	Sewer Reconfiguration	Completed 12/31/2020	Water Level Sensor ⁽²⁾
011	Operational	Gifford Street at Fowler HS (East side of HB)	43° 02' 34" N	76° 10' 23" W	55.7	0.1	0.4	41	0.5	mostly commercial, community facilities, and residential; some industrial and vacant land	Green or Gray Infrastructure	ICMP ⁽⁶⁾	Water Level Sensor ⁽²⁾
012	Closed	Gifford Street at Fowler HS (West side of HB)	-	-	-	-	-	-	-	-	Closure	Completed⁽¹⁾	N/A
013	Closed	Seymour Street	-	-	-	-	-	-	-	-	Separation	Completed 12/31/2011	N/A
014	Operational	Delaware Street	43° 02' 24" N	76° 10' 29" W	206.9	0.3	0.4	43	0.7	mostly residential; some vacant land	Green or Gray Infrastructure	Plan re-submittal 3/12/13 ICMP ⁽⁶⁾	Temp. Flow Meter
015	Operational	Herriman Street and Grand Avenue	43° 02' 20" N	76° 10' 38" W	49.9	0.3	0.9	44	0.8	mostly residential; some vacant land	Green or Gray Infrastructure	ICMP ⁽⁶⁾	Water Level Sensor ⁽²⁾
016	Closed	Lydell Street	-	-	-	-	-	-	-	-	Separation	Completed 12/31/2011	N/A
017	Abated	Hoeffler Street	43° 02' 12" N	76° 10' 47" W	72.1	0.0	>0.9	28	1.1	mostly residential and vacant; some commercial and public facilities	Green or Gray Infrastructure	12/31/2019	Water Level Sensor ⁽²⁾
018	Abated	Constructed Wetland Outfall/ Emergency Bypass	43° 02' 10" N	76° 10' 57" W	152.8	0.0	>0.9	36	1.3	mostly residential; some recreational	Green Infrastructure - Wetland Treatment with Floatables Control	Completed 12/31/2021	Flow Meter
63A	Abated	Harbor Brook (1000 LF NW of Hiawatha Blvd W.)	43° 03' 28" N	76° 11' 16" W	366.6	0.0	>0.9	42	1.2	mostly residential; some commercial	Harbor Brook Storage Facility	In service 9/11/2015	N/A ⁽⁴⁾
078	Abated	Bellevue and Velasko	43° 02' 08" N	76° 11' 19" W	212.5	0.0	>0.9	27	1.3	mostly residential; some recreational	Green Infrastructure	12/31/2019	Temp. Flow Meter
Onondaga Creek Drainage Basin													
020	Operational	Butternut Street and I-690	43° 03' 17" N	76° 09' 26" W	643.8	2.7	0.3	52	1.4	mostly residential; some commercial	Butternut Street FCF Green or Gray Infrastructure	Completed 2000 ICMP, Coordinate with I-81 project	Existing Flow Meter ⁽⁵⁾
021	Operational	Burnet Avenue and I-690	43° 03' 16" N	76° 09' 25" W	97.2	2.9	0.2	70	0.6	mostly commercial; some residential	Burnet Street FCF Green or Gray Infrastructure	Completed 2000 ICMP, Coordinate with I-81 project	Existing Flow Meter ⁽⁵⁾
022	Closed	West Genesee Street (East side of OC)	-	-	-	-	-	-	-	-	Separation, Green Infrastructure	Completed 4/30/2013	N/A
024	Closed	Water Street	-	-	-	-	-	-	-	-	Separation	Completed 2001	N/A
025	Closed	-	-	-	-	-	-	-	-	-	Separation	Completed⁽¹⁾	N/A

Notes:

- (1) Actual completion date unknown at this time
- (2) Event Indicator: record date and duration of overflow
- (3) Water levels to be used to approximate flow rate
- (4) Flow Meter was removed on 9/27/19, NYSDEC approved
- (5) Existing facility with flow metering

(6) Strategy to be updated per ICMP

(7) Formerly 060/077 - The outfall name was changed to 60M to meet formatting requirements from USEPA and NYSDEC and is planned to be updated in a future modification of the Metro SPDES Permit.

Abbreviations:

- Temp. = Temporary
- N/A = Not Applicable
- TBD = To be determined
- ICMP = Interim CSO Corrective Measure Plan

Definitions:

- Abated = CSO is zero or minimal for the 1-year, 2-hour design storm
- Operational = CSO still discharges
- Closed = CSO no longer capable of discharging



Section 1 - Introduction

Table 1-2: CSO Outfall Information

CSO Outfall	CSO Status	CSO Location	Latitude	Longitude	Basin Characteristics						CSO Abatement Strategy (completed items in bold)	Status or Scheduled Completion Date (completed items in bold)	Flow Monitoring
					Area (acres)	Design Storm CSO Overflow Volume (MG) ⁷	Rainfall Trigger Intensity (in/hr)	Imperviousness (%)	Slope (%)	Land Use			
Onondaga Creek Drainage Basin (continued)													
026	Closed		-	-	-	-	-	-	-	-	Separation	Completed ⁽¹⁾	N/A
027	Operational	West Fayette Street (East Side of OC)	43° 02' 55" N	76° 09' 28" W	162.8	1.3	0.3	68.0	0.6	mostly commercial	Green or Gray Infrastructure	ICMP, Coordinate with I-81 project	Temp. Flow Meter
028	Abated	Walton Street (West side of OC)	43° 02' 53" N	76° 09' 27" W	23.7	0.0	0.4	68	0.7	mostly commercial and residential; some vacant	Clinton Storage Facility Green or Gray Infrastructure	In service 12/31/2013 12/31/2019	Water Level Sensor ⁽²⁾
029	Operational	Walton Street (East side of OC)	43° 02' 53" N	76° 09' 27" W	9.9	0.2	0.9	93	0.8	mostly commercial	Sewer Reconfiguration Green or Gray Infrastructure	ICMP, Coordinate with I-81 project	N/A
030	Abated	West Jefferson Street (East side of OC)	43° 02' 50" N	76° 09' 27" W	302.3	0.0	>0.9	45	4.0	mostly commercial, open space, residential, and community facilities	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2013	Ultrasonic Level Sensor ⁽³⁾
031	Abated	West Jefferson Street (West side of OC)	43° 02' 49" N	76° 09' 28" W	23.9	0.0	>0.9	40	0.7	mostly commercial and residential; some vacant land and open space	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2016	Water Level Sensor ⁽²⁾
032	Abated	Tully Street	43° 02' 45" N	76° 09' 28" W	23.2	0.0	>0.9	47	0.6	mostly commercial; some residential and community facilities	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2013	Water Level Sensor ⁽²⁾
033	Abated	Dickerson Street	43° 02' 40" N	76° 09' 19" W	15.4	0.0	>0.9	47	0.3	mostly commercial; some residential and community facilities	Clinton Storage Facility	In service 12/31/2013	Water Level Sensor ⁽²⁾
33A	Abated	Clinton Storage Facility Main Outfall	43° 02' 47" N	76° 09' 25" W	-	0.0	0.4	-	-	-	Clinton Storage Facility	In service 12/31/2013	Flow Meter
034	Abated	Clinton and West Onondaga Street	43° 02' 37" N	76° 09' 17" W	172.9	0.0	>0.9	70	1.6	mostly commercial and community facilities	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2013	N/A ⁽⁴⁾
035	Abated	Gifford Street (West side of OC)	43° 02' 37" N	76° 09' 17" W	22.8	0.0	>0.9	48	0.9	mostly vacant land, commercial, and community facilities	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2013	Water Level Sensor ⁽²⁾
036	Abated	West Onondaga Street	43° 02' 33" N	76° 09' 18" W	162.4	0.0	>0.9	41	2.7	mostly residential, some commercial and vacant land	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2013	N/A
037	Abated	East Adams Street	43° 02' 32" N	76° 09' 18" W	39.0	0.0	>0.9	54	1.6	mostly commercial and community facilities	Clinton Storage Facility Green Infrastructure	In service 12/31/2013 12/31/2013	Water Level Sensor ⁽²⁾
038	Closed	Taylor Street	-	-	-	-	-	-	-	-	Separation	Completed 2005	N/A
039	Abated	Tallman Street (East side of OC)	43° 02' 12" N	76° 09' 19" W	479.7	0.0	>0.9	43	0.6	mostly community facilities; some commercial	Midland Avenue RTF Green Infrastructure	Completed 2008 12/31/2016	Ultrasonic Level Sensor ⁽³⁾
040	Closed	Tallman Street (West side of OC)	-	-	-	-	-	-	-	-	Separation	Completed 2005	N/A
M01	Abated	Midland RTF Main Outfall (previously CSO 041)	43° 02' 00" N	76° 09' 30" W	-	-	-	-	-	-	Midland Avenue RTF	Completed 2008	Ultrasonic Level Sensor ⁽³⁾
042	Abated	Midland Avenue (West side of OC)	43° 01' 59" N	76° 09' 29" W	289.8	0.0	>0.9	41	1.3	mostly residential; some open space and	Midland Avenue RTF	Completed 2008	Ultrasonic Level Sensor ⁽³⁾
M02	Abated	Midland RTF Emergency Outfall (previously CSO 043)	43° 02' 01" N	76° 09' 30" W	-	-	-	-	-	-	Midland Avenue RTF	Completed 2008	Ultrasonic Level Sensor ⁽³⁾
044	Abated	West Castle Street and South Avenue	43° 01' 50" N	76° 09' 34" W	122.6	0.0	>0.9	39	2.0	mostly residential; some vacant land	Midland Avenue RTF Green Infrastructure	Completed 12/31/2011 12/31/2013	Ultrasonic Level Sensor ⁽³⁾
045	Closed	Hudson and West Castle Street	-	-	-	-	-	-	-	-	Separation	4/30/2013	N/A
46A/B	Closed	Onondaga Avenue	-	-	-	-	-	-	-	-	Separation	Completed 2005	N/A
047	Closed	South Avenue near Centennial Drive	-	-	-	-	-	-	-	-	Separation	Completed 2006	N/A
048	Closed	South Avenue near Kirk Avenue	-	-	-	-	-	-	-	-	Separation	Completed 2006	N/A
049	Closed	Kirk Avenue	-	-	-	-	-	-	-	-	Separation	Completed⁽¹⁾	N/A
050	Closed	Rockland and Hunt Avenue	-	-	-	-	-	-	-	-	Separation	Completed 2008	N/A
051	Closed	West Colvin Street and Hunt Avenue	-	-	-	-	-	-	-	-	Separation	Completed 2009	N/A

Notes:

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- (2) Event indicator: record date and duration of overflow
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- (5) Existing facility with flow metering

(6) Strategy to be updated in ICMP

(7) Formally 060/077 - The outfall name was changed to 60M to meet formatting requirements from USEPA and NYSDEC and is planned to be updated in a future modification.

Abbreviations:

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Definitions:

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- Closed = CSO no longer discharges



Section 1 - Introduction

Table 1-2: CSO Outfall Information

CSO Outfall	CSO Status	CSO Location	Latitude	Longitude	Basin Characteristics						CSO Abatement Strategy (completed items in bold)	Status or Scheduled Completion Date (completed items in bold)	Flow Monitoring
					Area (acres)	Design Storm CSO Overflow Volume (MG) ⁷	Rainfall Trigger Intensity (in/hr)	Imperviousness (%)	Slope (%)	Land Use			
Onondaga Creek Drainage Basin (continued)													
052	Abated	Elmhurst and Hunt Avenue	43° 01' 15" N	76° 09' 21" W	295.3	0.0	0.4	33	4.8	mostly residential	Sewer Reconfiguration, Green Infrastructure	Completed 2023	Temp. Flow Meter
053	Closed	Marguerite and Hunt Avenue	-	-	-	-	-	-	-	-	Separation	Completed 2003	N/A
054	Closed	West Brighton and Hunt Avenue	-	-	-	-	-	-	-	-	Separation	Completed 2003	N/A
055	Closed	-	-	-	-	-	-	-	-	-	Separation	Completed ⁽¹⁾	N/A
056	Closed	-	-	-	-	-	-	-	-	-	Separation	Completed ⁽¹⁾	N/A
057	Closed	West Genesee Street (West side of OC)	-	-	-	-	-	-	-	-	Separation	Completed 1999	N/A
058	Closed	Tracy Street	-	-	-	-	-	-	-	-	Separation	Completed 1999	N/A
059	Closed	Park Avenue	-	-	-	-	-	-	-	-	Separation	Completed 1999	N/A
60M ⁽⁷⁾	Abated	West Colvin Street (East side of OC)	43° 01' 25" N	76° 09' 17" W	0	0.4	>0.9	39	2.6	mostly residential; some vacant land	Sewer Reconfiguration, Green Infrastructure	12/31/2019	
061	Closed	Crehange St.	43° 01' 19" N	76° 09' 18" W	1.8	-	-	-	-	-	Separation	12/31/2016	N/A
062	Closed	W. Brighton East	-	-	-	-	-	-	-	-	Closed	Completed ⁽¹⁾	N/A
065	Closed	Maltbie St.	-	-	-	-	-	-	-	-	Maltbie Street FCF	Completed 1999	N/A
066	Operational	Maltbie St.	43° 03' 20" N	76° 09' 41" W	119.8	0.4	0.4	71	0.7	mostly commercial; some residential	Maltbie Street FCF	Completed 1999	Existing Flow Meter ⁽⁵⁾
											Green or Gray Infrastructure	ICMP ⁽⁶⁾	
067	Abated	W. Newell St.	43° 00' 58" N	76° 09' 28" W	41.9	0.0	>0.9	40	0.5	mostly residential; some open space	Green Infrastructure	12/31/2019	Existing Flow Meter ⁽⁵⁾
											Sewer Reconfiguration	ICMP ⁽⁶⁾	
071	Abated	Spencer St. Bypass	43° 03' 26" N	76° 09' 41" W	-	0.0	>0.9	-	-	-	Captured up to 2-year storm	Completed ⁽¹⁾	
075	Abated	Hiawatha Blvd.	43° 03' 54" N	76° 10' 25" W	111.5	0.0	>0.9	57	1.2	mostly commercial and residential; some vacant land and community facilities	Regulator Modification	Completed 12/31/21	N/A
											Green and Gray Infrastructure		
076	Abated	Brighton and Midland	43° 01' 09" N	76° 09' 18" W	76.9	0.0	>0.9	38	1.0	mostly commercial; some residential	Green or Gray Infrastructure	Completed	Water Level Sensor ⁽²⁾
080	Abated	Erie Blvd. (East side of OC)	43° 03' 08" N	76° 10' 36" W	656.1	0.0	0.4	44	1.8	mostly residential; some commercial	Erie Blvd. Storage System (EBSS)	Completed 2002	Flow Meter. Event indicators at sub-basin CSOs A-I
		A - James Street Relief Sewer			367.5						EBSS Gate Modifications	Completed 2011	
		B - Fayette Street and Irving Avenue			137.0								
		C - South Crouse Avenue and Washington Street			44.5								
		D - Burnet Avenue and Elm Street			49.2								
		E - East Washington Street and Pine Street			38.4								
		F - South Beech and Canal Street			70.7								
		G - Burnet and Sherwood Avenue			62.7								
		H - Burnet and Teall Avenue			216.7								
		I - East Genesee and Westcott Street			13.2								
Ley Creek Drainage Basin													
073	Operational	Teall Ave.	43° 04' 42" N	76° 07' 25" W	238.4	1.2	0.5	47	1.4	mostly residential	Teall Brook FCF	Complete 2001	Existing Flow Meter ⁽⁵⁾
											Green or Gray Infrastructure	ICMP ⁽⁶⁾	
074	Abated	Hiawatha Blvd.	43° 04' 36" N	76° 10' 19" W	6.0	0.0	>0.9	62	1.9	mostly residential; some commercial	Hiawatha Blvd. RTF	Completed 2001	Existing Flow Meter ⁽⁵⁾

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Definitions:

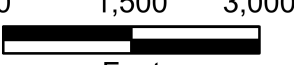
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- Operational = CSO still discharges
- Closed = CSO no longer discharges

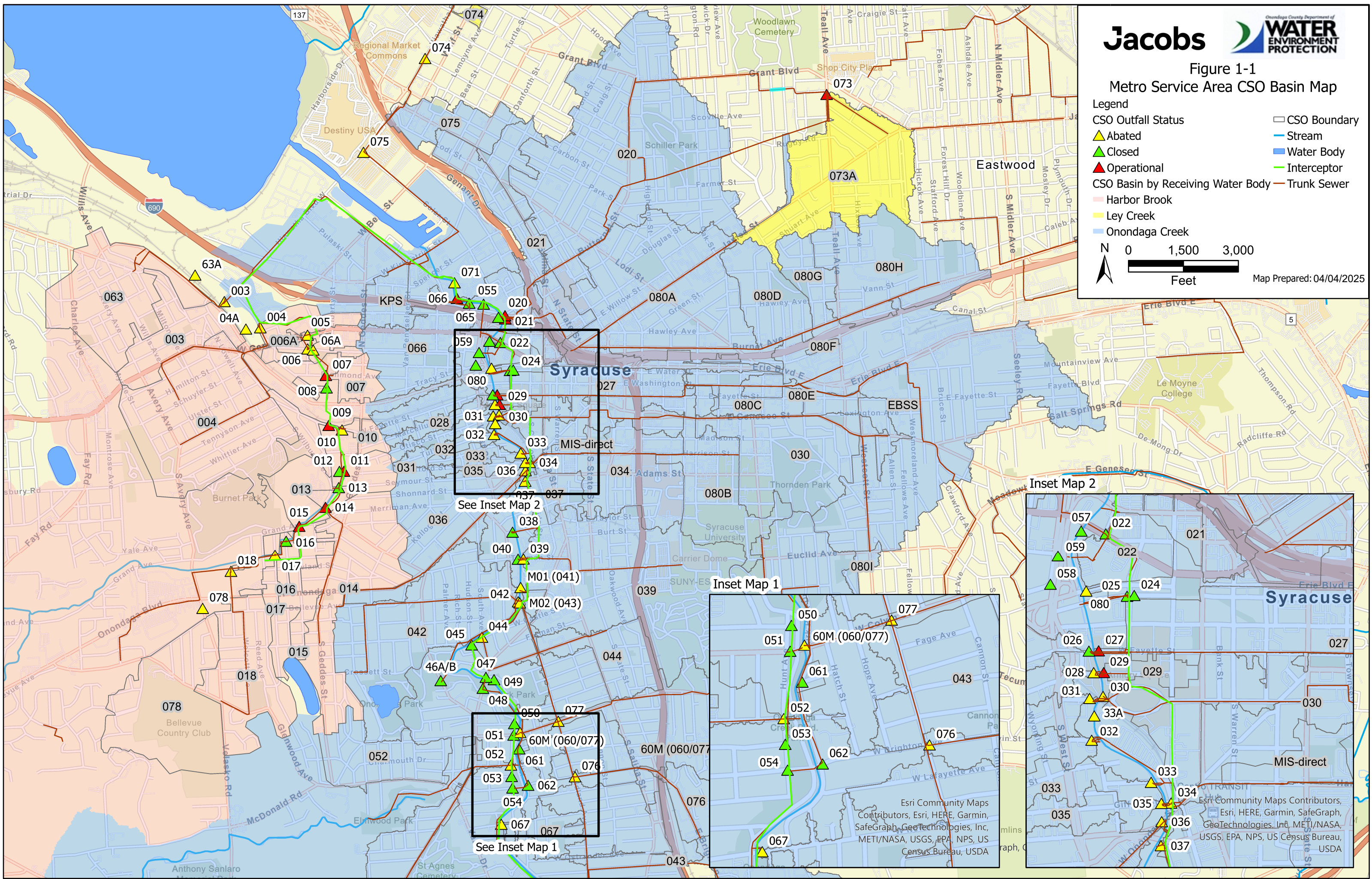


Figure 1-1
Metro Service Area CSO Basin Map

Legend

CSO Outfall Status	CSO Boundary
Abated	Stream
Closed	Water Body
Operational	Interceptor
CSO Basin by Receiving Water Body	Trunk Sewer
Harbor Brook	
Ley Creek	
Onondaga Creek	

N  Map Prepared: 04/04/2025



See Inset Map 2

Inset Map 1

Inset Map 2

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

1.4 Annual Plan Report Organization

The 2024 Annual Plan Report is organized in the following manner:

- **Section 1 – Introduction** provides the following:
 - Summary of the legal documents requiring and governing the Annual Plan Report, namely the Order and the SPDES Permit
 - Overview of the combined sewer system and CSOs
 - Listing of contents of the Annual Plan Report
- **Section 2 – CSO Control Project Status Update** summarizes updates to the following:
 - Description of the significant gray and green projects included in the County's CSO control program that were completed in 2024
 - Future planned CSO control projects, including the I-81 Viaduct Project
- **Section 3 – SWMM Update** presents the following:
 - Annual update of the status and results of the stormwater management model
 - Comparison between the County's SWMM estimates for CSO discharge using the rainfall that occurred in 2024 and the metered data obtained over the past year
- **Section 4 – CSO Monitoring Program** provides the following:
 - 2024 CSO Focused Post Construction Monitoring Program and results
 - CSO Best Management Practices Report

2. Combined Sewer Overflow Project Status

The CSO control projects discussed in this section represent the current scope of the County's CSO abatement program. This section provides project descriptions, locations, scope of work, and status for projects that have been implemented or are in the planning stages in 2024. For additional project-specific information, please go to the Save the Rain website at <https://savetherain.us/>.

2.1 2024 Completed Projects

Onondaga County has successfully incorporated gray and green infrastructure into its CSO control program. This section describes the CSO control projects advanced in 2024.

2.1.1 Green Infrastructure Projects Completed in 2024

The County continued implementing green infrastructure in 2024 with two projects completed, one being funded by the Green Improvement Fund (GIF). Details, including their location, lead agency, CSO basin, dominant green infrastructure technology, impervious drainage area managed, and estimated runoff reduction from the County's SWMM are provided in Table 2-1.

Through 2024, the County has completed a total of 252 green infrastructure projects. The completed green infrastructure projects provide an approximate total of 210 MG of runoff reduction on an annual basis throughout the CSS (estimated by the County's SWMM) and account for approximately 32 percent of the average annual calculated combined sewage volume captured or eliminated since 2009. Green infrastructure is modeled in SWMM as Low Impact Development (LID) and the total inflows to the GI practice are a result calculated by the model. In the model, green infrastructure performance is calculated based on the SWMM results for runoff reduction, which is inherently a form of combined sewage capture. Green infrastructure functions by capturing stormwater runoff, which would otherwise enter the combined sewer system and contribute to the combined sewage volume. Using the runoff reduction and inflows from SWMM provide an accurate representation of how much flow is captured by each individual GI practice. See Section 3.3 for further discussion on SWMM CSO capture for the County's CSO Program as a whole.

For a summary of projects completed in previous years, please refer to previous Annual Reports posted on the Save the Rain website at <https://savetherain.us/str-reports/>.

Section 2 - Combined Sewer Overflow Project Status

Table 2-1. Green Infrastructure Projects Completed in 2024

Project ID ¹	Project Name	Project Address	Lead Agency	CSO Basin	Green Infrastructure Technology	Impervious Drainage Area (ft ²)	SWMM Runoff Reduction (gal/yr)
C-273	Butternut Street Green Corridor Phase 1	Butternut St. between North Salina St. and Lodi St.	County-Led	020	Infiltration Trench, Street Trees, Bioretention	132,665	1,690,000
M-117	GIF #185 – Evergreen Manufacturing (also ASLF funded)	235 Cortland Avenue	Private	039	Porous Pavement	58,863	1,375,000
TOTAL ESTIMATED SWMM RUNOFF REDUCTION FOR 2024 PROJECTS (gal/yr)							3,065,000

¹Project ID's are assigned based on CSS Service Area: C = Clinton; H = Harbor Brook; M = Midland.

NOTE: The green infrastructure database is constantly being updated as information is received. Post-construction as-built information is incorporated upon receipt. For this reason, there might be slight variations in database information, SWMM and www.savetherain.us at any point in time.

2.1.2 Gray Infrastructure Projects in 2024

No new gray infrastructure projects were completed by the County in 2024.

Through 2024, the County has completed a total of 23 gray infrastructure projects since 2009. The completed gray infrastructure projects account for approximately 68 percent of the average annual calculated combined sewage volume captured or eliminated since 2009 (see Section 3.3). For a summary of projects completed in previous years, please refer to previous Annual Reports posted on the Save the Rain website at <https://savetherain.us/str-reports/>

2.2 Future Planned Projects

The County continues to use SWMM to identify specific sewersheds where green and gray infrastructure implementation will provide the most efficient CSO reductions and lead to further water quality improvements. The County has several CSO control projects currently planned, including two projects with construction contracts that were awarded in 2024 with construction planned in 2025. A complete list of the future planned projects, their location, the lead agency, CSO basin, brief project scope, status, and anticipated schedule, if known, is provided in Table 2-2. Figure 2-1 shows the locations of the future planned projects. It is important to note that the schedule for implementation of these projects is fluid and not solely controlled by the County in each project situation.

Since the 2023 Annual Report, project plans continue to evolve and change. The following new planned projects in Table 2-2 have been added.

- C-307: GIF #202 Morrow Graphics
- C-308: GIF #201 Cooperative Federal

Section 2 – Combined Sewer Overflow Project Status






- C-309: Syracuse Cultural Workers (ASLF)
- C-310: Bellegrove Missionary Baptist (ASLF)

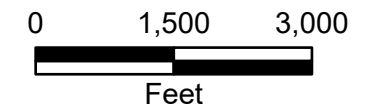
In addition, the following projects have been removed from the future planned projects list, for the reasons noted.

- C-264: GIF #170 Lowery Bros. 656-660 W. Genesee, C-276: GIF #177 Goodman Service, C-284: GIF #184 Home Headquarters – Oak Street, C-286: GIF #188 Peace Inc. – 811 Washington Street, M-78: GIF #142 Deb's Convenience Market – The property owners for these GIF projects have indicated that they are no longer interested in proceeding with their respective projects.
- C-303ab: Lodi Street Road Reconstruction (north and south) – In coordination with the City, the City no longer planned on completing a road reconstruction of these streets.
- C-304: Water Street Sewer Separation – In coordination with NYSDOT, it was determined that their main storm trunk line for the I-81 Viaduct Project would be routed down Water Street, and they would pick up the intended drainage area for this project with that main storm trunk line, negating the need for the County project. Further discussion on this is included in Section 2.3.

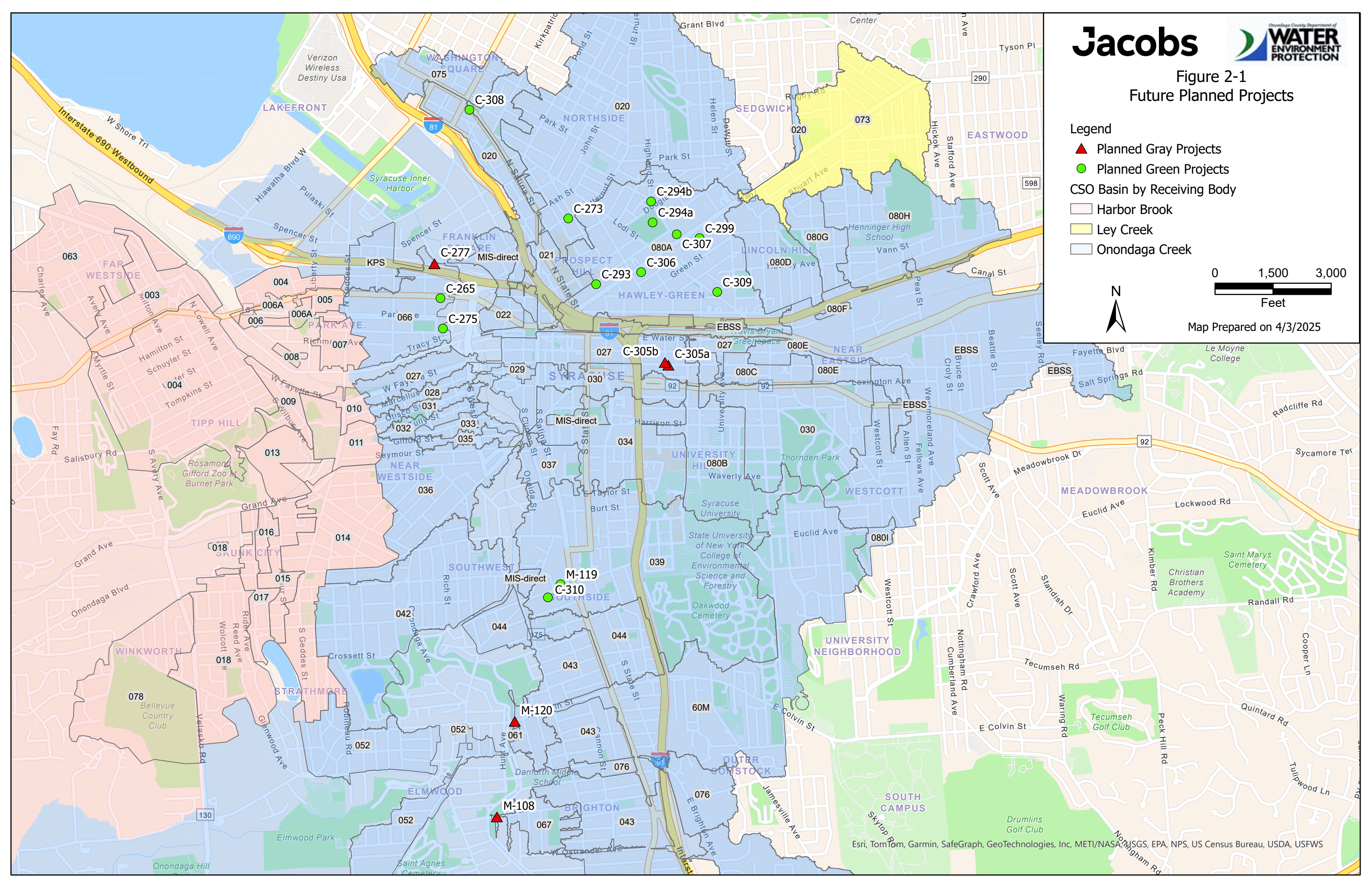
Figure 2-1
Future Planned Projects

Legend

-  Planned Gray Projects
-  Planned Green Projects
- CSO Basin by Receiving Body
-  Harbor Brook
-  Ley Creek
-  Onondaga Creek



Map Prepared on 4/3/2025



Section 2 – Combined Sewer Overflow Project Status

Table 2-2. Future Planned Projects (Sorted by Anticipated Schedule Date)

Project ID	Project Name	Location	Lead Agency	CSO Basin	Brief Project Scope	Status	Estimated Annual Runoff Reduction (gallons) ^a	Estimated Annual CSO Reduction (gallons) ^b	Current Estimated County Construction Cost ^c	Anticipated Schedule, If Known ^d
C-275	GIF #176 Middle Ages Brewing	120 Wilkinson St.	Private	066	Porous Pavement	In Design	878,100	421,488	\$343,500	Anticipated completion by end of 2025
C-277	CSO 066 Regulator Modification	Maltbie St. and Evans St.	Onondaga County	066	Sewer/Structure Reconfiguration	Construction Contract Awarded	N/A	3,100,000	\$5,165,888	Anticipated completion by end of 2025
C-299	GIF #196 - Barnes Foundation	930 James St.	Private	080A	Porous Pavement	In Design	1,234,000	592,320	\$294,000	Anticipated completion by end of 2025
C-309	Syracuse Cultural Workers (ASLF)	400 Lodi Street	Private, ASLF	080A	Porous Pavement, Bioretention	In Design	200,400	96,100	\$200,400	Anticipated completion by end of 2025
C-310	Bellegrove Missionary Baptist	219 MLK Blvd. West	Private, ASLF	039	Porous Pavement	In Design	578,600	277,700	\$578,600	Anticipated completion by end of 2025
M-108	CSO 067 Vortex Decommissioning and Hydraulic Improvements	West Newell St. at Onondaga Creek	Onondaga County	067, 061, 60M (060/077)	Sewer/Structure Reconfiguration, System Optimization	Construction Contract Awarded	N/A	200,000	\$325,000	Anticipated completion by end of 2025
C-265	GIF #171 Lowery Bros. 637-47 W. Genesee	637-47 W. Genesee	Private	066	Porous Pavement	In Design	1,203,900	577,872	\$409,300	Anticipated completion by end of 2026
C-305a	Fayette Street Sewer Separation	Fayette Street Between Irving Ave. and Almond St.	Onondaga County	027	Sewer Separation	In Design	1,190,000	890,000	\$2,367,000	Anticipated completion by end of 2026
C-305b	Forman Ave. Sewer Separation	Forman Avenue Between E Washington St. and Wellington Pl.	Onondaga County	027	Sewer Separation	In Design				Anticipated completion by end of 2026
C-306	GIF #198 Robert Morris	716-28 James St.	Private	080A	Porous Pavement	In Design	785,000	376,800	\$177,100	Anticipated completion by end of 2026
C-307	GIF #202 Morrow Graphics	9037 James Street	Private	080A	Porous Pavement	In Design	258,900	125,000	\$73,700	Anticipated completion by end of 2026

Section 2 - Combined Sewer Overflow Project Status

Table 2-2. Future Planned Projects (Sorted by Anticipated Schedule Date)

Project ID	Project Name	Location	Lead Agency	CSO Basin	Brief Project Scope	Status	Estimated Annual Runoff Reduction (gallons) ^a	Estimated Annual CSO Reduction (gallons) ^b	Current Estimated County Construction Cost ^c	Anticipated Schedule, If Known ^d
C-308	GIF # 201 Cooperative Federal	1217 N. Salina Street	Private	021	Porous Pavement	In Design	139,800	67,100	\$42,900	Anticipated completion by end of 2026
M-119	GIF #197 - Peace Inc. Martin Luther King Blvd.	138 Martin Luther King Blvd.	Private	039	Porous Pavement	In Design	163,500	78,480	\$50,800	Anticipated completion by end of 2026
H-93	GIF #200 – Kimbers, Inc.	115 N. Geddes Street	Private	Harbor Brook	Porous Pavement	In Design	1,397,800	670,944	\$200,000	Anticipated completion by end of 2026
C-293	Prospect Hill Green Corridor	Willow St between State St. and McBride St, Townsend St between Hickory St and James St	Onondaga County	021/080A	Street Trees, Infiltration Trench, Porous Pavement	Planning	2,600,000	1,248,000	\$2,371,000	Anticipated completion by end of 2027
C-294a	Rose Hill Cemetery Greening	Lodi St. Between Douglas, Highland, and East Willow St.	Onondaga County	020	Bioretention	Planning	2,257,000	1,083,360	\$1,256,000	Anticipated completion by end of 2028
C-294b	Highland Park Greening	Highland St. and Beecher St.	Onondaga County	020	Bioretention	Planning	257,000	123,360	\$345,000	Anticipated completion by end of 2028
M-120	East Side Interceptor Sewer Replacement	West Colvin St. and Kirk Park Drive to MIS Junction	Onondaga County	60M (060/077)	Sewer Replacement and Upsizing, Structure Reconfiguration	Planning	N/A	2,100,000	TBD	TBD

^a Estimated Annual Runoff Reduction is calculated based on the average annual rainfall for the CSS (39.34"). Upon completion of the projects, the projects will be entered into the SWMM model and SWMM model estimated calculations of runoff reductions will be provided in the Annual Plan Reports. Note that most gray infrastructure projects, except for sewer separations, do not provide runoff reduction.

^b For green infrastructure projects, estimated annual CSO reductions are calculated based on the system-wide average of CSO reduction volume equating to 48% of the annual runoff reduction volume. For gray infrastructure projects, estimated annual CSO reductions are provided from SWMM calculation estimates. Upon completion of the projects, the projects will be entered into the SWMM model and SWMM model estimated calculations of CSO reductions will be provided in the Annual Plan Reports. Gray infrastructure project estimated CSO reductions are based on preliminary SWMM modeling

^c Estimated cost and anticipated schedule for each project are subject to change. Any changes to the anticipated construction completion schedule will be submitted for review and approval by NYSDEC as part of future Annual Report submissions.

^d Anticipated schedule for each project is subject to change. Any changes to the anticipated construction completion schedule will be submitted for review and approval by NYSDEC as part of this and subsequent Annual Reports.



Section 2 - Combined Sewer Overflow Project Status

2.3 Interstate 81 Renovation

The Interstate 81 (I-81) Viaduct Project is a massive infrastructure improvement project planned by NYSDOT in the City of Syracuse. Phase 1 of the project are under construction currently, with Phase 2 in the design planning phase. For reference, NYSDOT's current phasing and schedule are provided in Appendix B. Specific to the County's CSO Abatement Program, I-81 passes through several combined sewersheds in the City and runoff from the currently elevated viaduct enters the combined sewer system in several locations. Through these combined sewersheds, NYSDOT plans on separating the stormwater from the combined sewers, from within their project limits and drainage areas, to new storm sewers and outfalls to Onondaga Creek.

In 2024, NYSDOT refined their stormwater management areas within the combined sewershed in close coordination with the County. An additional 6.1 acres will be managed by the storm sewer compared to the initial stormwater management plan included in NYSDOT's EIS. In total, 471.5 acres that are currently tributary to the combined sewer system will be separated to Onondaga Creek as part of the project (Figure 2-2). NYSDOT has committed to sizing the separate storm sewer receiving this runoff for the 50-year storm and providing "stubs" off the storm sewer for potential future sewer separation by the County to further reduce CSOs. The added capacity and "stubs" will provide the County with significant opportunity for further stormwater and CSO management after construction of the I-81 project.

Two specific projects included in Table 2-2 are being progressed by the County to align with the future stormwater separation of this area. The Fayette Street and Forman Avenue Sewer Separation projects (C-305a and C-305b) are planned to be constructed in advance of the I-81 project. Each project will feature a future connection point to the I-81 storm sewer to be constructed by NYSDOT. NYSDOT has committed to making the future connections when the storm sewer is built. The sewer separation projects will temporarily tie-back into the combined system until the I-81 storm sewer is constructed. These two sewer separation projects are estimated to remove 1,190,000 gallons of stormwater runoff from the combined system on an annual basis. The NYSDEC approved the construction documents for these projects in 2024, and construction is planned for late 2025 and 2026.

With the planned stormwater management areas currently in the EIS (excluding the sewer separation projects being progressed by the County), approximately 87 MG of runoff reduction from the CSS is estimated. This massive removal of volume from the CSS will benefit numerous CSOs along the MIS, most significantly CSOs 020, 021, 027, and 080/EBSS.

The County and NYSDOT also continued coordination on several other items related to the I-81 Viaduct Project, including the items listed below. The majority of these items have not been finalized and should not be construed as firm commitments by NYSDOT or the County at this time. These items are provided as information to the NYSDEC to show the County's continued progress on coordinating with NYSDOT on the I-81 project. It is anticipated that final agreements between NYSDOT and the County will be reached in the future, if not already noted. The County will be submitting a basis of design with more specifics on each item for NYSDEC approval and NYSDOT's design team will submit final construction documents for work related to County sewer infrastructure for NYSDEC approval as well.

- **Contract 4: Modifications in tributary flow to the EBSS and Burnet Trunk Sewer**

In 2024, NYSDOT began construction on Contract 4, which included modifications to the tributary flow to both the EBSS and Burnet Trunk Sewer. The updated tributary drainage areas to both sewers are reflected in Figure 2-3. The stormwater infrastructure work in Contract 4 is an interim phase of work until the

Section 2 - Combined Sewer Overflow Project Status

remainder of the storm trunk line and planned outfall to Onondaga Creek are completed under Contract 6A by NYSDOT. There are no CSO reduction benefits resulting from this work. However, the County coordinated closely with NYSDOT on the work in Contract 4 and required NYSDOT to include temporary stormwater storage facilities within the Contract 4 work to ensure that there were no detrimental impacts or increases in surcharge in County-owned sewers resulting from the planned work, in the interim, or final conditions, when the full storm trunk line work is completed. All of this work is funded by NYSDOT.

- **Contract 5: Colvin Trunk Sewer Relocation**

Due to NYSDOT's highway infrastructure work and the level of disturbance near and directly to the Colvin Trunk Sewer, relocation of the sewer was deemed necessary by both NYSDOT and the County. The sewer replacement limits are shown in Figure 2-4. In 2024, the County coordinated with NYSDOT on their design and submitted the Basis of Design Report for the planned work, which was approved by NYSDEC. At the end of 2024, NYSDOT submitted their construction documents for NYSDEC review and approval. Construction work on the Colvin Trunk Sewer is planned to occur during 2025. There are no CSO reduction benefits resulting from this work. This work is funded by NYSDOT.

- **Contract 6: Potential Modifications to the Butternut and Burnet Trunk Sewers and Floatables Control Facilities**

The County and NYSDOT are working on an approach to relocate and replace portions of both the Butternut and Burnet trunk sewers as both trunk sewers are in conflict with NYSDOT's planned highway infrastructure. The current plan is to relocate and combine both trunk sewers into one larger sewer with a new connection to the MIS and one new overflow outfall to Onondaga Creek (Figure 2-5).

The County also identified this planned work as a potential opportunity to address their aging Burnet and Butternut Floatables Control Facilities (FCF) which utilize net bags to screen all sewer flow (not just overflow). The potential inclusion of a new FCF screening floatables via a mechanical bar screen and rake prior to the new CSO outfall in the project is being coordinated with NYSDOT currently. No final decisions or plans on these items have been developed at this time, and the approach may change as coordination with NYSDOT continues to evolve. The County will continue to keep the NYSDEC informed of their plans related to this work in the future.

- **Contract 6: Modification of the Burnet trunk sewer and CSO 080A regulator at James Street to improve combined sewer system performance and reduce CSOs**

Currently a serpentine "S" exists in the Burnet trunk sewer that is a maintenance challenge for the County and is in conflict with NYSDOT's planned highway infrastructure (Figure 2-6). Furthermore, the adjacent CSO 080A regulator has the potential to be optimized to improve CSO performance. The County and NYSDOT are planning to include this work in the project, funded by NYSDOT. Once the design is advanced, a Basis of Design Engineering Report for these items will be submitted to NYSDEC for review and approval.

- **Contract 7: Replacement of the Hiawatha Trunk Sewer crossing I-81**

Presently, the Hiawatha trunk sewer crossing I-81 is mostly 33" diameter, except for approximately 100 linear feet of pipe that is 18" diameter (Figure 2-7). SWMM modeling has indicated that this 18" pipe constriction has the potential to cause manhole flooding during large storms. Therefore, the County desires replacing the entirety of the Hiawatha trunk sewer across I-81 and upsizing the portion of pipe that is currently 18" diameter to 33" diameter. The County and NYSDOT are planning to include this work in this

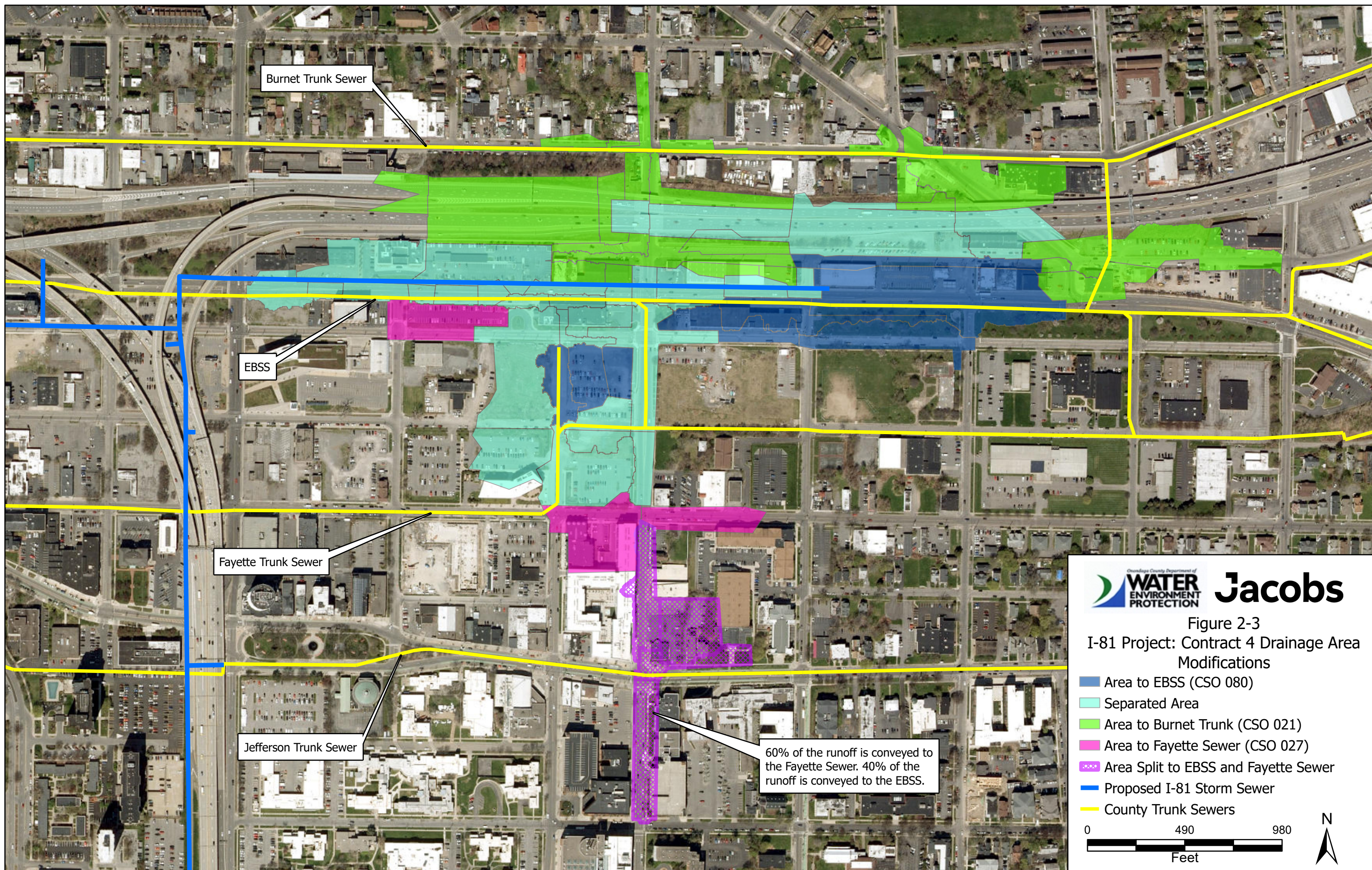
Section 2 - Combined Sewer Overflow Project Status

project, funded by the County. In the future, the County will submit a Basis of Design Engineering Report for this item to the NYSDEC for approval.

- **Contract 8: Conflicts with the proposed I-81 storm sewer work and existing County-owned trunk sewers**

In 2024, the County and NYSDOT continued to develop protection and/or relocation details to resolve elevation conflicts with the new I-81 storm sewer for the County-owned trunk sewers along Erie Boulevard, Fayette Street, Jefferson Street, and Harrison Street as shown in Figure 2-8. The final actions will be funded by NYSDOT. Once the design is advanced, a Basis of Design Engineering Report will be submitted to NYSDEC for review and approval in regard to these trunk sewer modifications.

Each of these items offer significant potential for the County to further reduce CSOs and improve operability and maintainability of the CSS within and near the I-81 project limits. The County and NYSDOT will continue to coordinate with NYSDEC as this extremely important and impactful project evolves.



Burnet Trunk Sewer

EBSS

Fayette Trunk Sewer

Jefferson Trunk Sewer

60% of the runoff is conveyed to the Fayette Sewer. 40% of the runoff is conveyed to the EBSS.



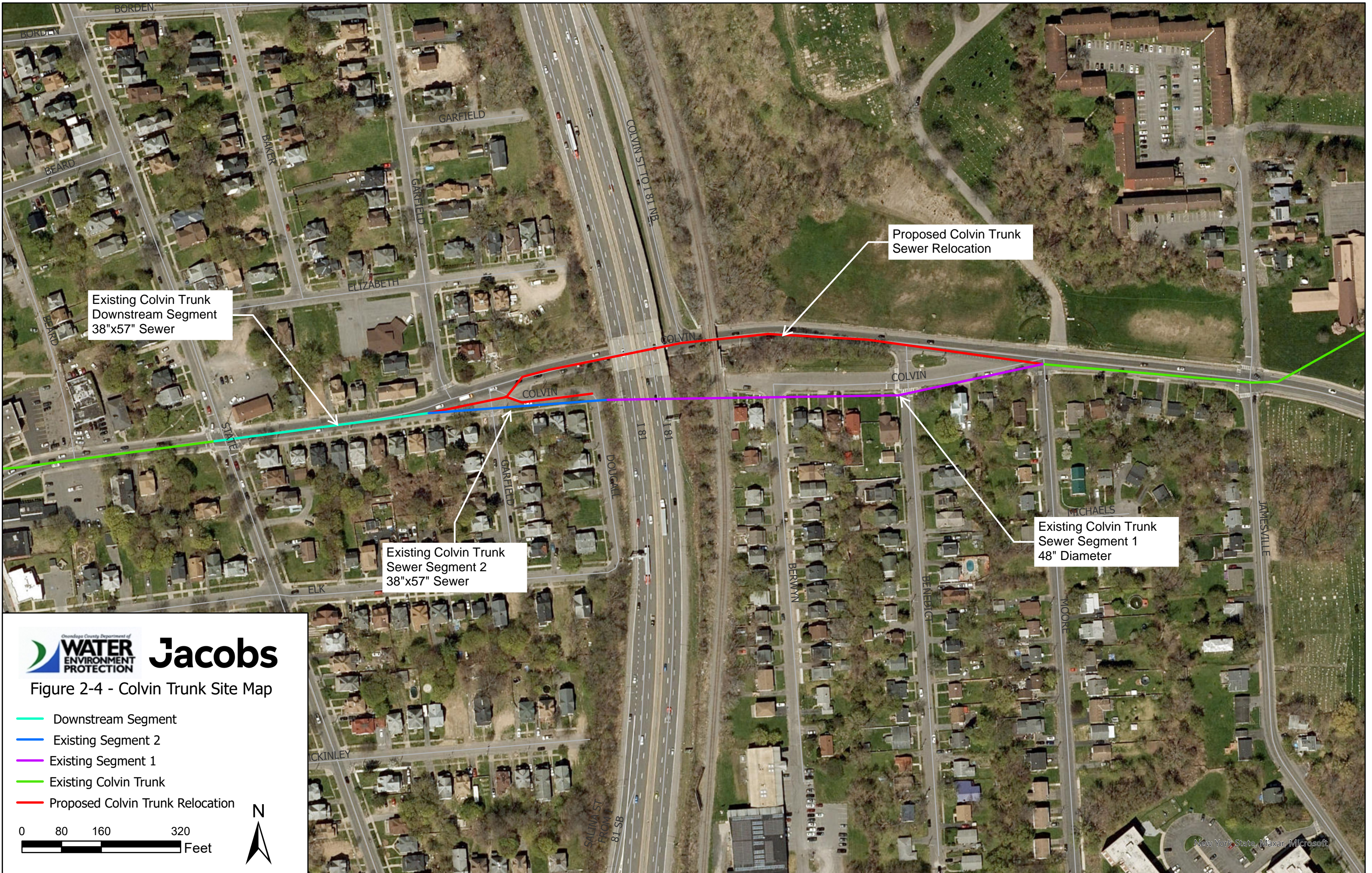

Jacobs

Figure 2-3
I-81 Project: Contract 4 Drainage Area Modifications

- Area to EBSS (CSO 080)
- Separated Area
- Area to Burnet Trunk (CSO 021)
- Area to Fayette Sewer (CSO 027)
- Area Split to EBSS and Fayette Sewer
- Proposed I-81 Storm Sewer
- County Trunk Sewers

0 490 980
 Feet

N




Existing Colvin Trunk
Downstream Segment
38"x57" Sewer

Proposed Colvin Trunk
Sewer Relocation

Existing Colvin Trunk
Sewer Segment 2
38"x57" Sewer

Existing Colvin Trunk
Sewer Segment 1
48" Diameter



Figure 2-4 - Colvin Trunk Site Map

- Downstream Segment
- Existing Segment 2
- Existing Segment 1
- Existing Colvin Trunk
- Proposed Colvin Trunk Relocation

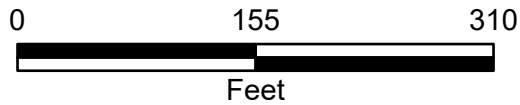
0 80 160 320
Feet



Figure 2-5

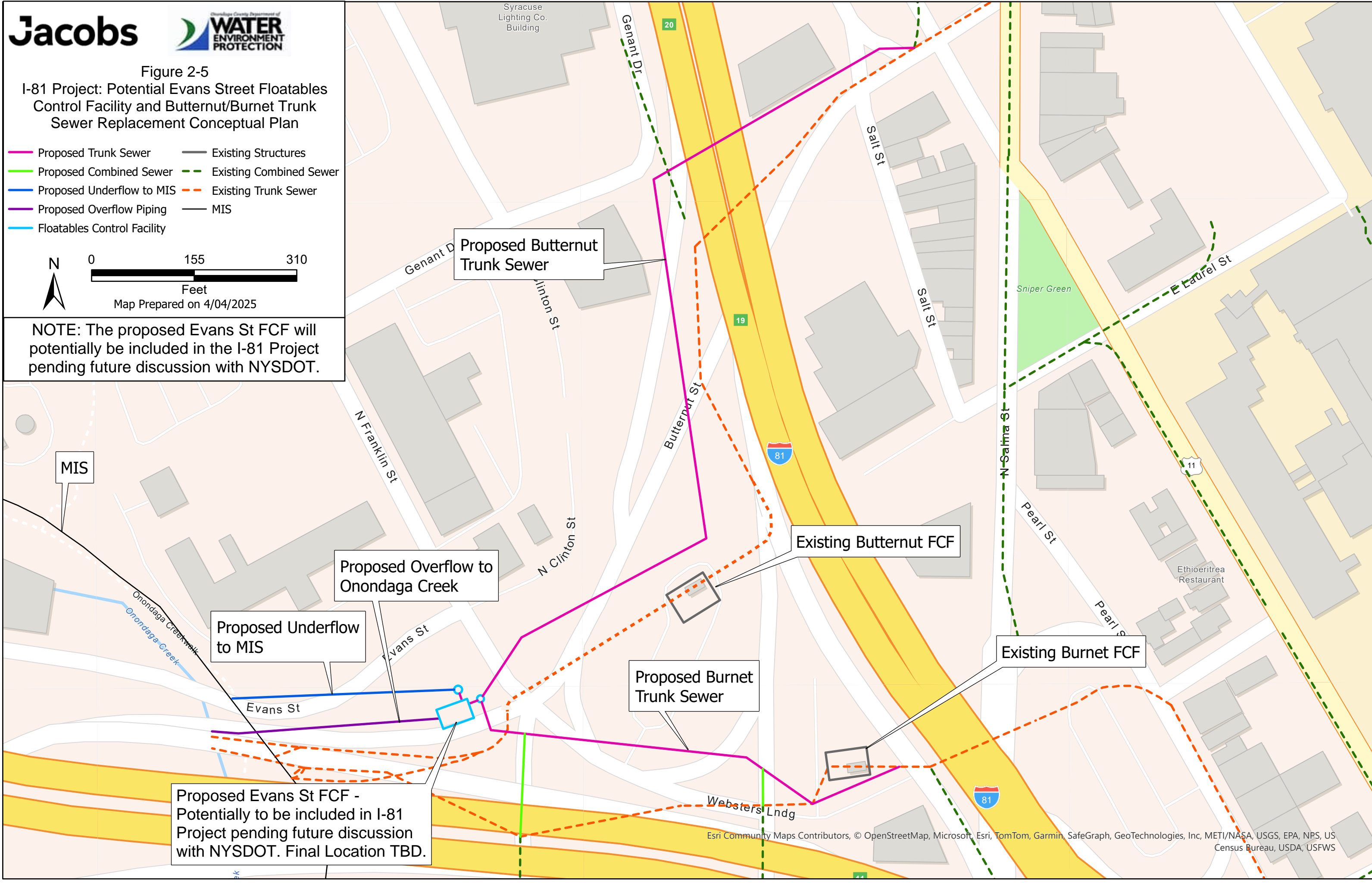
I-81 Project: Potential Evans Street Floatables Control Facility and Butternut/Burnet Trunk Sewer Replacement Conceptual Plan

- Proposed Trunk Sewer
- Proposed Combined Sewer
- Proposed Underflow to MIS
- Proposed Overflow Piping
- Floatables Control Facility
- Existing Structures
- Existing Combined Sewer
- Existing Trunk Sewer
- MIS



Map Prepared on 4/04/2025

NOTE: The proposed Evans St FCF will potentially be included in the I-81 Project pending future discussion with NYSDOT.



MIS

Proposed Butternut Trunk Sewer

Existing Butternut FCF

Proposed Overflow to Onondaga Creek

Proposed Underflow to MIS

Proposed Burnet Trunk Sewer

Existing Burnet FCF

Proposed Evans St FCF - Potentially to be included in I-81 Project pending future discussion with NYSDOT. Final Location TBD.

Figure 2-6
I-81 Viaduct Project
Proposed Burnet Trunk Sewer Modification

- Existing Combined Sewer
- Existing Trunk Sewer
- Existing Storm Sewer
- EBSS
- Existing Burnet Trunk Sewer
- Proposed Burnet Trunk Sewer

0 120 240
Feet
Map Prepared on 4/04/2025

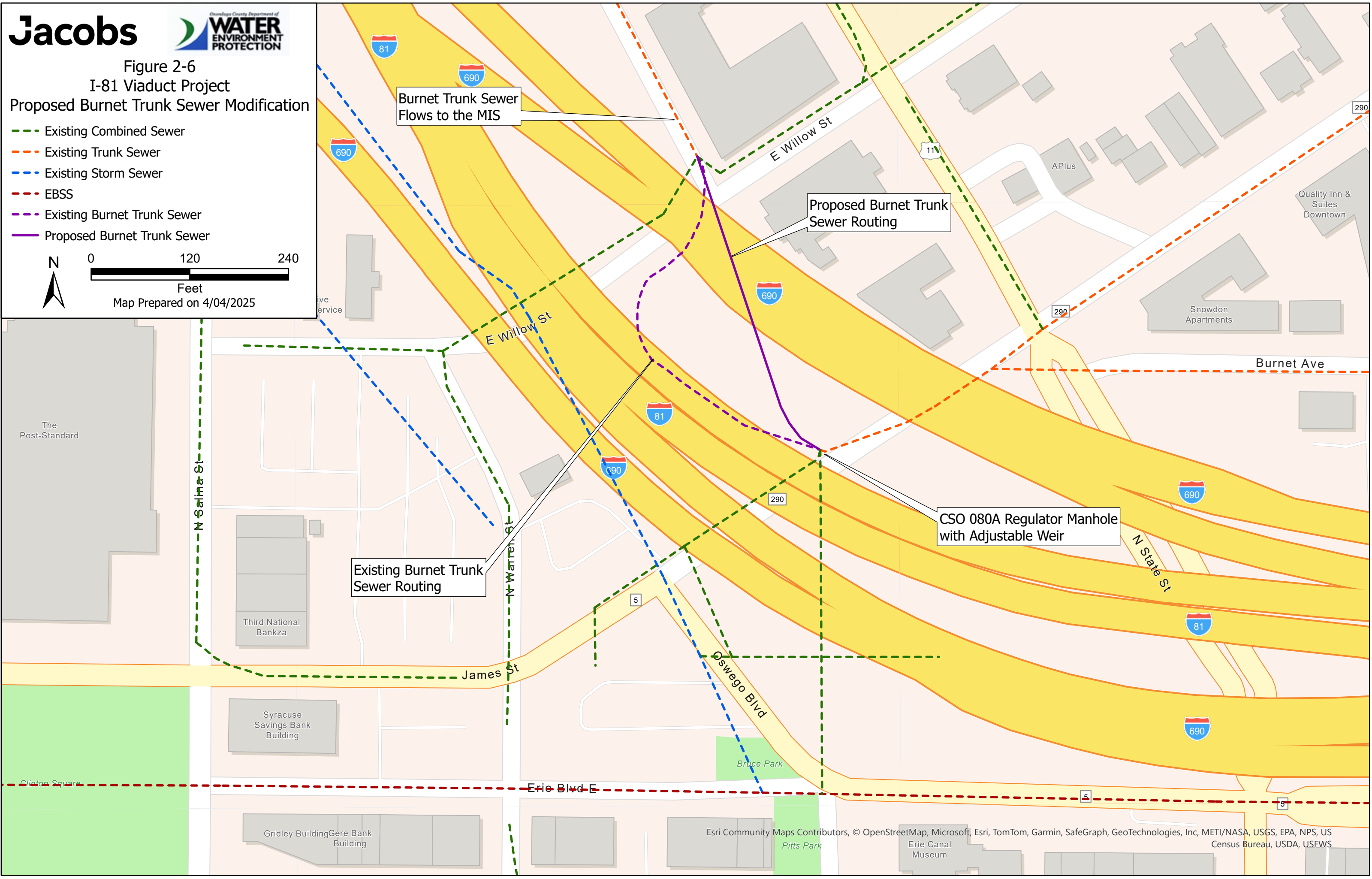
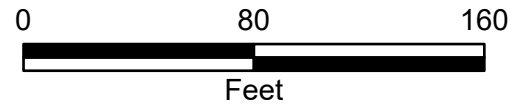


Figure 2-7

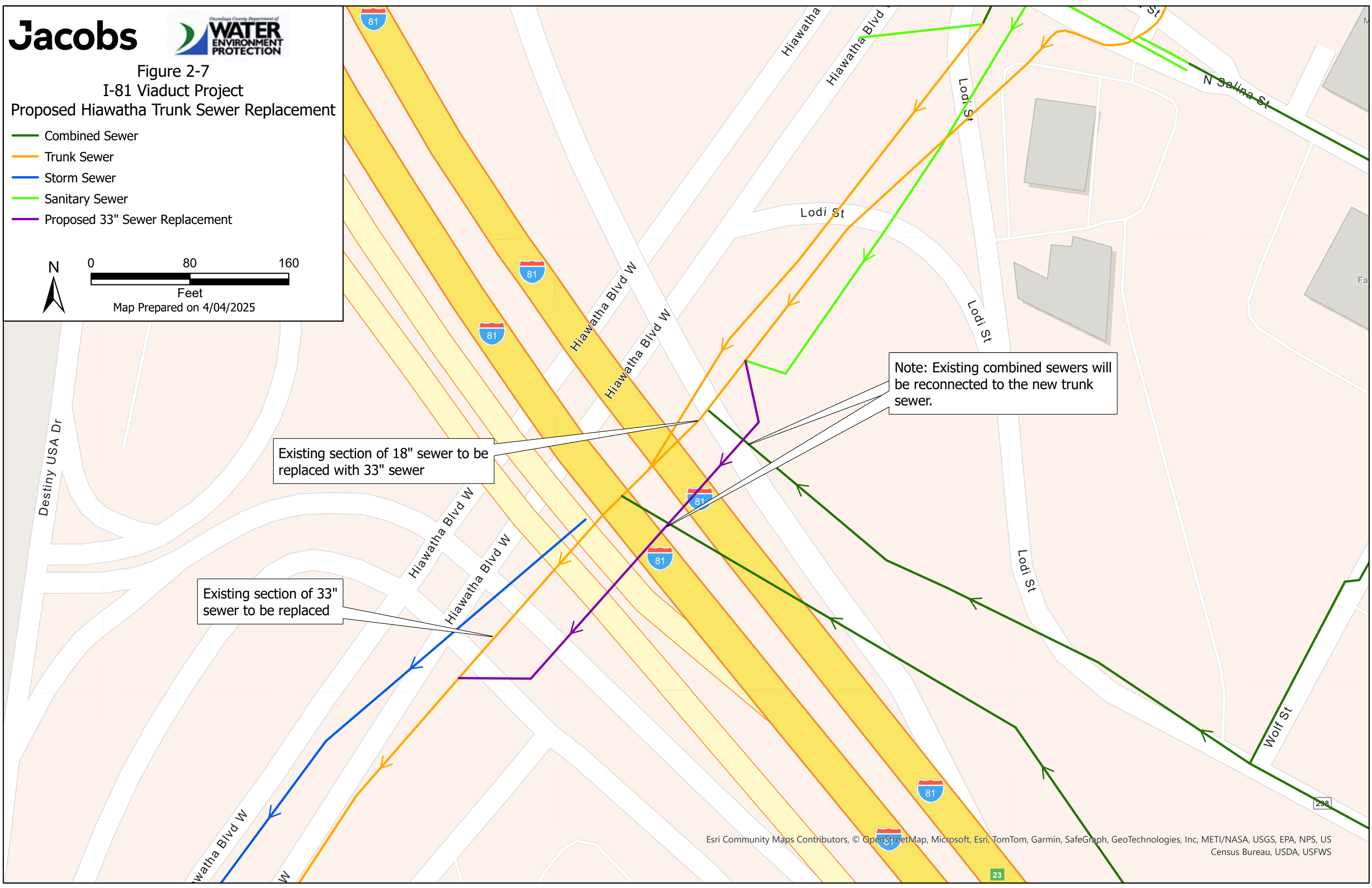
I-81 Viaduct Project

Proposed Hiawatha Trunk Sewer Replacement

- Combined Sewer
- Trunk Sewer
- Storm Sewer
- Sanitary Sewer
- Proposed 33" Sewer Replacement



Map Prepared on 4/04/2025



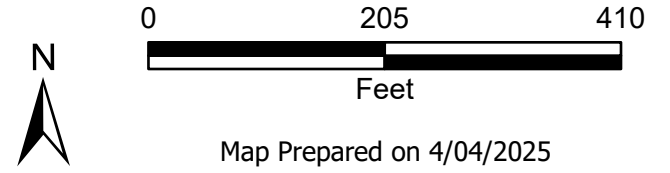
Existing section of 18" sewer to be replaced with 33" sewer

Existing section of 33" sewer to be replaced

Note: Existing combined sewers will be reconnected to the new trunk sewer.

Figure 2-8
I-81 Viaduct Project
Storm Sewer Conflicts to Existing Trunk Sewer
System

- DOT Proposed Storm Sewer Trunk Line
- Existing Trunk Sewer
- EBSS



3. SWMM Update

The County has maintained a stormwater management model (SWMM) of the CSS using USEPA Stormwater Management Model, a USEPA software package, since 2012. The SWMM is one of the primary tools for estimating CSO volume and frequency as well as forecasting the effectiveness of potential system improvements. The County completed an update to the model in 2024 using USEPA Stormwater Management Model software version 5.1.010. This update of the model is now referred to as the “2024 conditions model.”

3.1 2024 Conditions Model Update

The 2024 conditions model was developed by updating the 2022 conditions model to reflect changes to the system that occurred during 2023 and 2024. The 2024 conditions model updates were based on design and as-built drawings for recently completed projects and other updates described in the following summary:

- Two green infrastructure projects completed in 2023
 - M-118: GIF #186 SUNY ESF Marshall Hall
 - C-287: GIF #189 InterFaith Works
- One gray infrastructure project completed in 2023
 - M-116: CSO 052 Regulator Modification
- Two green infrastructure projects completed in 2024
 - M-117: GIF #185 Evergreen Manufacturing
 - C-273: Butternut Street Green Corridor
- 1 to 1 Offset Project Updates (Section 3.1.1)
- Metro WWTP SWMM Model Adjustments (Section 3.1.2)
- Hiawatha Regional Treatment Facility Model Adjustments (Section 3.1.3)



Figure 3-1. CSO 052 Regulator Modification SWMM model Update

3.1.1 1 to 1 Offset Project Updates

The 1-to-1 offset program is a program that was established by the City and County to ensure that new developments or changes to existing properties do not negatively impact the combined sewer system. For every one gallon of flow added to the combined sewer system, it is required that one gallon be removed by other means, such as stormwater management practices, sewer lining, manhole lining etc. Provided below in Table 3-1 is a summary of the 1-to-1 offset projects completed within the combined sewer system to date that were added to in the 2024 Conditions SWMM update. Note that there have been additional 1-to-1 offset projects completed, however, they were small in size and would not create a noticeable difference in the SWMM results.

Table 3-1. 1-to-1 Offset Projects Added to the 2024 Conditions SWMM

Project Name	Address	CSO Basin	1-to-1 Offset Approach
Southside Genesee Associates, LLC – Walnut Avenue Apartments	500 Block of Walnut Avenue (between Madison & E. Genesee)	CSO 030	Sewer Lining
Syracuse 727, LLC – Campus Plaza	700 Block of South Crouse Avenue (between Marshall & Adams)	CSO 080	Sewer Lining
Catholic Charities of Onondaga – Housing Services Center	200 Block of Lexington Avenue	CSO 030	Sewer Lining
BVSHSSF Syracuse, LLC – Peak Campus	919 East Genesee Street	CSO 027	Underground Storage Tank
Comstock Avenue Apartments	106-108 Comstock Avenue	CSO 030	Roof Leader Disconnects and Underground Infiltration Trench

3.1.2 Metro WWTP SWMM Model Adjustments

In an effort to continuously maintain and update the SWMM model to be representative of actual conditions, the County completed an adjustment to the Metro WWTP and Harbor Brook Pump Station in SWMM as part of the 2024 Conditions update. The Metro WWTP has been a part of the SWMM model since 2013. The Harbor Brook and Onondaga Creek sewershed areas have since been calibrated, however very few changes have been made to the Metro WWTP in the model over the years. The purpose of this adjustment is to ensure that the SWMM model accurately represents the current conditions at Metro WWTP and the CSO 01B outfall and generally remains conservative for its calculation of estimated CSO discharges from the entire combined sewer system. The 01B outfall is a Metro permitted SPDES discharge and is considered a CSO for SWMM model purposes.

The model was updated by confirming the pump information for the Metro Low Lift Pump Station and the Harbor Brook Pump Station, as well as updating the model’s representation of the CSO 01B overflow structure

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to match actual metered flow data at the facilities. The model's representation of the Metro WWTP is shown in Figure 3-2.

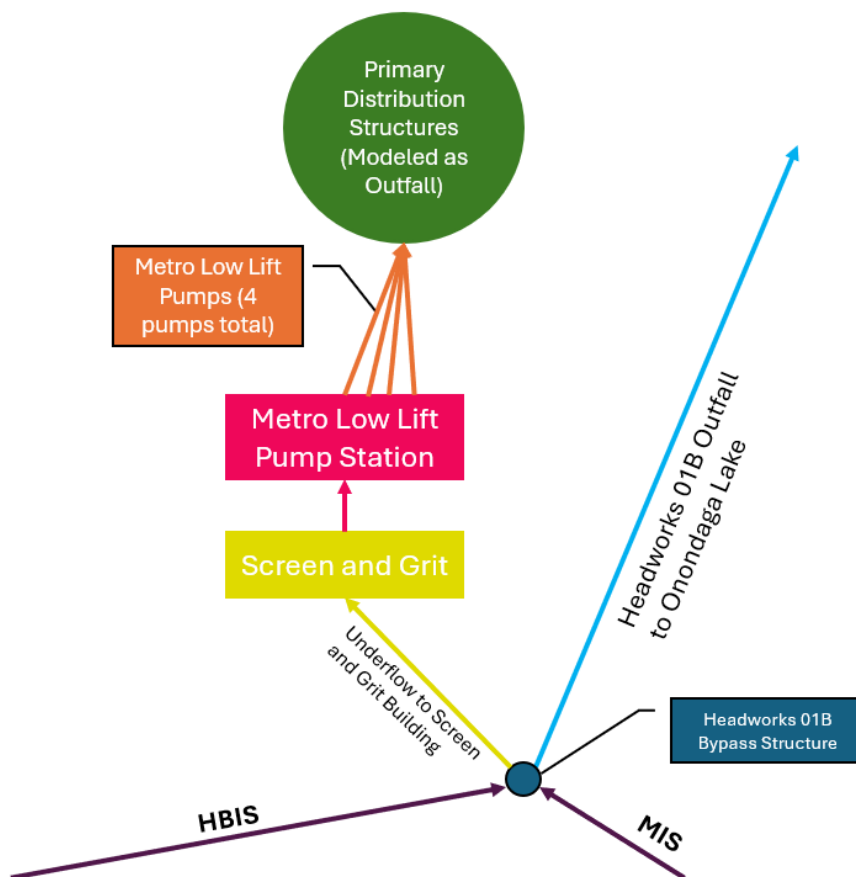


Figure 3-2. Metro WWTP SWMM Model Representation Diagram

The model was adjusted based on actual or calculated flow data from the Harbor Brook Pump Station and Metro WWTP, including the CSO 01B overflow structure and main outfall at Metro WWTP to increase accuracy. The analysis was completed using five years of bypass volume data from CSO 01B (2018 – 2022), which included 14 discharge events from the CSO 01B outfall in total. The total annual CSO discharge volume from CSO 01B is reported in Table 3-2, along with the model reported CSO 01B discharge volumes for the annual rainfall before and after the model adjustments and updates were made.

Table 3-2. Metro WWTP Model Adjustment – Total Annual CSO 01B Discharge Volumes

Year	Metro Headworks Bypass Volume (MG)	Original Model		Model Update	
		Modeled Overflow Volume (MG)	Difference (MG)	Modeled Overflow Volume (MG)	Difference (MG)
2018	15.5	0	-15.5	1.5	-14.0
2019	0.2	0	-0.2	1.2	+1.0
2020	0	0	0	1.5	+1.5
2021	7.4	0	-7.4	2.0	-5.4
2022	0.5	0	-0.5	1.7	+1.2
Total	23.6	0	-23.6	7.9	-15.7

After the adjustment, the model reports discharge from CSO 01B on the dates when there were overflows from the facility. The total annual CSO 01B discharge volumes reported by the model after the adjustments slightly overestimate discharge volumes to ensure conservatism in the model.

Although the model more accurately and conservatively estimates discharges in the majority of years analyzed, it is seen in Table 3-2 that the model is still under reporting overflow volume for 2021 and 2018. It should be noted that the model was fully calibrated in 2014 with a maximum rainfall event volume of 1.94 inches. Two discharge events occurred in 2021 that spanned multiple days and were greater than 1.94 total inches of rainfall. They occurred on August 17-19, 2021, and October 25-27, 2021, and were 5.0 inches and 2.64 inches of rainfall respectively. In 2018, there was an extended rainfall event with rainfall greater than 1.94 inches, occurring on July 23 -25, 2018, with 3.61 inches of rain. Because these days reported a greater rainfall volume than the model is calibrated for, the accuracy of the results is negatively impacted. Additionally, in June 2018, discharges were impacted by construction at Metro, which is unable to be reproduced in the model and further impacted the under reporting of overflow volumes in 2018.

Aside from the heavy rain events in 2021 and 2018 and the construction impacts in 2018, the adjustments to the model have increased conservatism and better represent actual discharge conditions from the Metro 01B outfall.

This model adjustment was focused on the annual discharge volume and is meant to serve as an intermediary step before a full, future calibration. Because of the interconnectivity of the entire MIS sewershed, a full-scale metering campaign will be required to fine-tune and calibrate the modeled Metro WWTP and CSO 01B outfall in the future. It is recommended to complete this system-wide calibration post-construction of the I-81 Viaduct Project in the future as the changes in that project will impact nearly all CSOs along Onondaga Creek, including Metro 01B.

3.1.3 Hiawatha Regional Treatment Facility SWMM Model Adjustments

In an effort to continue to improve the accuracy of the Onondaga County SWMM Model, adjustments were made to the Hiawatha Regional Treatment Facility (RTF) in the model. Hiawatha RTF is located along Hiawatha Blvd. The facility manages combined sewer flows from the CSO 074 service area. CSO flow is conveyed to the facility where it passes through a bar screen and enters the swirl concentrator. The underflow from the concentrator flows to a wet well where underflow pumps discharge the flow to the Ley Creek Forcemain. As the level in the swirl concentrator rises, flow eventually overtops the weir and is conveyed to the storage tank. Similarly, as the level in the storage tank rises, flow eventually overtops the weir and enters the disinfection tank, which is connected to the CSO 074 outfall. After a wet weather event, slide gates are used to dewater the

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storage tank and the disinfection tank into the wet well where the flow is pumped to the Ley Creek Force Main and conveyed to Metro WWTP. Graphically this is shown in Figure 3-3.

Prior to the 2024 update, the Hiawatha RTF was modeled as an open outfall and used to determine when CSOs occurred at CSO 074. The 2024 model update included the bar screen, swirl concentrator, underflow piping, overflow weir, storage tank, disinfection tank, CSO outfall piping, and slide gates for dewatering. The underflow pumps and forcemain to Metro WWTP were also incorporated into the model. This addition increases the accuracy of the model at CSO 074, as well as accurately reflects the connection to the Ley Creek Force Main. The impacts of this change on model CSO estimates are minimal and resulted in no change to the 1991 TY CSO discharge volume estimates determined by the model.

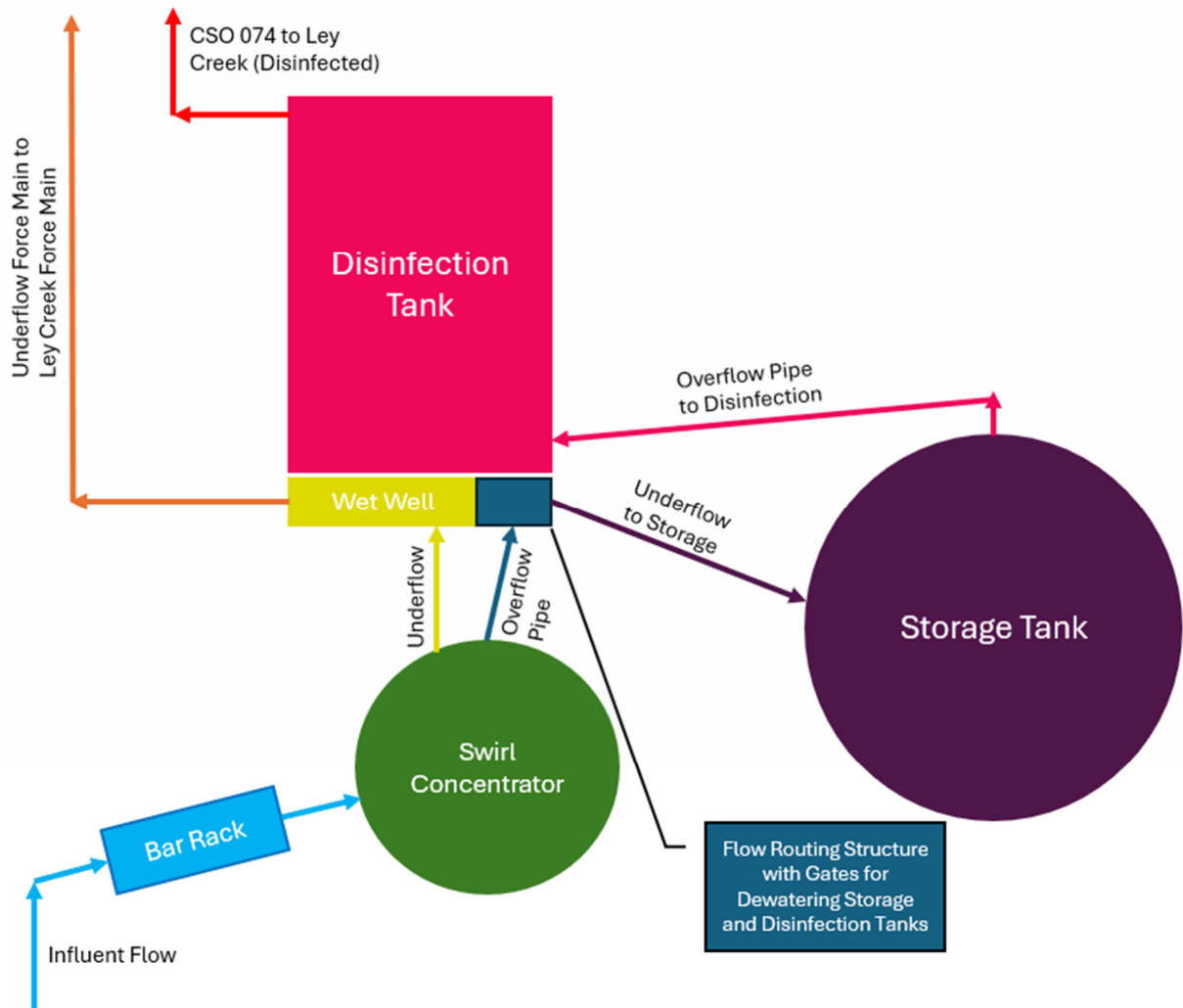


Figure 3-3. Hiawatha RTF Flow Diagram

This portion of the model will undergo calibration post-construction of the I-81 Viaduct Project in the future as the changes in that project will impact a large portion of the combined system.

3.1.4 2024 Conditions Model Results

The estimated CSO performance for the typical year (1991) rainfall was calculated using the 2024 conditions model. The 2024 conditions model includes the green and gray infrastructure projects completed through 2024, the 1 to 1 offset projects, the Metro WWTP SWMM Model Adjustments, and the Hiawatha RTF SWMM Model Adjustments as discussed above. The typical year model results are based on the simulation of multiple rainfall events and dry periods spanning an entire year. The typical year was selected by the County with approval by NYSDEC as a method to characterize the average long-term performance of the system, assess improvements that will be made with its facility plans, and as the basis for determining CSO capture and elimination. The typical year results are not applicable for, nor were they intended to be compared to, any specific year.

Additionally, the CSO performance was calculated for the 1-year, 2-hour design storm (a single storm event with 1.0 inches of total rainfall occurring over the span of 2 hours). The design storm is used by the County to size individual CSO control projects. The design storm is also used to determine the status of each CSO outfall.

There are three different classifications used to define CSO status; closed, operational, and abated. "Closed" is defined as a CSO outfall that no longer discharges under any storm event, including extreme events. "Operational" CSOs are open outfalls that discharge during the 1-year, 2-hour design storm. "Abated" CSOs do not discharge for storms up to the 1-year, 2-hour design storm, however they are still open outfalls and may discharge during larger storm events. CSO discharges equal to or less than 0.1 MG are considered the limit of model accuracy or model "noise" in the industry and are not considered to be actual CSO discharges. Abated CSO outfalls remain open for the safety and protection of the public and municipality's infrastructure during extreme storm events, including systemwide surface flooding conditions where sewer overflows are unavoidable.

The CSO performance results for 2024 conditions model for the typical year and the design storm are shown in Table 3-3. The typical year results represent the total discharge volume and total number of activations at each CSO during the 1991 typical year based on SWMM model results and are used to assess the impacts of the 2024 updates to the system and determine the annual capture of the system, which is further detailed in Section 3.3. The 1-year, 2-hour storm results represent the total discharge volume at each CSO during the 1-year, 2-hour design storm based on SWMM model results, and report the status of each CSO. Note that disinfected CSO outfalls from the Midland RTF and Hiawatha RTF are not included.

The 2024 conditions model predicts a total CSO discharge volume of 111.6 MG for the typical year. There was no change in CSO outfall status for any CSOs in 2024. Further discussion of the results from Table 3-3 are provided in Section 3.3.

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Table 3-3. 2024 Conditions Model CSO Volume Results for the Typical Year and the 1-year, 2-hour Design Storm

Receiving Waterbody	CSO Outfall Number	Typical Year CSO Annual Volume (MG)	Typical Year Activation Frequency (number/yr)	1-Year, 2-Hour Design Storm CSO Volume (MG)	CSO Status
Harbor Brook	003	0	0	0	Abated
	004	0	0	0	Abated
	04A (LHBSF)	0	0	0	Abated
	005	0.5	3	0	Abated
	006	0	0	0	Abated
	06A	0.1	1	0	Abated
	007	2.6	8	0.2	Operational
	009	1.8	6	0.4	Operational
	010	0	0	0.1	Abated ¹
	011	0.5	4	0.1	Operational
	014	0.6	3	0.3	Operational
	015	0.3	2	0.2	Operational
	017	0	0	0	Abated
	018	0	0	0	Abated
	63A	0	0	0	Abated
	078	0	0	0	Abated
Onondaga Creek	020	21.2	17	2.7	Operational
	021	43.6	29	3.0	Operational
	027	17.5	18	1.3	Operational
	028	0.4	3	0	Abated
	029	0.8	5	0.2	Operational
	030	0	0	0	Abated
	031	0	0	0	Abated
	032	0	0	0	Abated
	033	0	0	0	Abated
	33A (CSF)	9.6	3	0	Abated
	034	0	0	0	Abated
	035	0	0	0	Abated
	036	0	0	0	Abated
	037	0	0	0	Abated
	039	0	0	0	Abated
	042	0	0	0	Abated
044	0	0	0	Abated	
052	0	0	0	Abated	

Table 3-3. 2024 Conditions Model CSO Volume Results for the Typical Year and the 1-year, 2-hour Design Storm

Receiving Waterbody	CSO Outfall Number	Typical Year CSO Annual Volume (MG)	Typical Year Activation Frequency (number/yr)	1-Year, 2-Hour Design Storm CSO Volume (MG)	CSO Status
Onondaga Creek	60M (060/077)	0	0	0	Abated
	066	4.7	14	0.4	Operational
	067	0	0	0	Abated
	071	0	0	0	Abated
	075	0	0	0	Abated
	076	0	0	0	Abated
	080	1.3	3	0	Abated
Ley Creek	073	4.4	9	1.2	Operational
Onondaga Lake	01B (Metro)	1.7	9	0	Abated
Total Volume / Max Activations		111.6	29	10.2	-

¹ CSO 010 is labeled as abated because it has 0 discharges and 0 volume for the Typical Year and the discharge volume for the design storm (0.1 MG) is minimal.

3.2 Comparison of 2024 CSO Meter Data to SWMM Estimates

The CSO volumes and frequencies estimated by the County's 2024 conditions SWMM model for the 2024 rainfall were compared to 2024 CSO meter data, as required by the Order. The comparison was performed at seven CSO outfalls. Results of the comparison are presented in Table 3-4 and discussed below. Details on the exclusion of select meter data for the comparison are provided in Section 3.2.1.

Table 3-4. Comparison of 2024 Annual SWMM Results to Meter Data

CSOs with notable discrepancies are shown in bold font

CSO	SWMM Estimated 2024 Discharge Volume ¹ (MG)	2024 Metered Discharge Volume ² (MG)	Difference in 2024 Volume (SWMM-Actual)	Number of 2024 SWMM Estimated Discharge Events ¹	Number of 2024 Actual Metered Discharge Events ²	Difference in 2024 Frequency (SWMM-Actual)
04A	0.00	0.00	0.00	0	0	0
018	0.00	1.43	-1.43	0	3	-3
33A	4.36	4.44	-0.08	3	3	0
066	4.74	11.21	-6.92	23	23	0
067	0.00	0.00	0.00	0	0	0
073	4.13	4.36	-0.22	10	13	-3
080	0.00	0.42	-0.42	0	1	-1

¹ SWMM results based on the 2024 precipitation record from Metro WWTP

² Refer to Section 3.2.1 for discussion on exclusion of select meter data. Note that the data used in the comparison does not include all the flow meter data reported in Table 4-2.

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For five of the seven outfalls, the difference between the SWMM model and actual metered data was less than 1 MG for overflow volumes and less than or equal to 3 for activation frequency. Each of these five outfalls were previously calibrated in SWMM. These results indicate that the County's SWMM is performing well in estimating conditions at these metered outfalls.

Differences in SWMM estimates and actual metered data for the remaining two outfalls assessed in the comparison are explained as follows:

- The SWMM underestimated the discharge volume for CSO 018. Discharges at CSO 018 are impacted by groundwater and rainfall entering the constructed wetland cells directly, which is not reflected in the model, and therefore led to an underestimate of overflow volume from the wetland compared to actual meter data. It is not possible to determine the CSO overflow versus the backflow, groundwater, and rainfall volume from the metered data.
- The SWMM underestimated the discharge volume from CSO 066. This overflow has not been previously calibrated in the County's SWMM due to poor quality meter data caused by backflow conditions from Onondaga Creek and surcharge conditions within the CSO 066 sewer during overflow events. Further, the backflow conditions have the potential to increase the metered overflow volume from CSO 066. However, it is not possible to determine CSO overflow versus backflow volume from the metered data. Note that the County is progressing a CSO regulator modification project as noted in Section 2 (Table 2-2, project C-277) for future implementation to improve the connection of the CSO 066 sewer to the MIS and allow for accurate metering for a future calibration of CSO 066.

3.2.1 Data Selection for SWMM to Meter Data Comparison

Details related to the selection of meter data used for the 2024 SWMM to meter data comparison are as follows:

- Overflows that resulted in discharge of less than 0.1 MG were not included in this analysis. CSO discharges equal to or less than 0.1 MG are considered the limit of model accuracy or model "noise" based on industry standard, and therefore are not expected to reflect an accurate comparison to metered data.
- CSOs that are treated and disinfected (074 and M01) were not included in this comparison.
- CSOs 014, 027, 044, 052, 60M, and 078 were representative CSOs that had flow meters removed in 2023. Therefore, they are not included in the analysis for 2024.
- CSOs 020 and 021 are metered; however, the meter is located upstream of the floatables facilities serving both outfalls. When the floatables facilities are in use, sewer flows surcharge upstream of the floatables facilities creating erroneously high and inaccurate overflow volumes from the two outfalls. Metering at the actual 020 and 021 outfalls is not feasible due to access constraints and high Creek levels at the outfalls. Therefore, CSOs 020 and 021 were not included in the SWMM comparison analysis. The County is progressing a significant modification project to these two outfalls and floatables facilities that will be included in the I-81 renovation project as discussed in Section 2.
- The Harbor Brook CSO 018 Constructed Wetlands Storage and Treatment Facility is metered, however certain dates were excluded from the data comparison for this CSO due to equipment malfunctions or contributions of groundwater and backflow from Harbor Brook to the wetland that caused discharges that are not modeled in SWMM. Refer to the 2024 Quarterly Performance Reports for detailed information on these events.

- Data recorded between August 8, 2024, and August 9, 2024, was excluded from the comparisons. A very large storm occurred on these dates that resulted in a larger amount of total rainfall than the SWMM model was calibrated to during the most recent calibrations. The SWMM data for CSO volumes on these dates does not provide an accurate representation of metered data and was excluded from this comparison.
- Discharge from CSO 080 is affected by high water levels in Onondaga Creek during larger storms that result in backflow or restriction of discharge from the outfalls. The level sensor downstream of the CSO 080 outfall was used to assess high creek levels. When the level sensor recorded 6 feet or greater of water elevation, the creek level is known to be at an elevation that is causing backflow and/or restricting CSO discharge. This occurred four in 2024: on January 26, July 16, August 6, and August 9. For this reason, an accurate comparison of SWMM estimates to actual metered data is not feasible at CSO 080 on these dates, and these data points have been excluded from the data presented in Table 3-4.



Harbor Brook CSO 018 Constructed Wetlands Storage and Treatment Facility

3.3 Annual Capture Results

The annual capture is defined as the percentage of the total volume of combined sewage collected by the system during precipitation on a system-wide annual average basis. This metric was used by the County to assess the progress of CSO reduction since the start of the now closed ACJ. Although not a metric required to be reported under the State Consent Order that the County entered into with the NYSDEC in 2021, the County will continue to report the annual capture percentage to summarize overall progress in abating CSOs. In 2024, the total volume discharged across all CSOs for the 1991 typical year storms was 111.6 MG, an increase of 3.8 MG from the 2022 model results, which is attributed to the updates made to the Metro WWTP in the model described above and their impact on the model. These updates added additional conservatism to model estimates. The estimated percent capture remained equal to the estimated percent capture in 2022 at 98.2 percent.

The capture results based on the 2024 conditions model are shown in Table 3-5. Column 4 of Table 3-5 shows the total estimated volume of combined sewage captured for the typical year (1991) compared to conditions in 2009, the year when implementation of green infrastructure started. The annual combined sewage volume capture for the typical year decreased to 657 MG in 2024 from 661 MG in 2022, which is attributed to the updates made to the Metro WWTP in the model described above and their impact on the model. These updates added additional conservatism to model estimates. This capture volume represents a combined contribution from various green and gray infrastructure projects and other CSS modifications completed since 2009.

The County's green infrastructure provides 210 MG of combined sewage capture via runoff reduction to the combined system, or 32% of the total combined sewage reduction to date. The completed gray infrastructure projects provide 447 MG of combined sewage capture (68% of the total to date) via the various gray infrastructure project technologies (storage, sewer separation, etc.).

Section 3 - SWMM Update

Table 3-5. 2024 Annual Capture Results¹

Receiving Waterbody	Average Annual Combined Sewage Volume Conveyed to Metro for Treatment (MG) ²	Additional Average Annual Combined Sewage Volume Captured by Green/Gray Infrastructure or Eliminated (MG) ⁴			Total Annual Combined Sewage Volume Captured or Eliminated (MG) ⁴	CSO to Creek/Brook (MG) ⁵	Total Annual Combined Sewage Volume Generated by the Metro Combined Sewer Service Area (MG) ²	Percent Capture of CSS Volume
		Green ³	Gray	Total				
	[1]	[2]	[3] = [4] - [2]	[4] = [7] - [1] - [6]	[5] = [1] + [4]	[6]	[7]	[8] = [5]/[7]
Harbor Brook	994	48	140	188	1,182	7	1,189	99.5%
Onondaga Creek	4,080	162	297	459	4,539	101	4,640	97.8%
Ley Creek	260	0	10	10	270	4	274	98.4%
Total	5,334	210	447	657	5,991	112	6,103	98.2%

¹ SWMM results based on the typical year (1991) rainfall record.

² Data source for [1] and [7]: Typical year results from the pre-green infrastructure conditions (2009) model.

³ Data source for [2]: Typical year results for green infrastructure performance from the calibrated 2024 conditions model. These are runoff (or inflow) reductions due to implementation of green infrastructure as summarized in Table 2-1 for each individual green infrastructure project.

⁴ Eliminated by sewer separation.

⁵ Data source for [6]: Typical year results from the calibrated 2024 conditions model. No headworks discharge is predicted from Outfall 01B at Metro during the typical year. Discharges from Outfall 002 are disinfected primary effluent bypassing secondary unit processes and are considered as treated effluent per USEPA CSO policy; therefore, they are not included as CSO volume.

4. Focused Post Construction Compliance Monitoring Program

This section summarizes the County's Focused CSO Post Construction Compliance Monitoring Program (PCCM) and includes discussion on flow metering, and water quality monitoring.

4.1 Regulatory Framework

4.1.1 Focused PCCM (State Order on Consent)

In order to address the continuing violations of AWQS in the CSO receiving tributaries, a violation of Environmental Conservation Law (ECL) §17-0501 (General prohibition against pollution), the County entered into a legal agreement via an Order on Consent (Order) with the NYSDEC on March 16, 2021 (Docket #R7-202100304-6). The Order became effective October 8, 2021, following the termination of the ACJ, and required the County to implement a Focused PCCM. From 2019 through 2024, the County transitioned from the ACJ to the State Order on Consent and continued to implement a water quality monitoring program focused on the three CSO tributaries (Onondaga Creek, Harbor Brook, and Ley Creek) to support the remaining obligations of the ACJ. As per Schedule A of the Order, where implemented, the Focused PCCM shall be consistent with the CSO Control Policy and EPA Guidance.

Specific objectives of the Focused PCCM are to:

1. Support the Use Attainability Analyses (UAAs) for Fecal Coliform
2. Continue tracking water quality improvements; and
3. Support the maintenance of the County's SWMM

4.2 CSO Flow Metering Program

The following section summarizes the status of the CSO Flow Metering Program implemented by the County to comply with regulatory requirements:

4.2.1 Metro SPDES Required Metering:

In 2024, metering continued at the SPDES compliance CSOs as per the Metro SPDES permit at the following CSO outfalls.

- 04A (Lower Harbor Brook Storage Facility)
- 018 (Harbor Brook CSO 018 Constructed Wetlands Storage and Treatment Facility)
- 020 (Butternut Floatables Control Facility)
- 021 (Burnet Floatables Control Facility)
- 33A (Clinton Storage Facility)
- 066 (Maltbie Floatables Control Facility)
- 067 (Newell Street Vortex Regulator)
- 073 (Teall Floatables Control Facility)
- 074 (Hiawatha Regional Treatment Facility)
- 080 (Erie Boulevard Storage System)
- M01 - Main Outfall and M02 - Emergency Bypass Outfall (Midland Regional Treatment Facility)

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Metering data collected at each of these CSOs are summarized in the Quarterly Performance Reports (QPR) submitted to the NYSDEC on a quarterly basis.

4.2.2 Metering to Support SWMM Model Recalibration

As per the 2021 State Order on Consent, a CSO Metering Program, subject to NYSDEC review and approval, is required to be submitted annually. To represent projects or improvements completed in the previous calendar year, the metering data are to be used to support the continued ongoing calibration and maintenance of the County's SWMM. SWMM is required to be updated on an annual basis and a re-calibration plan is to be proposed when projects or other system improvements have occurred that necessitate re-calibration of SWMM.

- **Harbor Brook SWMM Recalibration**

In the Harbor Brook combined sewershed, the County has progressed several CSO abatement projects, including CSO regulator modifications at CSOs 005, 010, and 011, since the 2016 calibration. The County proposed to recalibrate the portion of the SWMM representing the Harbor Brook sewershed to support the continued maintenance and utilization of the SWMM for system performance calculations.

As proposed in the ICMP, the County's plan for collecting flowmeter data to support the Harbor Brook SWMM model recalibration required extensive metering using 25 flowmeters and 10 level sensors, for one full year. Precipitation data recorded by the rain gauges at Metro and a newly installed gauge at Lower Harbor Brook Storage Facility will be utilized for the recalibration. With the execution of a contract for flow metering services in 2024, ADS Environmental Services started flow monitoring of Harbor Brook CSOs in May 2024, in accordance with the locations included in Table 4-1.

Based on review of the metering data collected thus far in 2024, nearly all of the data will be suitable for use in the SWMM calibration. Adjustments to the proposed metering plan as outlined in the ICMP occurred in the field based on data observations for two locations. Figure 4-1 reflects the current locations of the ongoing metering. Examples of the metering data collected are provided in Figure 4-2. Monthly metering results through the end of 2024 are provided in Appendix C. Metering will continue through May 2025 and the SWMM recalibration of the Harbor Brook sewersheds will occur thereafter. A full summary of the reviewed metering data along with the SWMM recalibration results will be provided in the 2025 Annual Plan Report.

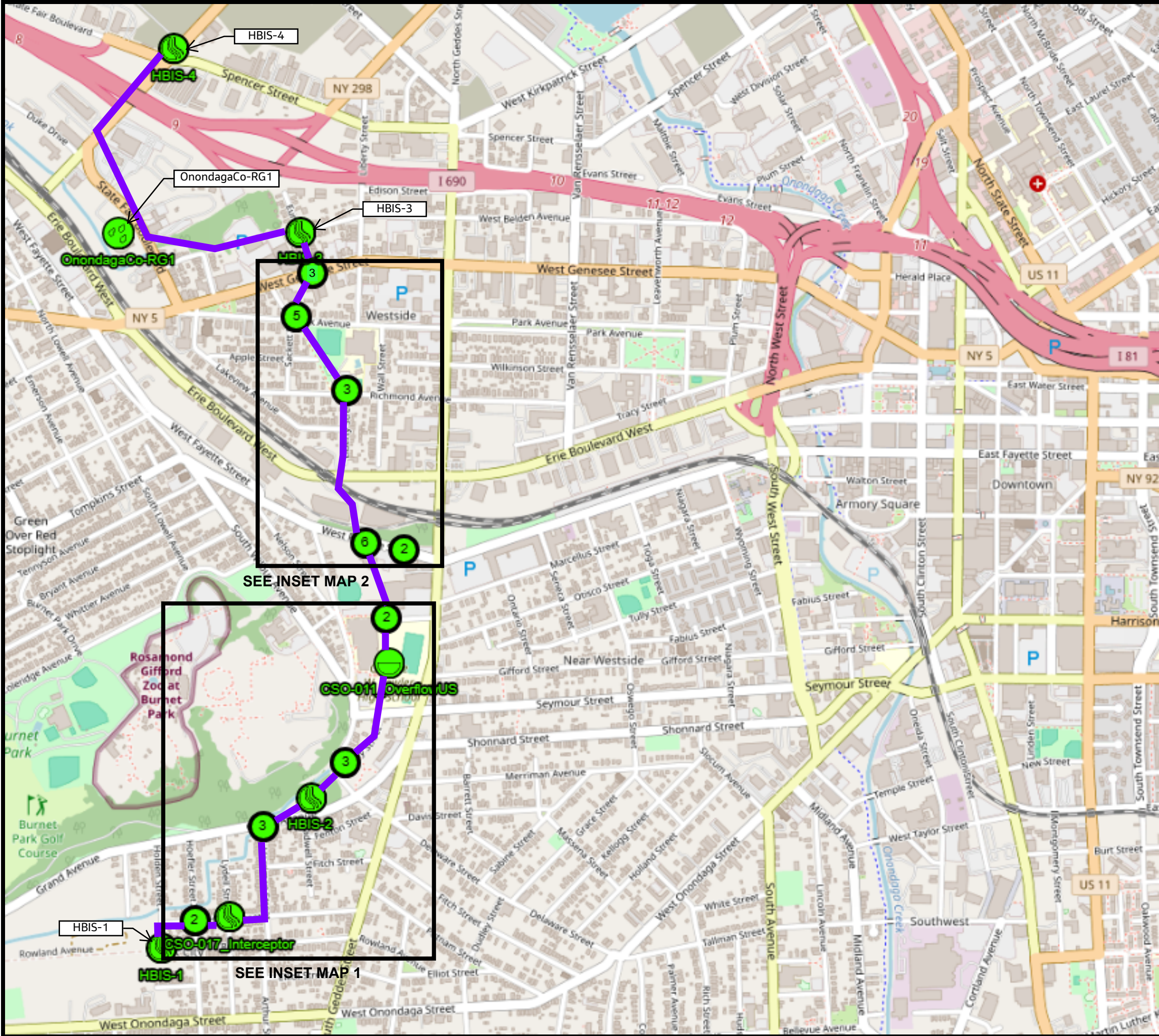
Section 4 – Focused Post Construction Compliance Monitoring Program

Table 4-1. Metering to Support the Harbor Brook Combined Sewershed Recalibration





CSO Outfall	Proposed Action	Duration of Metering
005	2 Flow Meters, 1 Level Sensor	1 year (5/2024-5/2025) ¹
006	1 Flow Meter, 1 Level Sensor	1 year (5/2024-5/2025) ¹
006A	1 Flow Meter, 2 Level Sensors	1 year (5/2024-5/2025) ¹
007	2 Flow Meters, 1 Level Sensor	1 year (5/2024-5/2025) ¹
009	2 Flow Meters, 1 Level Sensor	1 year (5/2024-5/2025) ¹
010	4 Flow Meters	1 year (5/2024-5/2025) ¹
011	2 Flow Meters, 1 Level Sensor	1 year (5/2024-5/2025) ¹
014	Utilize Existing Flow Meter Plus 2 New Flow Meters	1 year (5/2024-5/2025) ¹
015	2 Flow Meters, 1 Level Sensor	1 year (5/2024-5/2025) ¹
017	2 Flow Meters, 1 Level Sensor	1 year (5/2024-5/2025) ¹
Harbor Brook	1 Level Sensor	1 year (5/2024-5/2025) ¹
HBIS	4 Flow Meters	1 year (5/2024-5/2025) ¹


¹ If there is insufficient rainfall or storms to perform the calibration after the 1-year period, the metering to support the calibration would be extended.

HARBOR BROOK INTERCEPTOR METERING LOCATIONS



LEGEND

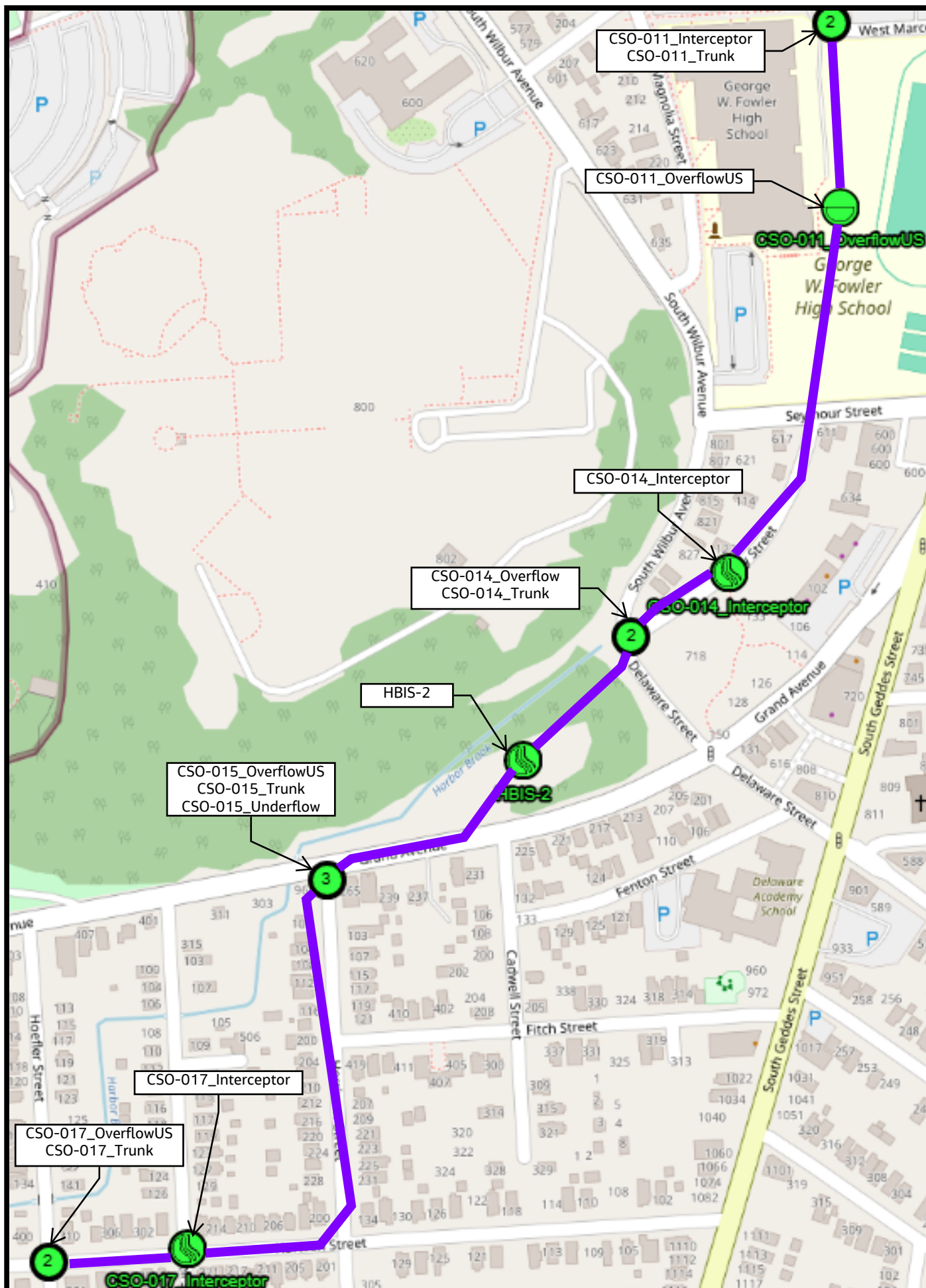
-  HARBOR BROOK INTERCEPTOR SEWER
-  ADS Depth Meter
-  ADS Depth/Flow/Velocimeter
-  ADS Rain Gauge

 Not Drawn to Scale

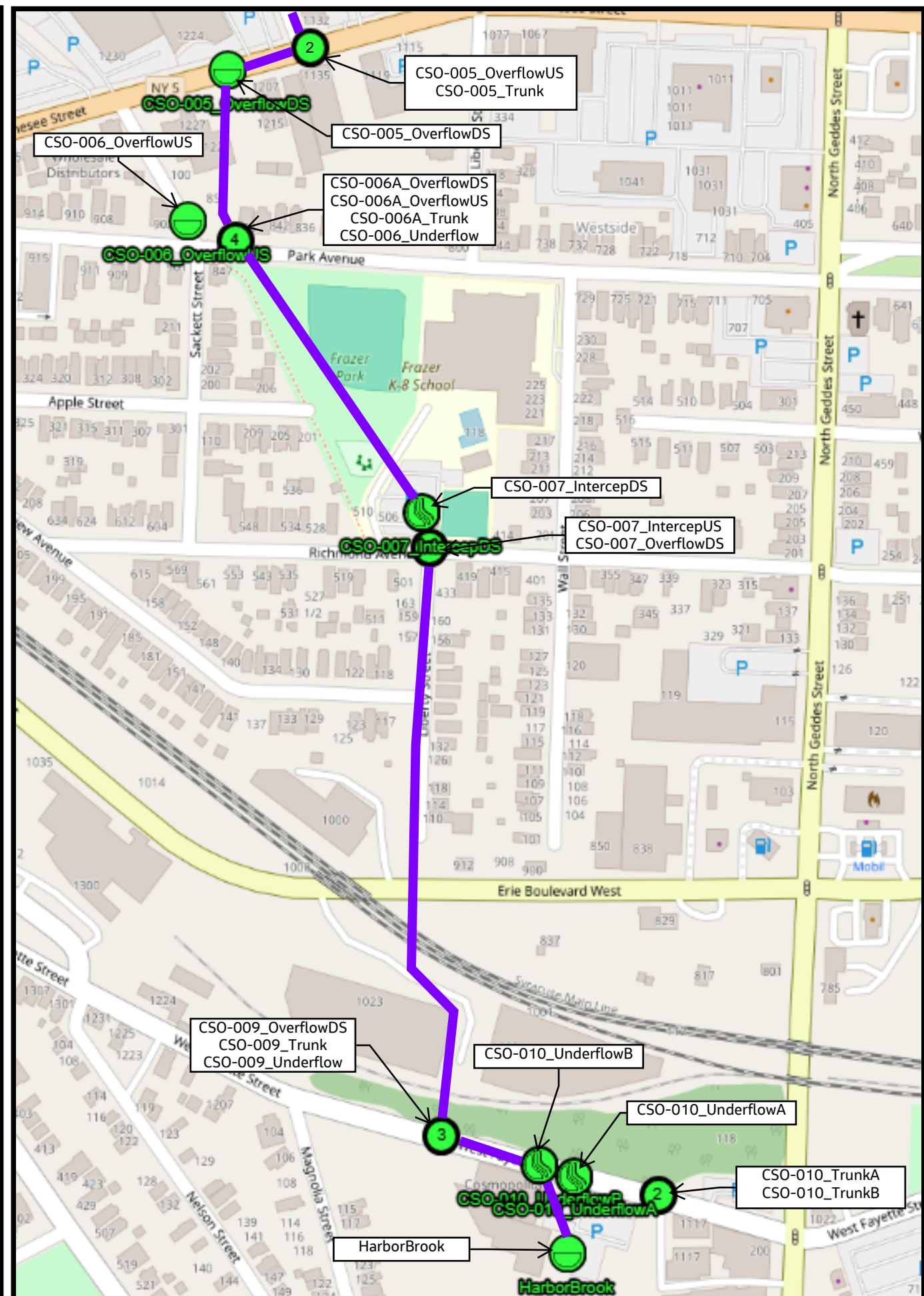
SEE INSET MAP 2

SEE INSET MAP 1





INSET MAP 1



INSET MAP 2

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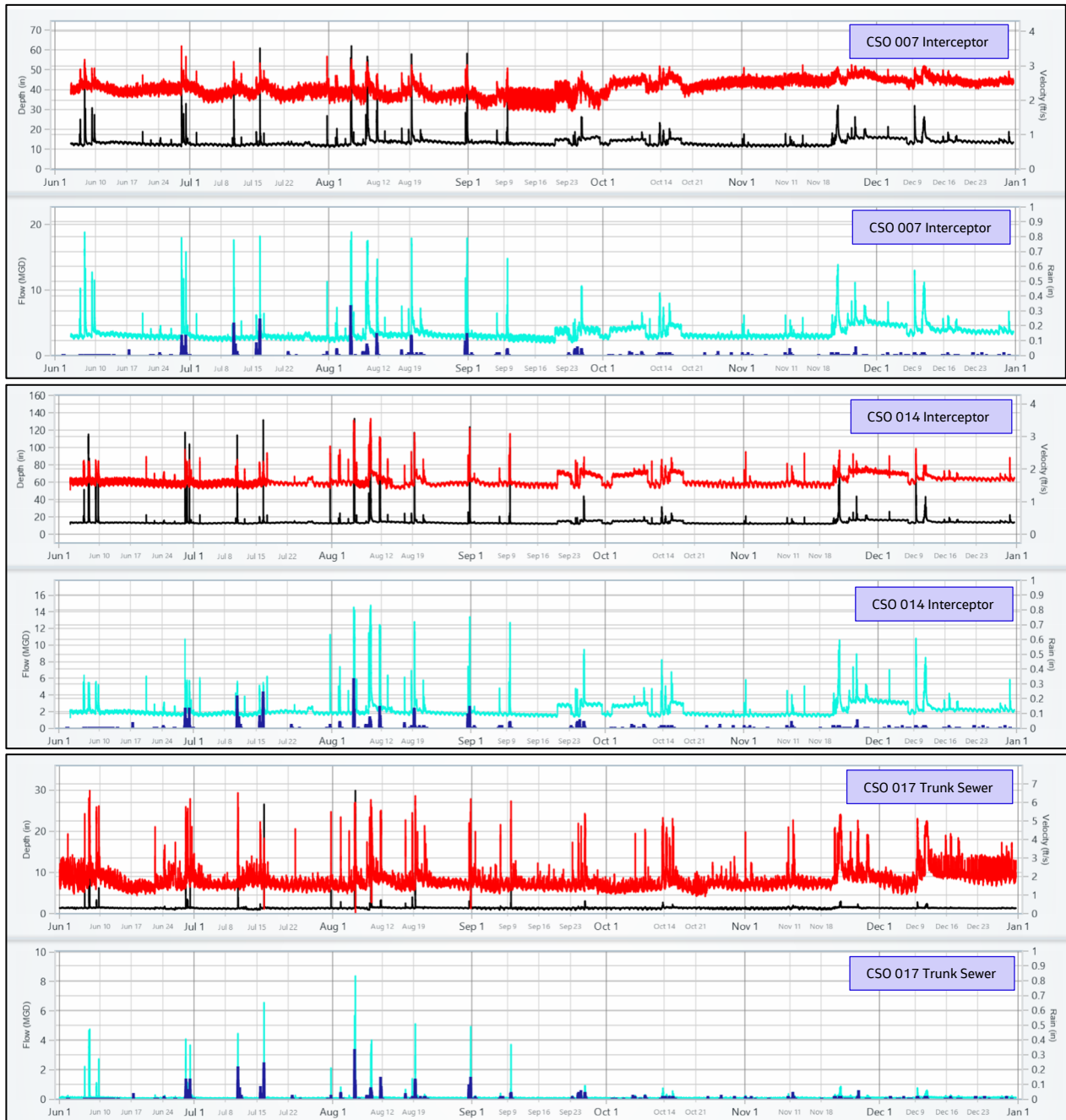


Figure 4-2. Examples of metering data collected in the Harbor Brook CSO Sewershed in 2024 for the future SWMM recalibration. Velocity is in red, depth in black, flow in cyan and, rainfall in dark blue, for reference. A full summary of the data collected, and future SWMM recalibration results will be provided in the 2025 Annual Plan Report.

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- **Onondaga Creek SWMM Recalibration**

The Onondaga Creek combined sewershed SWMM recalibration will occur post-construction of the I-81 Viaduct Project due to the significant changes that will occur to flows within the combined sewer system as discussed in Section 2.3. Updates on specific metering for projects that were completed are provided below.

- CSOs 028 and 029: Post-completion of the CSO 029 regulator modification project in 2022, the County planned to install a total of 10 flow meters or level sensors in 2023 to support the SWMM recalibration of CSOs 028 and 029. However, due to unanticipated delays in the County procurement of metering contractor, this was not completed. With the I-81 renovation project currently underway, this will be completed as part of the recalibration of the Onondaga Creek sewershed.
- CSO 067: Post-completion of the demolition of the CSO 067 Vortex Decommissioning project in 2025 (project M-108 in Table 2-3), a flow meter is being maintained to support the future SWMM recalibration of CSO 067 when the entire Onondaga Creek sewershed is recalibrated. The meter is also required as part of the Metro SPDES permit.

4.2.3 Metro Headworks Bypass Summary

To prevent hydraulic limitations to the treatment facility during extreme wet weather events, a portion of the Metro influent flow can bypass the headworks and discharge to Onondaga Lake. The Metro Headworks Bypass (01B) is a permitted discharge and is considered a CSO. Based on the long-term simulation results of the calibrated SWMM for the 1991 typical year rainfall conditions, there is one (1) event that causes a wet weather bypass at the Metro headworks during the typical year (1991). This occurs during the largest storm event in the typical year (more than 2" of rainfall in a 24-hour period). Other circumstances can lead to headworks bypasses that are not related to the size of wet weather events. Construction and maintenance activities can temporarily reduce the plant capacity. Equipment failures and unplanned emergency maintenance activities can also lead to headworks bypasses. In 2024, no headworks bypass events occurred.

4.3 CSO Water Quality Monitoring

4.3.1 CSO Facility Fecal Coliform Sampling

To assess contributions of CSOs to water quality in the receiving waters, water quality of CSOs (specifically fecal coliform) was characterized. The County's approach to characterizing CSO water quality entailed collection of samples from the influent chambers of multiple CSO storage and regional treatment facilities during wet weather. This approach was used due to concerns related to safe access to individual CSO outfalls during discharge for collection of grab fecal coliform samples during wet weather conditions.

The median fecal coliform concentration of a total of 53 CSO facility influent samples collected during 2015 through 2019 from four of the County's CSO facilities was **490,000 cfu/100 mL**. This value is considered generally representative of fecal coliform levels in the County's untreated CSO discharges on a system-wide volume-weighted basis. No additional samples from CSO facility influent chambers were collected since 2019.

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Monitoring of specific effluent overflow parameters (including fecal coliform) is required for each of the CSO facilities listed under the Metro SPDES Permit (Section XVI. APPENDIX A – Monitoring Requirements for CSO Treatment Facilities). The May 24, 2022, modified Metro SPDES Permit updated the seasonal effluent disinfection season. Effluent disinfection is now required from April 1 to October 31, which extends the disinfection season duration in accordance with the SPDES permit by 16 days. The two CSO regional treatment facilities (Hiawatha and Midland) therefore require effluent disinfection from April 1 through October 31.

Figure 4-3 summarizes the available fecal coliform results (number of samples (n) and median) of the CSO treatment facility overflow samples, as reported in the CSO facility quarterly performance reports (QPRs). Results of samples collected from the influent chambers of CSO facilities are also included in this figure for reference. The SPDES permit specifies fecal coliform limits per event (Geometric Mean of 200 cfu/100 mL per Event) for the two (2) CSO effluent disinfection facilities from April 1 to October 31. Overflow “monitoring only” is required for fecal coliform for the Lower Harbor Brook SF, Clinton SF and the Harbor Brook CSO 018 Constructed Wetlands Storage & Treatment Facility (from April 1 to October 31).

Overflow samples were collected from the following CSO facilities:

- Hiawatha RTF (2002-2023)
- Midland RTF (2009-2024)
- Clinton SF (2015-2024)
- Lower Harbor Brook SF (2015-2023) and
- Harbor Brook CSO 018 Constructed Wetlands Storage & Treatment Facility (2015-2024)

The median fecal coliform concentration of a total of 526 CSO overflow samples collected from the five CSO facilities was **40,500 cfu/100 mL**.

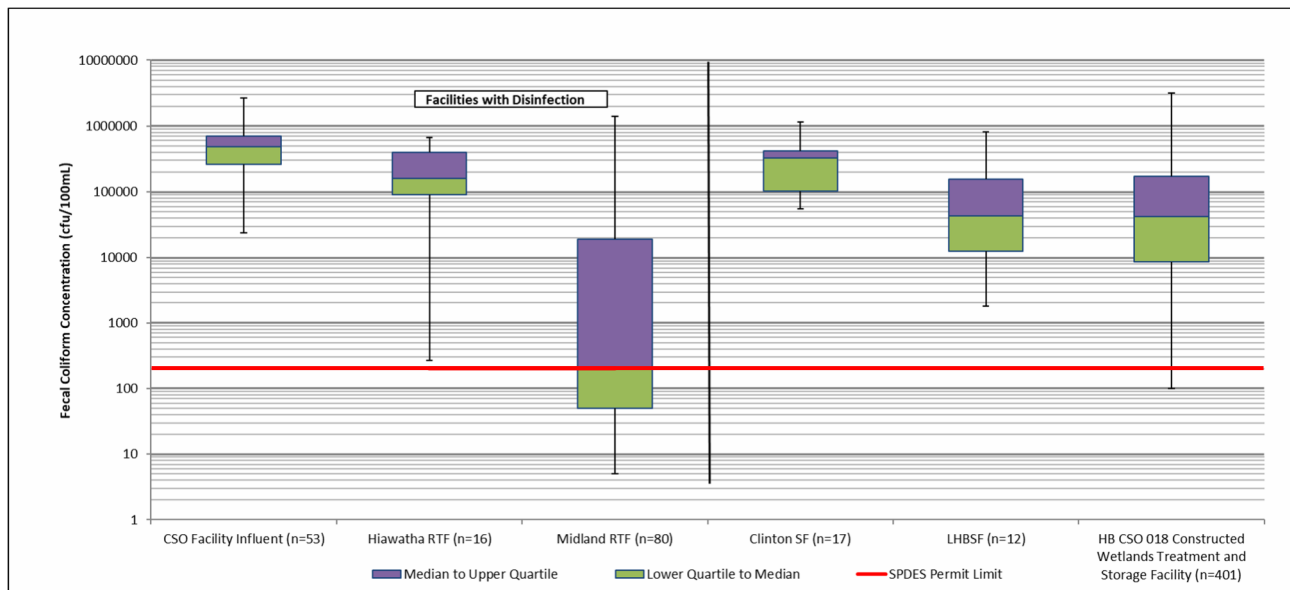


Figure 4-3. CSO Facility (Influent and Overflow) Fecal Coliform Concentrations (2002-2024)

Section 4 – Focused Post Construction Compliance Monitoring Program

4.3.2 CSO Water Quality Monitoring

The objectives of the CSO Tributary Water Quality Monitoring Program include:

- 1) Supporting a continued compliance assessment of fecal coliform and additional parameters, as referenced in the NYS Section 303(d) Listing and the NYS Water Quality Standards and Guidance Values (NYSDEC TOGS 1.1.1).
- 2) Tracking long-term fecal coliform trends to continue evaluating the effectiveness of the additional infrastructure projects designed to further mitigate the impacts of the residual operational CSOs.
- 3) Support the County's future UAAs for fecal coliform.

During 2024, sampling was conducted biweekly from January through December. To provide data for evaluating receiving water impacts and effectiveness of CSO controls and during dry weather, samples collected in 2024 captured the following conditions:

- Dry-weather events
- Wet-weather events during which CSO overflows did not occur
- Wet-weather larger events during which a CSO overflows occur

Sampling events were classified as "wet" when collected following at least 0.1 inches of rain in the preceding 48 hours, all other samples were classified as "dry". Several long-term sites of the County's tributary water quality monitoring program were retained and include locations upstream and downstream of CSOs and urban segments of the sub-watersheds (Figure 4-4).

The long-term sites of the County's tributary sampling program have been retained and include locations upstream and downstream of CSOs and urban segments of the sub-watersheds.

Onondaga Creek:

1. Onondaga Creek at Tully Farms Road (upstream of Dorwin Avenue):
Note: This sampling site was added in 2015 by OCDWEP as a reference site. In 2021, samples were collected at the Onondaga Creek at Webster Road (located approximately 0.4 miles upstream of the Tully Farms Road location due to construction related bridge closure) as an alternate site from July 7, 2021, through September 8, 2021.
2. Onondaga Creek at Dorwin Avenue (upstream of CSOs)
3. Onondaga Creek at Kirkpatrick Street (downstream of CSOs)

Harbor Brook:

1. Harbor Brook at Velasko Road (upstream of CSOs)
2. Harbor Brook at Hiawatha Boulevard (downstream of CSOs)

Ley Creek:

1. Ley Creek at Thompson Road (upstream of CSOs)
Note: This sampling site was added at NYSDEC's request in 2019 at a location upstream of the two Ley Creek CSOs (operational CSO 073 and abated CSO 074) to isolate non-CSO contributions to Ley Creek.
2. Ley Creek at Park Street (downstream of CSOs)

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The following parameters were retained as part of the 2024 sampling program:

- Fecal Coliform
- Total Phosphorus
- Total Dissolved Solids
- Turbidity
- Ammonia-N (NH₃-N)
- Floatables

4.3.3 Tributary Compliance Summary (2024)

This section includes results of the 2024 CSO tributary compliance assessment with the Water Quality Standards and Guidance Values (NYSDEC TOGS 1.1.1). Specific NYS ambient water quality standards used to assess the extent to which CSO abatement actions are successful, include the following:

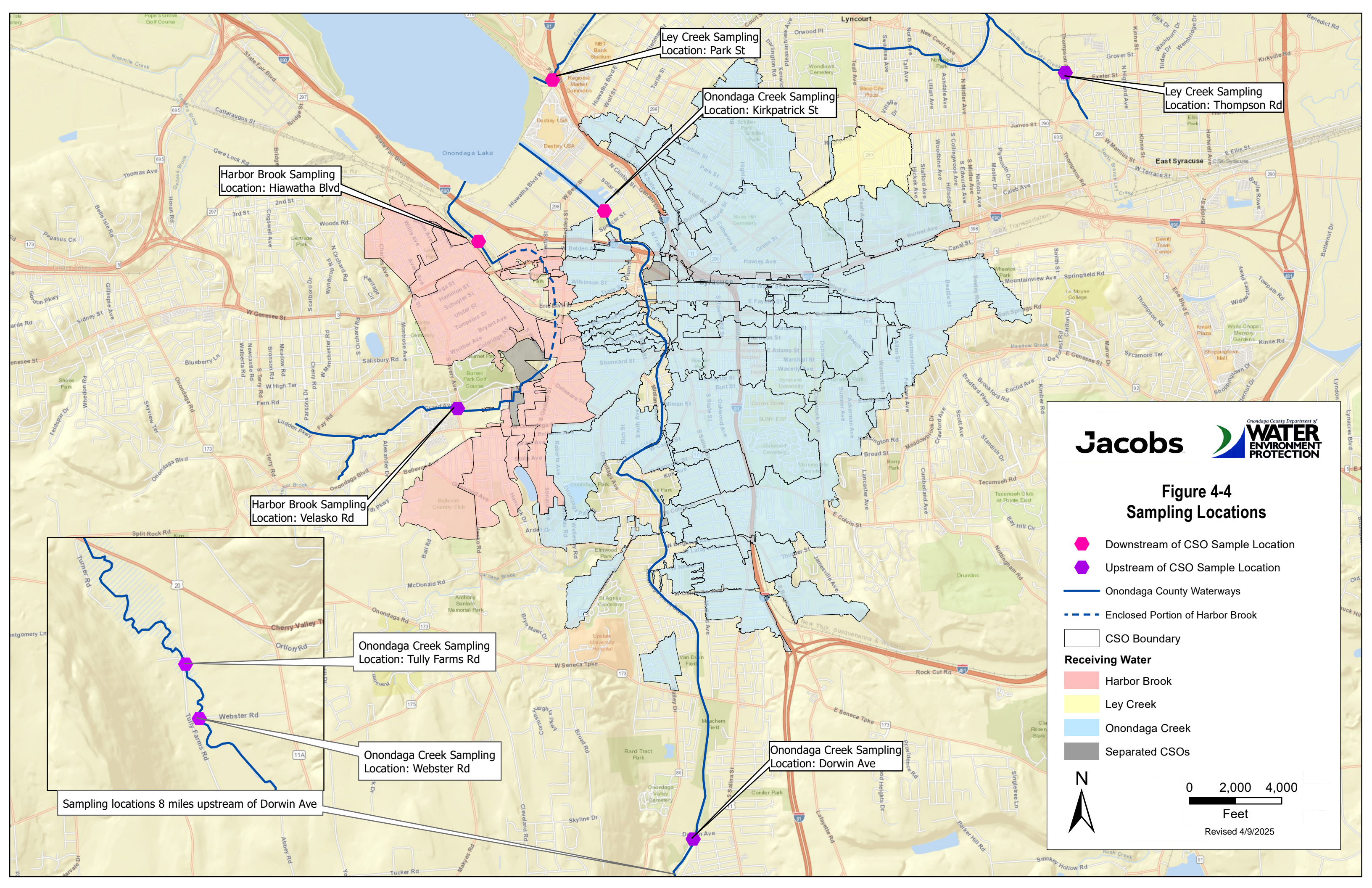
- Dissolved Oxygen: 6 NYCRR (New York Codes, Rules and Regulations) Section 703.3
- Ammonia: 6 NYCRR Section 703.5
- Phosphorus: 6 NYCRR Section 703.2
- Nitrogen: 6 NYCRR Section 703.2
- Bacteria: 6 NYCRR Section 703.4
- Floatable Solids: 6 NYCRR Section 703.2
- Turbidity: 6 NYCRR Section 703.2

Table 4-2 includes a summary of the percent of 2024 observations in compliance with NYS Ambient Water Quality Standards from January through December, for the sampling stations in the CSO affected tributaries. The percentages in red font indicate that the compliance result is less than 100 percent. The 2024 tributary data indicates that the CSO tributaries were generally in compliance with AWQS for most monitored parameters. As in previous years, the primary exceptions include total dissolved solids (TDS) and fecal coliform bacteria (FC).

Appendix D contains the 2024 Annual Water Quality Monitoring data (analytical and in-situ).



The County continued water quality sampling efforts in 2024 to support their CSO Abatement Program.



Harbor Brook Sampling
Location: Hiawatha Blvd

Ley Creek Sampling
Location: Park St

Onondaga Creek Sampling
Location: Kirkpatrick St

Ley Creek Sampling
Location: Thompson Rd

Harbor Brook Sampling
Location: Velasko Rd

Onondaga Creek Sampling
Location: Tully Farms Rd

Onondaga Creek Sampling
Location: Webster Rd

Onondaga Creek Sampling
Location: Dorwin Ave

Sampling locations 8 miles upstream of Dorwin Ave



Figure 4-4
Sampling Locations

- ◆ Downstream of CSO Sample Location
- ◆ Upstream of CSO Sample Location
- Onondaga County Waterways
- Enclosed Portion of Harbor Brook
- CSO Boundary
- Receiving Water**
- Harbor Brook
- Ley Creek
- Onondaga Creek
- Separated CSOs

N

0 2,000 4,000
Feet

Revised 4/9/2025

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Table 4-2. Compliance Results for Onondaga Creek, Harbor Brook, and Ley Creek (2024)

Parameter	NYS AWQS Standard		2024 Compliance Results (n=number of samples)
	Numeric Standard	Narrative Standard	
Dissolved Oxygen 6 NYCRR Sec. 703.3	Instantaneous minimum of 4.0 milligrams per liter [mg/L]	-	OC @ Tully Farms (n=45): 100 % OC @ Dorwin (n=45): 100% OC @ Kirkpatrick (n=45): 100% HB @ Velasko (n=45): 100% HB @ Hiawatha (n=45): 100% LC @ Thompson (n=45): 100% LC @ Park (n=45): 96%
pH 6 NYCRR Sec. 703.3	Shall not be less than 6.5 nor more than 8.5	-	OC @ Tully Farms (n=45): 100% OC @ Dorwin (n=45): 100% OC @ Kirkpatrick (n=45): 100% HB @ Velasko (n=45): 100% HB @ Hiawatha (n=45): 100% LC @ Thompson (n=45): 100% LC @ Park (n=45): 100%
Ammonia 6 NYCRR Sec. 703.5	Varies with pH and temperature	-	OC @ Tully Farms (n=24): 100% OC @ Dorwin (n=24): 100% OC @ Kirkpatrick (n=24): 100% HB @ Velasko (n=24): 100% HB @ Hiawatha (n=24): 96% (Note 1) LC @ Thompson (n=24): 100% LC @ Park (n=24): 100%
Phosphorus and Nitrogen 6 NYCRR Sec. 703.2	-	None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.	Compliance could not be assessed, as the NYSDEC's nutrient compliance criteria for flowing waters is currently pending.
Bacteria¹ 6 NYCRR Sec. 703.4	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200 colony forming units per 100 milliliters	-	OC @ Tully Farms (n=35): 14% OC @ Dorwin (n=35): 57% OC @ Kirkpatrick (n=35): 29% HB @ Velasko (n=35): 71% HB @ Hiawatha (n=35): 14% LC @ Thompson (n=35): 14% LC @ Park (n=35): 14%
Floatable Solids in CSO Discharges² 6 NYCRR Sec. 703.2 (Oil and Floating Substances)	-	No residue attributable to sewage, industrial wastes or other wastes, nor visible oil film nor globules of grease.	No sanitary related floatables were observed during the 2024 tributary sampling events.

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Parameter	NYS AWQS Standard		2024 Compliance Results (n=number of samples)
	Numeric Standard	Narrative Standard	
Turbidity 6 NYCRR Sec. 703.2	-	No increase that will cause a substantial visible contrast to natural conditions.	Turbidity caused by streambank erosion is listed as an impairment for Onondaga Creek in Part 3a of the 2020/2022 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for "Waterbodies for which TMDL Development May be Deferred (Requiring Verification of Impairment)."
Total Dissolved Solids (TDS)³ 6 NYCRR Sec. 703.3	-	Shall be kept as low as possible to maintain the best usage of waters, but in no case, shall it exceed 500 mg/L.	OC @ Tully Farms (n=24): 30% OC @ Dorwin (n=24): 13% OC @ Kirkpatrick (n=24): 0% HB @ Velasko (n=24): 0% HB @ Hiawatha (n=24): 0% LC @ Thompson (n=24): 0% LC @ Park Street (n=24): 96%

Note 1 - sample collected on 12/3/2024 was observed to be cloudy/white color.

4.3.4 Compliance Trends, Fecal Coliform (2010-2024)

Assessment of Onondaga Lake tributaries with respect to the AWQS has been tracked annually since 2010, the first year that sampling was conducted with sufficient frequency to evaluate compliance status.

Five samples per month were collected at each of the sampling locations, regardless of wet or dry weather conditions, to support a compliance assessment of fecal coliform during the Metro SPDES permit disinfection season from April 1 to October 31.

The percentage of months in compliance with the AWQS for fecal coliform during 2010 through 2024 are plotted in Figures 4-5a, b, and c, respectively.

Section 4 – Focused Post Construction Compliance Monitoring Program

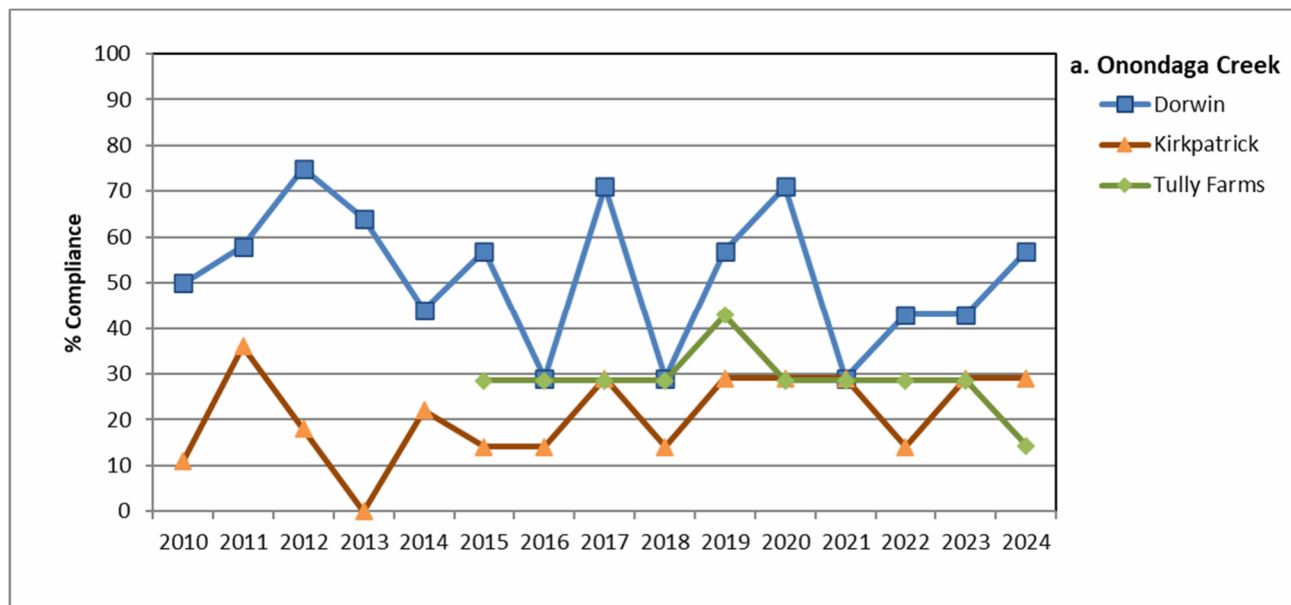


Figure 4-5a. The Percentage of Months in Each Year in Compliance with the AWQS for Fecal Coliform Bacteria – Onondaga Creek (2010-2024)

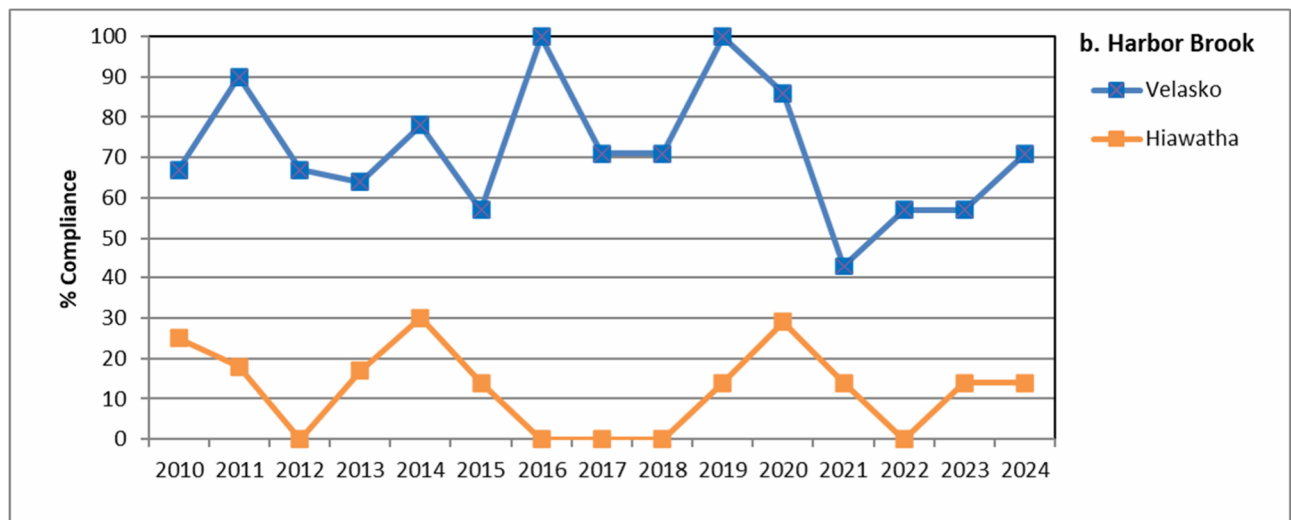


Figure 4-5b. The Percentage of Months in Each Year in Compliance with the AWQS for Fecal Coliform Bacteria – Harbor Brook (2010-2024)

Section 4 – Focused Post Construction Compliance Monitoring Program

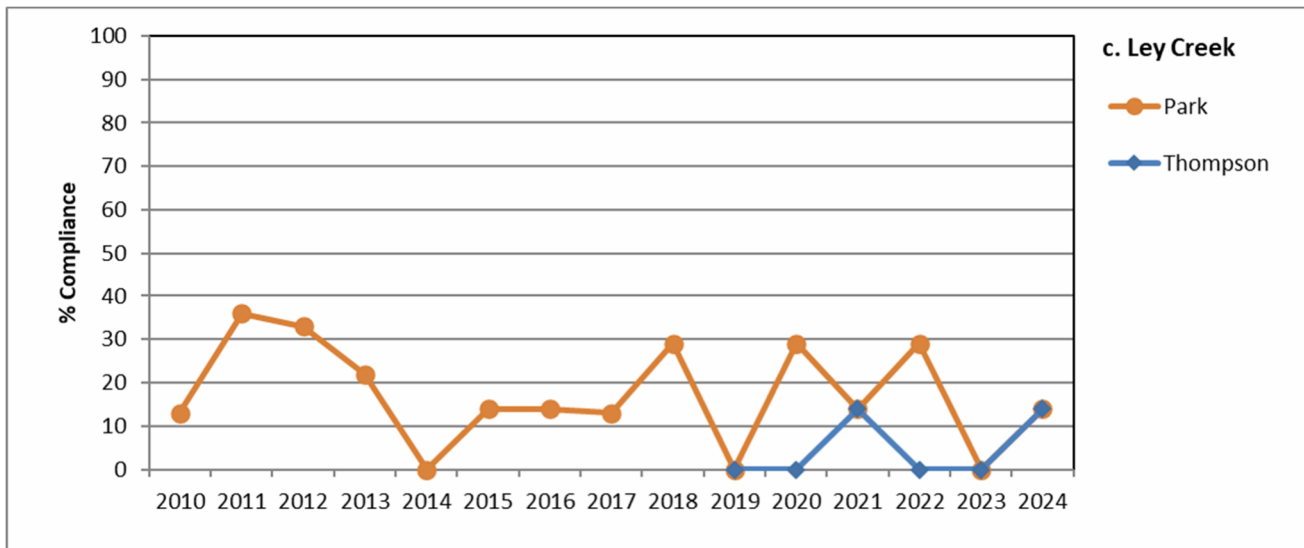


Figure 4-5c. The Percentage of Months in Each Year in Compliance with the AWQS for Fecal Coliform Bacteria – Ley Creek (2010-2024)

General observations from these figures include:

- **Upstream vs Downstream Comparison:**
Compliance on an annual basis was consistently higher at the upstream sampling sites (Onondaga Creek at Dorwin Avenue (Figure 4-5a) and Harbor Brook at Velasko Road (Figure 4-5b) but not at the upstream Ley Creek at Thompson Road sampling site (Figure 4-5c).
- **Onondaga Creek (Figure 4-5a):**
During 2010 through 2024, the percentage of months in compliance with the AWQS for fecal coliform ranged from 29-75 percent at Dorwin Avenue compared to 0-36 percent at Kirkpatrick Street.
- **Harbor Brook: (Figure 4-5b):**
Compliance ranged from 43-100 percent at Velasko Road compared to 0-30 percent at Hiawatha Boulevard.
- **Ley Creek (Figure 4-5c):**
Compliance at Thompson ranged from 0-14 percent (for 2019 through 2024), and compliance at Park Street ranged from 0-36 percent.

4.4 Trends and Patterns in Tributary Fecal Coliform Concentrations

In addition to reporting compliance with the AWQS, the County continues to track fecal coliform concentration trends to assess water quality improvements in the CSO tributaries from implementation of additional CSO abatement projects. This section includes the following trends and patterns in fecal coliform concentrations in each of the three (3) CSO tributaries for long-term trends (1985 – 2024) and wet-dry and upstream-downstream concentration patterns.

Section 4 – Focused Post Construction Compliance Monitoring Program

4.4.1 Long-Term Concentration Trends, Fecal Coliform (1985-2024)

Analysis was conducted using routine monitoring data collected under a variety of conditions, including both dry weather and wet weather conditions. High frequency data collected during storm event monitoring (e.g., post construction compliance monitoring, recovery time monitoring) was not included in the long-term trend analyses to avoid potential bias associated with uneven temporal coverage. Averaging techniques were used to smooth the fecal coliform time series and highlight the underlying temporal patterns in monthly geometric means, annual geometric means, and five-year rolling averages for the long-term period (1985 to 2024). A moving average trendline is added to assist with the visual interpretation of these trends (Figures 4-6 through 4-8). Inter-annual variability in trends could result from differences in total annual rainfall volumes (wet year vs. dry year), intensity of rainfall and timing of sampling events. General observations from Figures 4-6 to 4-8 include:

Onondaga Creek:

- A generally consistent pattern has been observed in recent years at Dorwin (Figure 4-6a).
- A stronger longer term decreasing trend is observed at Kirkpatrick, with a more consistent pattern since the 2022 increase (Figure 4-6b).

Harbor Brook:

- Decreases in fecal coliform concentrations were achieved during the late 1980s at both upstream and downstream of CSOs (Figure 4-7a and b).
- Significant changes in recent years are not observed at these sampling locations.

Ley Creek:

- Although no consistent patterns are observed in fecal coliform at Park Street downstream of CSOs, a slight decreasing trend is noted in recent years (Figure 4-8).
- Limited data upstream of the CSOs (at Thompson Road) are included for comparison which reflects concentrations are mostly comparable to or greater than concentrations at the Park Street sampling location and are decreasing in recent years (Figure 4-8).

Section 4 – Focused Post Construction Compliance Monitoring Program

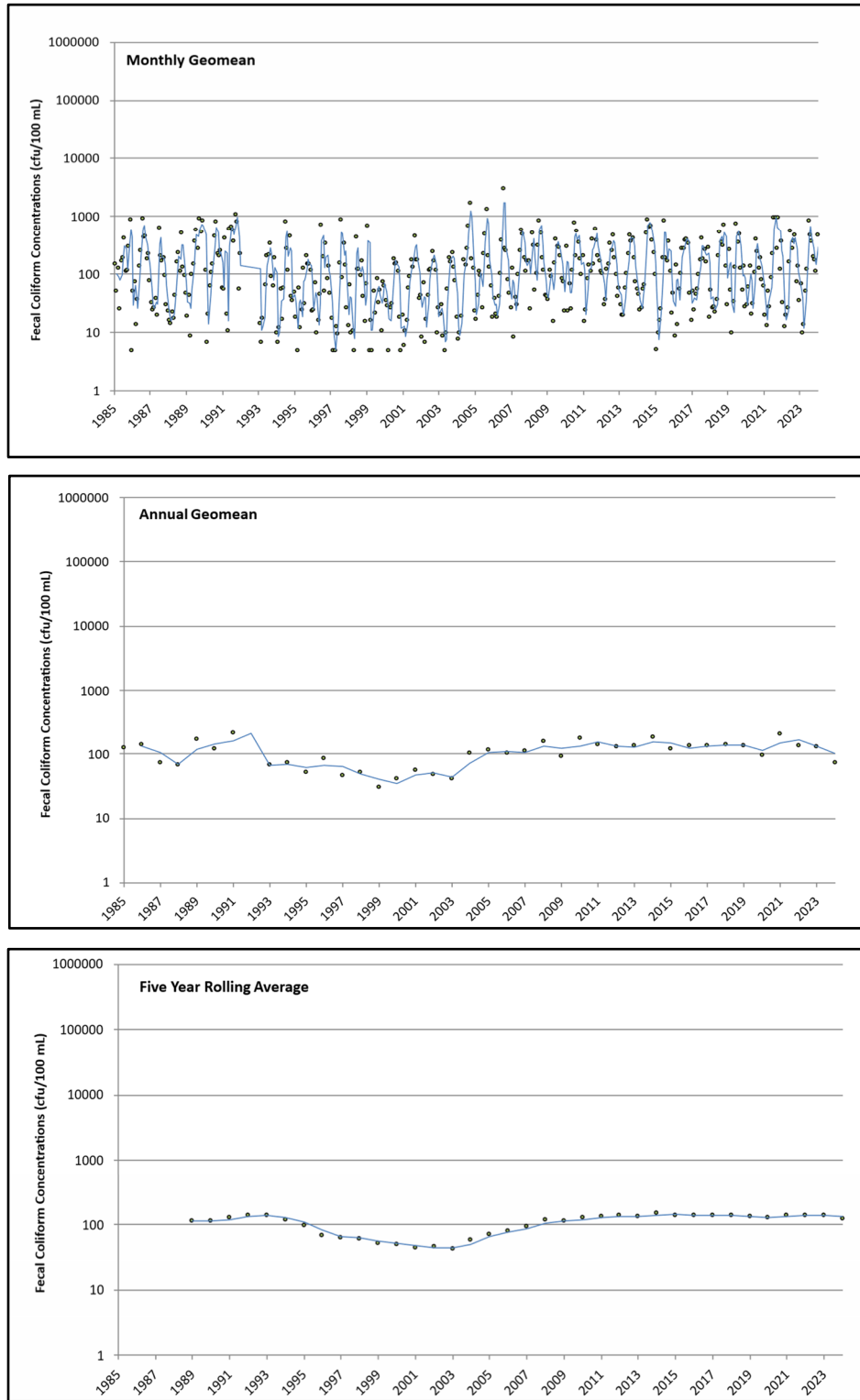


Figure 4-6a. Fecal Coliform Concentrations in Onondaga Creek at Dorwin Avenue (1985-2024)

Section 4 – Focused Post Construction Compliance Monitoring Program

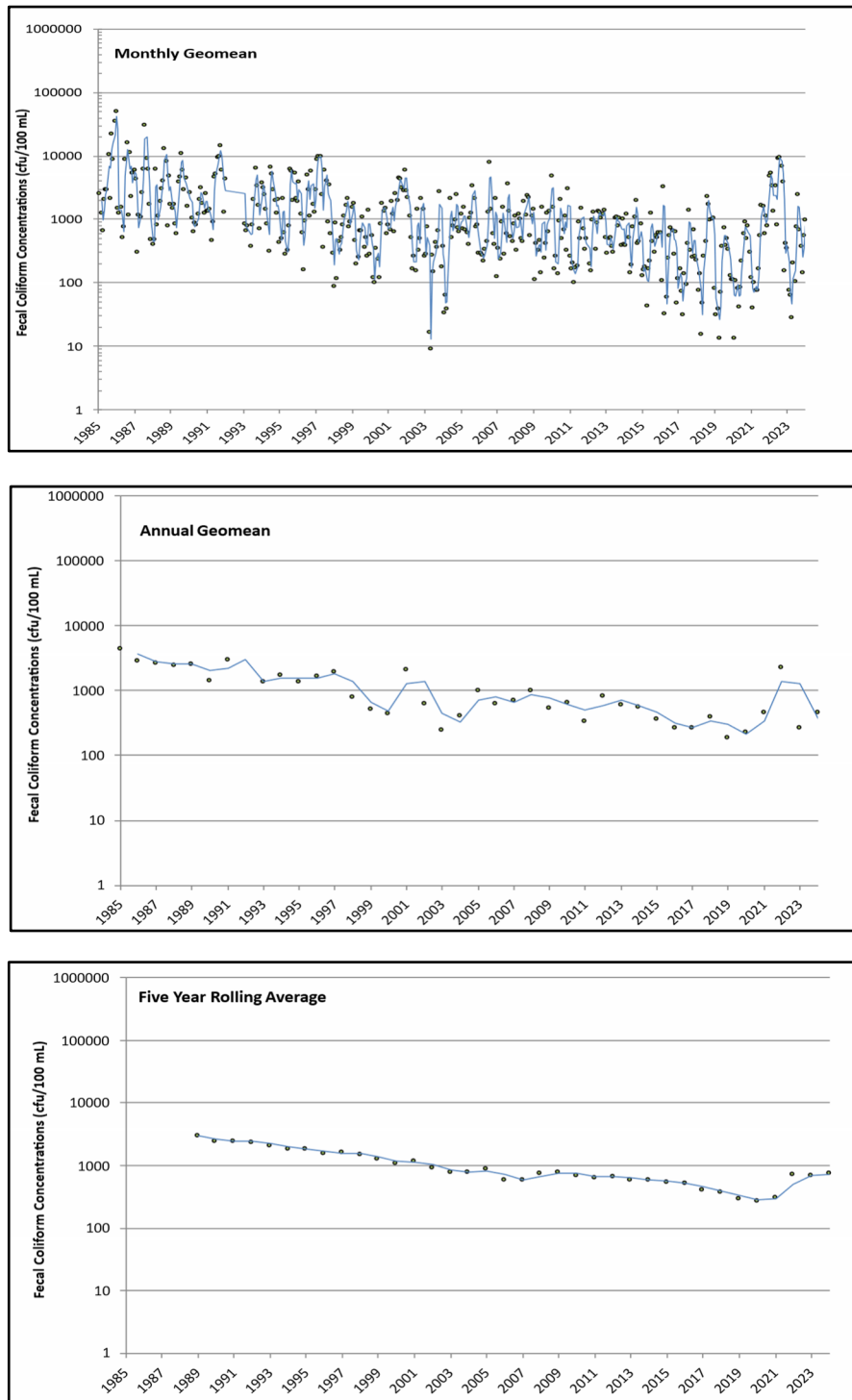


Figure 4-6b. Fecal Coliform Concentrations in Onondaga Creek – Kirkpatrick Street (1985-2024)

Section 4 – Focused Post Construction Compliance Monitoring Program

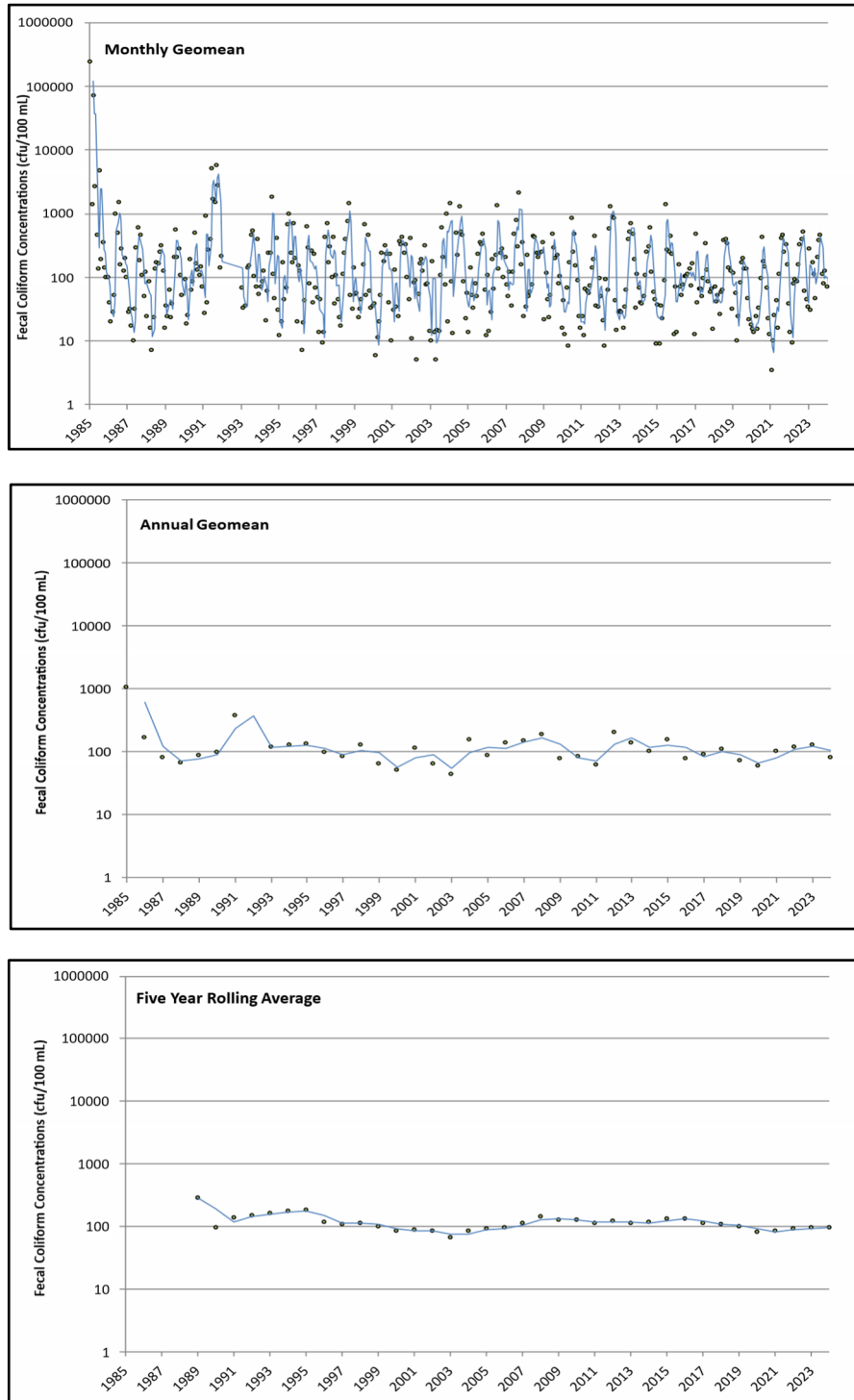


Figure 4-7a. Fecal Coliform Concentrations in Harbor Brook – Velasko Road (1985-2024)

Section 4 – Focused Post Construction Compliance Monitoring Program

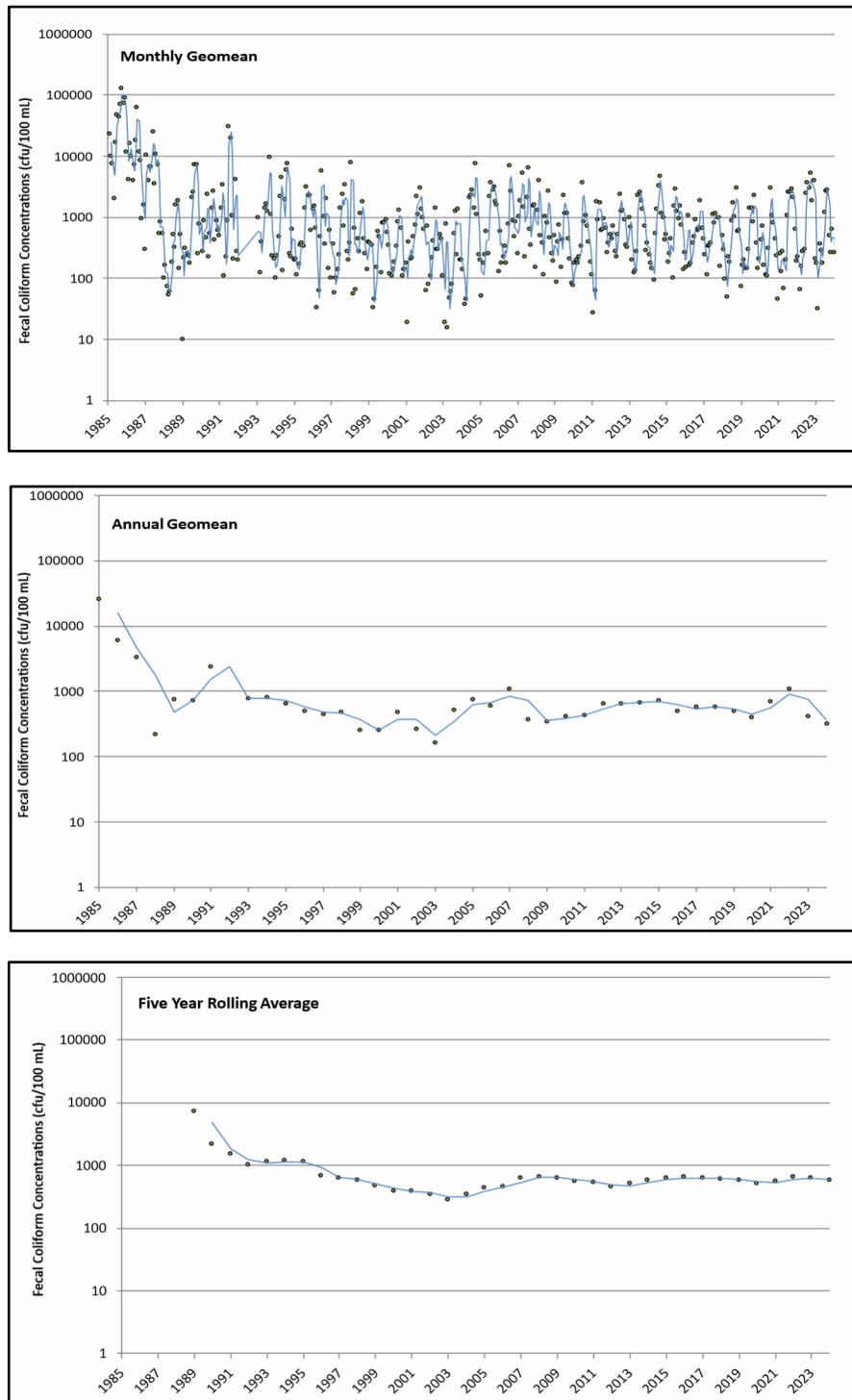


Figure 4-7b. Fecal Coliform Concentrations in Harbor Brook – Hiawatha Boulevard (1985-2024)

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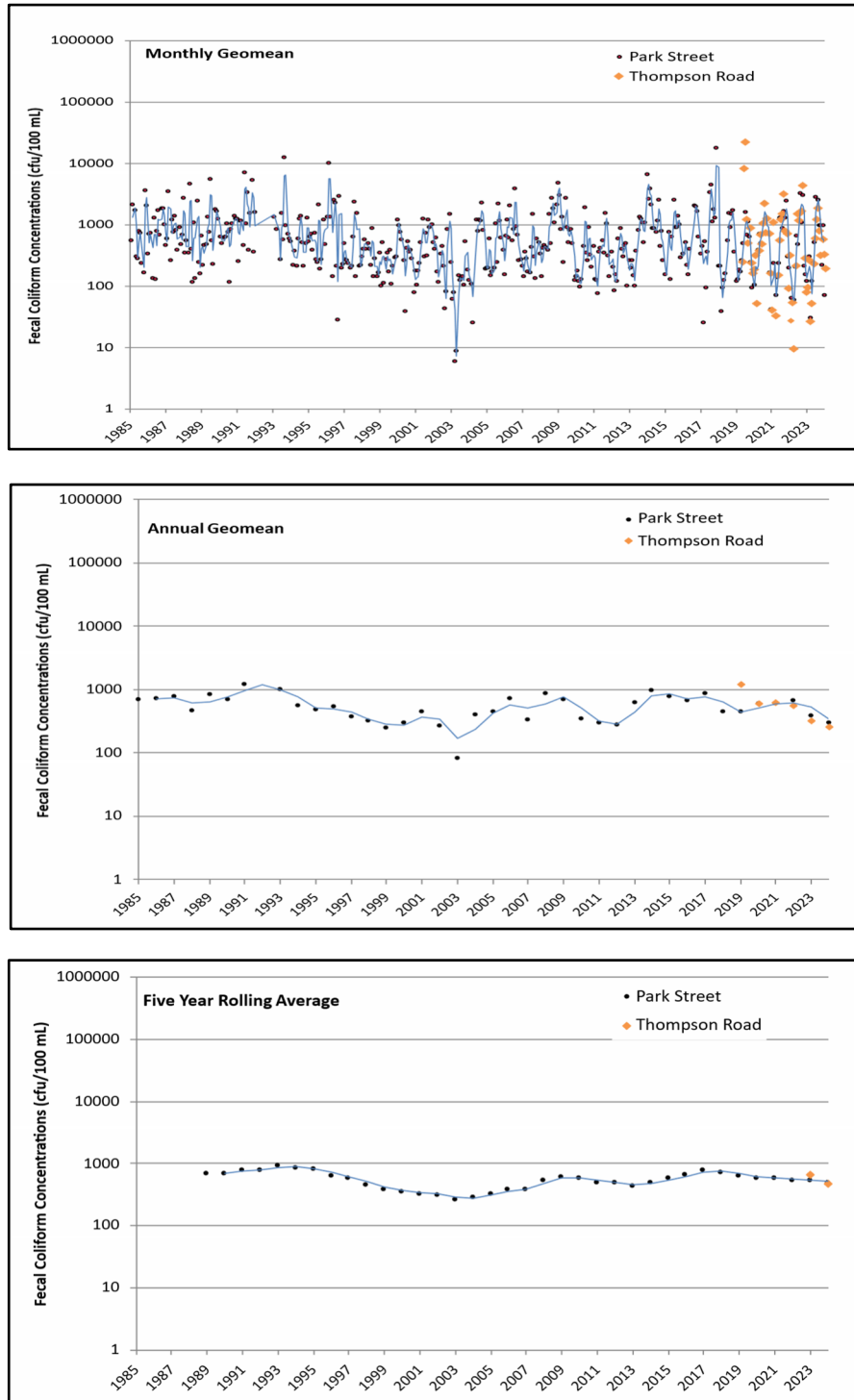


Figure 4-8. Fecal Coliform Concentrations in Ley Creek – Park Street and Thompson Road (1985-2024)

Section 4 – Focused Post Construction Compliance Monitoring Program

Annual fecal coliform geomean concentrations, from 1993 through 2024, at the downstream sampling locations for Onondaga Creek (Kirkpatrick Street), Harbor Brook (Hiawatha Boulevard), and Ley Creek (Park Street) are included in Figure 4-9. Data at these downstream locations represent the overall impacts of all CSOs. The major milestone years of the CSO abatement projects are indicated in this figure for reference. A downward trend in the fecal coliform geomean concentrations is apparent for Onondaga Creek at Kirkpatrick Street, with the exception of a dramatic increase evident in 2022. No apparent significant increasing or decreasing trend in the fecal coliform geomean concentrations is apparent for Harbor Brook at Hiawatha Boulevard and Ley Creek at Park Street.

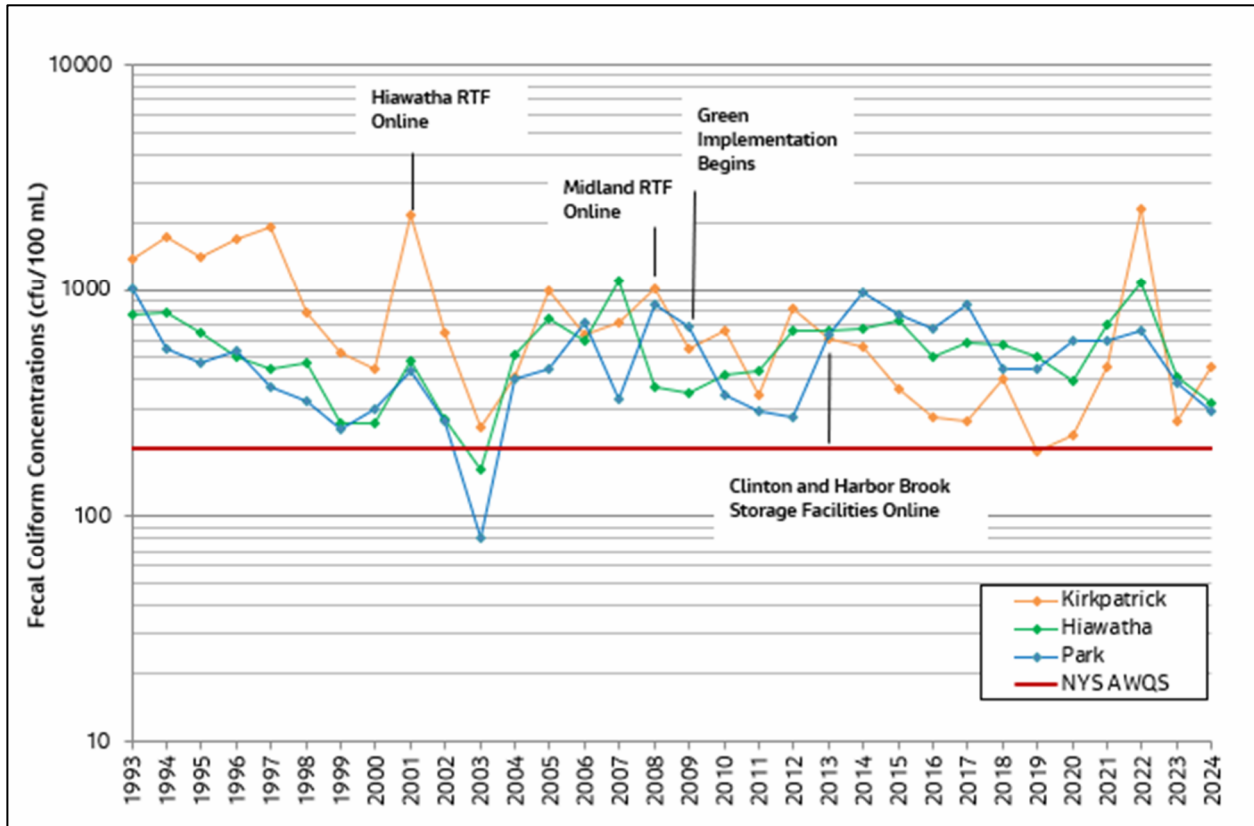


Figure 4-9. Annual Fecal Coliform Geomean Concentrations for Onondaga Creek, Harbor Brook, and Ley Creek (1993-2024)

4.4.2 Fecal Coliform Concentration Patterns (2024)

Figures 4-10a, b, and c show a comparison of the 2024 fecal coliform concentrations in the three CSO-affected tributaries at the upstream and downstream sampling locations. A total of 45 fecal coliform samples were collected from January through December 2024, at each of the sampling sites. Samples are classified as “wet” when collected following at least 0.1 inches of rain in the preceding 48 hours; all other samples were classified as “dry”. The NYS AWQS (based on a monthly geometric mean from a minimum of five examinations of 200 counts/100 mL) is included in the plots only for a numerical perspective, as it is not appropriate to compare a single sample result to the water quality standard. Across all sites, 27% of fecal coliform samples were collected in 2024 during wet weather (i.e., at least 0.1 inches of rainfall in the preceding 48 hours).

Section 4 – Focused Post Construction Compliance Monitoring Program

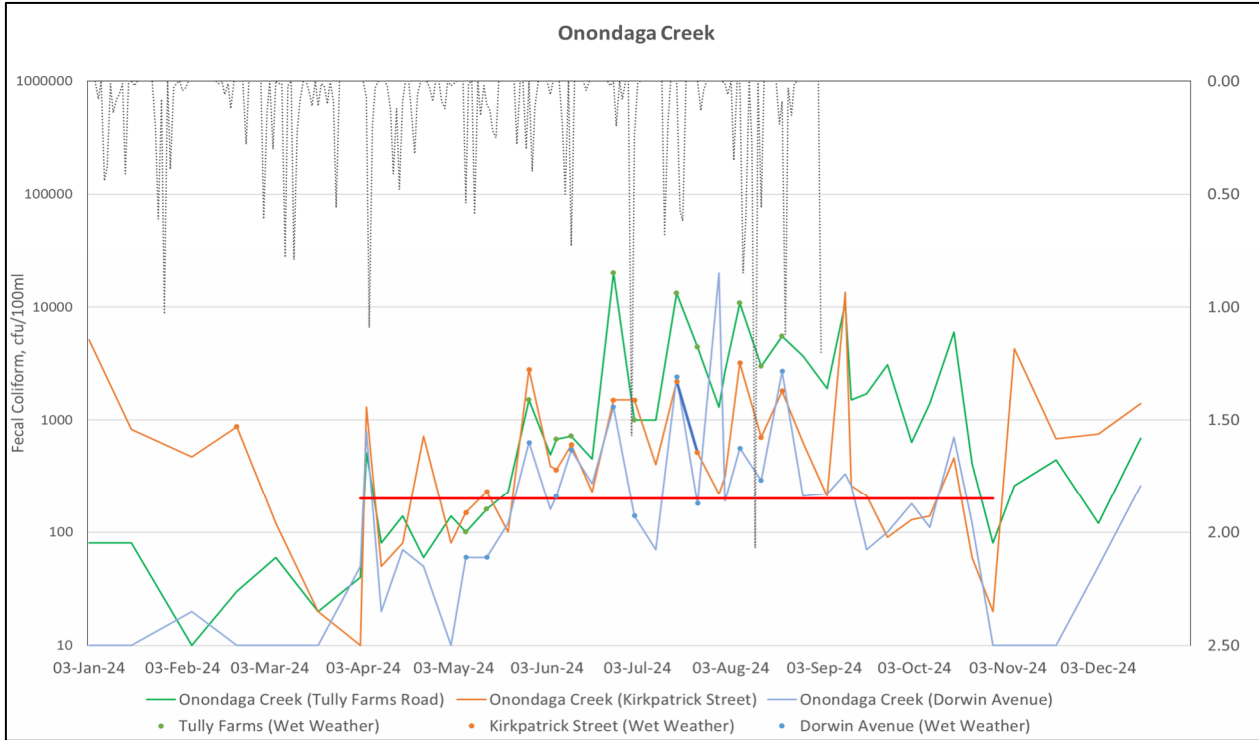


Figure 4-10a. 2024 Fecal Coliform Concentration Patterns for Onondaga Creek

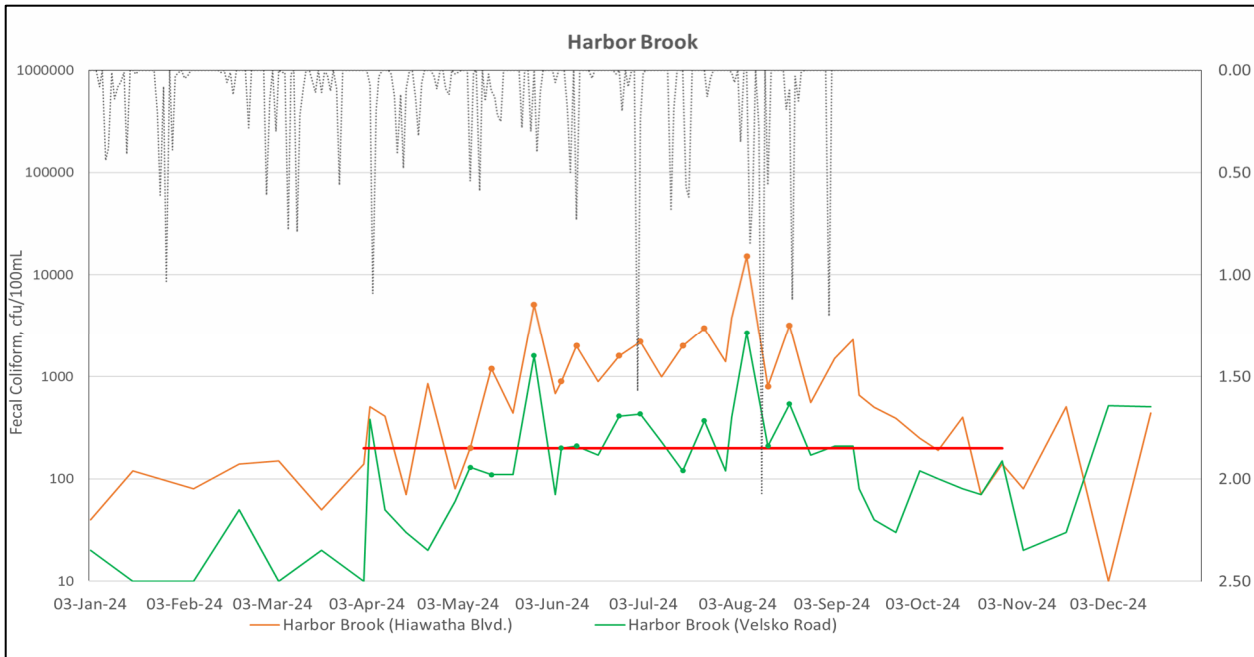


Figure 4-10b. 2024 Fecal Coliform Concentration Patterns for Harbor Brook

Section 4 – Focused Post Construction Compliance Monitoring Program

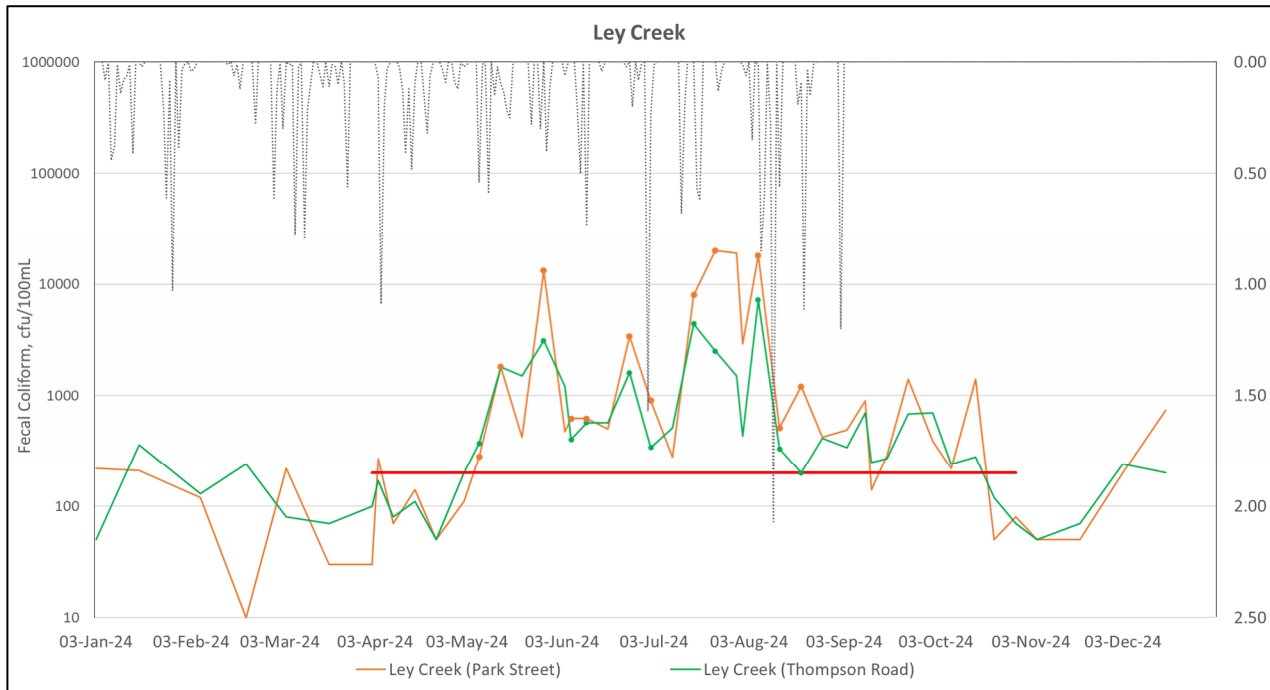


Figure 4-10c. 2024 Fecal Coliform Concentration Patterns for Ley Creek

General observations from these time series plots include:

- Seasonal Trends:**
Higher fecal coliform concentrations are observed during the warmer months of June-September at both upstream and downstream locations in Onondaga Creek, Harbor Brook, and Ley Creek. Fecal coliform bacteria experience increased mortality as environmental temperatures decrease, resulting in higher concentrations during periods of warmer weather. Higher correlation of fecal coliform concentrations with rainfall events is observed during the summer months versus other times of the year.
- Wet-Dry Weather Concentrations:**
The 2024 sampling events were classified as “wet” when collected following at least 0.1 inches of rain in the preceding 48 hours, all other samples were classified as “dry”. The data continued to document exceedances of the AWQS for Fecal Coliform in the tributaries, including the non-CSO affected streams, during both wet and dry weather (Figure 4-10a, 4-10b and Figure 4-10c).

In Onondaga Creek, precipitation driven increases in fecal coliform concentrations are observed at Tully Farms Road in 2024 resulting in increased concentrations at the downstream Dorwin Avenue and Kirkpatrick Street locations. Increased concentrations are also observed during wet weather conditions at the Harbor Brook at Velasko Road sampling location, from non-CSO sources which contribute to increased concentrations observed at the Hiawatha Boulevard sampling location. A similar concentration pattern is observed in Ley Creek at the Thompson Road and Park Street sampling locations. The similar patterns in the CSO tributaries indicate that non-CSO upstream sources contribute to the fecal coliform concentrations and compliance at the downstream sampling locations.

Section 4 – Focused Post Construction Compliance Monitoring Program

Fecal coliform compliance during dry weather conditions cannot be assessed as the sampling program is not designed to collect the minimum of five (5) samples per month during dry weather conditions. A study of pathogen indicators (fecal coliform bacteria) in Onondaga Creek was conducted by the Onondaga Environmental Institute (OEI) in 2007. Data analyses from this study, as well as routine monitoring conducted by Onondaga County as part of its Ambient Monitoring Program (AMP), indicated that sources were contributing bacteria to Onondaga Creek and Harbor Brook during periods of dry weather. Thus, precipitation-driven discharges of combined sewer overflows (CSOs) or stormwater outfalls did not account for the elevated levels of bacteria frequently observed. Onondaga Creek, Harbor Brook, and Ley Creek are subject to bacterial contributions from a variety of sources in addition to CSOs, including both rural and urban inputs. For example, the Microbial Trackdown Study (MTS), conducted by the Onondaga Environmental Institute (OEI) and the County identified and corrected (16) point sources of bacteria to Onondaga Creek, Harbor Brook, and Ley Creek. These corrections included repairs to illicit connections to storm sewers and CSOs, broken sewer lines, and failing septic systems.

- **Upstream-Downstream Comparison:**

Fecal coliform concentrations at the Ley Creek upstream sample site (Thompson Road) were comparable to or less than concentrations at the downstream Park Street location. Fecal coliform concentrations were consistently higher at the Harbor Brook at Velasko Road sampling location than the Hiawatha Boulevard sampling location (with the exception of 2 results in December 2024). Fecal coliform concentrations were consistently higher at the Onondaga Creek at Tully Farms sampling location than the Dorwin Avenue sampling location indicating non-CSO upstream sources.

Appendix A
2024 Combined Sewer Overflows Annual Report

Combined Sewer Overflow (CSO) Annual Report

version 1.11

(Submission #: HQA-G3TM-YNR3Z, version 1)

Details

Submitted 3/28/2025 (61 days ago) by Kelly O'Brien

Alternate Identifier NY0027081

Submission ID HQA-G3TM-YNR3Z

Status Deemed Complete

Form Input

Permit Information

SPDES Number
NY0027081

DEC Region
7

Permittee Name
Onondaga County

Facility Name
Metropolitan Syracuse WWTP

Official Name
Shannon L. Harty, P.E.

Official Title
Commissioner

Official's Phone Number
315-435-2260

Official's Email Address

shannonharty@ongov.net

CSO Program Manager Name

Eric Schuler, P.E.

CSO Program Manager Title

Deputy Commissioner

CSO Program Manager Phone Number

315-435-2260

CSO Program Manager Email

ericshuler@ongov.net

Part I - CSO LTCP Information

GENERAL CSO PROGRAM INFORMATION

Use the following questions to provide current general information on the CSO Program

Number of CSO Outfalls in the permittee owned system

42

Number of CSO Events Occurring in Reporting Year

44

Total Volume of CSO Discharged in Reporting Year (MG)

152.49

Percentage of Collection System, owned by the permittee, that is combined (%)

30.7

Approximate length (mi) of combined sewers in permittee-owned system

52.46

Population served by the permittee-owned system

148,620

Number of Publicly-Owned Sewer Systems (POSS) to the permittee-owned system

6

Number of Publicly-Owned Sewer Systems (POSS) to the Combined Sewer System

3

Number of Significant Industrial Users (SIU) connected to the CSS

29

Number of other, non-POSS satellite system connections

0

Long Term Control Plan (LTCP) Information

Was an LTCP Required?

Yes

Year the LTCP was Submitted

2026

What is the LTCP Approval Status?

Other: The LTCP is required to be submitted within 4 years and 6 months from the Order of Consent R7-202110304-6 (executed date 10/8/21).

What was/is the LTCP selected approach and/or criterion?

Demonstrative

Is the LTCP Implementation completed?

No

Provide a brief list of all the recommendations and CSO controls to be implemented under the Long-Term Control Plan. Be sure to identify the year these items were completed and any remaining milestones dates not yet achieved.

Focused PCCM to support water quality efforts and continued maintenance of SWMM model.

Post Construction Compliance Monitoring (PCCM)

What is the status of the PCCM Plan?

Submitted

What is the status of the PCCM Sampling Program?

In Progress

Part II - CSO Outfall Information

CSO Outfall Information

Outfall Number	Latitude (Decimal)	Longitude (Decimal)	Receiving Water Name	Receiving Water Class	Number of Regulators Associated	Type of Regulator	Type of Treatment Provided	Number of Overflow Events - BASELINE	Number of Overflow Events - PREVIOUS YEAR	Number of Overflow Events - CURRENT YEAR	Annual CSO Volume (MG) - BASELINE	Annual CSO Volume (MG) - PREVIOUS YEAR	Annual CSO Volume (MG) - CURRENT YEAR	Measurement Method
003	43.05555556	76.18527778	Harbor Brook	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
004	43.05361111	76.18166667	Harbor Brook	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
04A	43.05402778	76.18277778	Harbor Brook	C	1	Other: Overflow Flap	Other Wet Weather Facility	0	2	0	0	0.29	0	Estimated
005	43.05305556	76.17722222	Harbor Brook	C	1	Fixed Weir	None	0	3	1	0	0.5	0.2	Modeled
006	43.05194444	76.17638889	Harbor Brook	C	1	Fixed Weir	None	0	0	0	0	0	0	Modeled
007	43.05194444	76.17388889	Harbor Brook	C	1	Fixed Weir	None	0	8	6	0	2.7	2.6	Modeled
009	43.04638889	76.17583333	Harbor Brook	C	1	Fixed Weir	None	0	6	7	0	1.8	1.8	Modeled
010	43.04583333	76.17250000	Harbor Brook	C	2	Fixed Weir	None	0	0	1	0	0	0.1	Modeled
011	43.04277778	76.1730556	Harbor Brook	B	1	Fixed Weir	None	0	5	3	0	0.6	0.4	Modeled
014	43.04277778	76.17472222	Harbor Brook	B	1	Fixed Weir	None	0	3	4	0	0.6	0.7	Modeled
015	43.03888889	76.17722222	Harbor Brook	B	1	Fixed Weir	None	0	2	1	0	0.3	0.3	Modeled
017	43.03666667	76.17972222	Harbor Brook	B	1	Fixed Weir	None	0	0	0	0	0	0	Modeled
018	43.03611111	76.18277778	Harbor Brook	B	1	Fixed Weir	Overflow Retention / Settling	0	16	9	0	6.71	4.8	Metered
020	43.05472222	76.15722222	Onondaga Creek	C	1	Fixed Weir	Other: Netbags	0	16	22	0	21.1	20.7	Modeled
021	43.05444444	76.15694444	Onondaga Creek	C	1	Fixed Weir	Other: Netbags	0	27	42	0	41.5	42.5	Modeled

Outfall Number	Latitude (Decimal)	Longitude (Decimal)	Receiving Water Name	Receiving Water Class	Number of Regulators Associated	Type of Regulator	Type of Treatment Provided	Number of Overflow Events - BASELINE	Number of Overflow Events - PREVIOUS YEAR	Number of Overflow Events - CURRENT YEAR	Annual CSO Volume (MG) - BASELINE	Annual CSO Volume (MG) - PREVIOUS YEAR	Annual CSO Volume (MG) - CURRENT YEAR	Measurement Method
027	43.04861111	76.15777778	Onondaga Creek	C	1	Fixed Weir	None	0	18	24	0	17.5	14.1	Modeled
028	43.04805556	76.15750000	Onondaga Creek	C	1	Fixed Weir	None	0	3	2	0	0.4	0.3	Modeled
029	43.04805556	76.15750000	Onondaga Creek	C	1	Fixed Weir	None	0	5	3	0	0.8	0.5	Modeled
030	43.04722222	76.15750000	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
031	43.04694444	76.15777778	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	1	0	0	0.1	Modeled
032	43.04583333	76.15777778	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
033	43.04444444	76.15527778	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
033A	43.04444444	76.15527778	Onondaga Creek	C	1	Other: Overflow Flaps	None	0	6	3	0	13.9	8.6	Metered
034	43.04361111	76.15472222	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
035	43.04361111	76.15472222	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
036	43.04250000	76.15500000	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
037	43.04222222	76.15500000	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled

Outfall Number	Latitude (Decimal)	Longitude (Decimal)	Receiving Water Name	Receiving Water Class	Number of Regulators Associated	Type of Regulator	Type of Treatment Provided	Number of Overflow Events - BASELINE	Number of Overflow Events - PREVIOUS YEAR	Number of Overflow Events - CURRENT YEAR	Annual CSO Volume (MG) - BASELINE	Annual CSO Volume (MG) - PREVIOUS YEAR	Annual CSO Volume (MG) - CURRENT YEAR	Measurement Method
039	43.03666667	76.15527778	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	1	0	0	0.9	Modeled
042	43.03305556	76.0580556	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
044	43.03055556	76.15944444	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Estimated
052	43.02083333	76.15583333	Onondaga Creek	C	1	Fixed Weir	None	0	3	1	0	0.3	0.1	Modeled
060M	43.02361111	76.15472222	Onondaga Creek	C	2	Fixed Weir	None	0	0	0	0	0	0	Modeled
063A	43.05777778	76.18777778	Onondaga Creek	C	1	Fixed Weir	Other Wet Weather Facility	0	0	0	0	0	0	Modeled
066	43.05555556	76.16138889	Onondaga Creek	C	1	Fixed Weir	Other: Netbags	0	57	44	0	15	13.4	Metered
067	43.01611111	76.15777778	Onondaga Creek	C	1	Other: offset pipe	Other: Swirl Concentrator	0	18	10	0	0.3	0.09	Metered
071	43.05722222	76.16138889	Onondaga Creek	C	1	Fixed Weir	None	0	0	0	0	0	0	Modeled
073	43.07833333	76.12361111	Teall Brook	C	1	Fixed Weir	Other: Copa Screen	0	44	37	0	10	5.1	Metered
074	43.07666667	76.17194444	Ley Creek	C	1	Fixed Weir	Settling & Disinfection	0	0	0	0	0	0	Metered
075	43.06472222	76.17222222	Onondaga Creek	C	1	Fixed Weir	None	0	0	0	0	0	0	Modeled
076	43.01916667	76.15500000	Onondaga Creek	C	1	Fixed Weir	None	0	0	0	0	0	0	Modeled
078	43.03555556	76.18861111	Harbor Brook	B	1	Fixed Weir	None	0	24	20	0	1.4	1.8	Metered

Outfall Number	Latitude (Decimal)	Longitude (Decimal)	Receiving Water Name	Receiving Water Class	Number of Regulators Associated	Type of Regulator	Type of Treatment Provided	Number of Overflow Events - BASELINE	Number of Overflow Events - PREVIOUS YEAR	Number of Overflow Events - CURRENT YEAR	Annual CSO Volume (MG) - BASELINE	Annual CSO Volume (MG) - PREVIOUS YEAR	Annual CSO Volume (MG) - CURRENT YEAR	Measurement Method
080	43.05083333	76.15833333	Onondaga Creek	C	1	Other: Gate; gate opens when setpoint reached	None	0	13	6	0	8.3	7.6	Metered
M01	43.03333334	76.15833333	Onondaga Creek	C	1	Fixed Weir	Screening, Settling, Disinfection	0	16	6	0	47.8	20.8	Estimated
M02	43.03361111	76.15833333	Onondaga Creek	C	1	Other: Emergency Overflow Flaps	None	0	0	0	0	0	0	Estimated
06A	43.05194444	76.17638889	Harbor Brook	C	1	Fixed Weir	None	0	1	1	0	0.1	0.2	Modeled

Closed CSO Outfall Information

Outfall Number	Latitude (Decimal)	Longitude (Decimal)	Receiving Water Name	Receiving Water Class	Approximate Year Outfall Closed	Cause / Reason for Closure
008	43.04916667	76.17472222	Harbor Brook	B	0	Sealed
012	NONE PROVIDED	NONE PROVIDED	Harbor Brook	B	0	Sealed
013	43.04166667	76.17444444	Harbor Brook	B	2011	Sewer Separation
016	43.03777778	76.17861111	Harbor Brook	B	2011	Sewer Separation
022	43.05305556	76.15805556	Onondaga Creek	C	2013	Sewer Separation
024	43.05027778	76.15805556	Onondaga Creek	C	2001	Sewer Separation
025	NONE PROVIDED	NONE PROVIDED	Onondaga Creek	C	0	Sewer Separation
040	43.03638889	76.15527778	Onondaga Creek	C	2005	Sewer Separation
045	43.03027778	76.16055556	Onondag Creek	C	2013	Sewer Separation
046A/B	43.02833333	76.16277778	Onondaga Creek	C	2005	Sewer Separation
047	43.02750000	76.15916667	Onondaga Creek	C	2006	Sewer Separation
048	43.02694444	76.15888889	Onondaga Creek	C	2006	Sewer Separation
049	NONE PROVIDED	NONE PROVIDED	Onondaga Creek	C	0	Sewer Separation
050	43.02388889	76.15527778	Onondaga Creek	C	2008	Sewer Separation

Outfall Number	Latitude (Decimal)	Longitude (Decimal)	Receiving Water Name	Receiving Water Class	Approximate Year Outfall Closed	Cause / Reason for Closure
051	43.02305556	46.15527778	Onondaga Creek	C	2009	Sewer Separation
053	43.02000000	76.15555556	Onondaga Creek	C	2003	Sewer Separation
054	43.01916667	76.15472222	Onondaga Creek	C	2003	Sewer Separation
055	NONE PROVIDED	NONE PROVIDED	Onondaga Creek	C	0	Sewer Separation
056	NONE PROVIDED	NONE PROVIDED	Onondaga Creek	C	0	Sewer Separation
057	43.05305556	76.15805556	Onondaga Creek	C	1999	Sewer Separation
058	43.05111111	76.15833333	Onondaga Creek	C	0	Sewer Separation
059	43.05194444	76.15888889	Onondaga Creek	C	1999	Sewer Separation
061	43.02194444	76.155	Onondaga Creek	C	2016	Sewer Separation
062	NONE PROVIDED	NONE PROVIDED	Onondaga Creek	C	0	Other: Removed
065	43.038889	76.160278	Onondaga Creek	C	1999	Sealed

CSO Outfall Explanation

0 entered for baseline data in Table 1 as it is unknown. 0 entered for closure date in Table 2 if it is unknown. CSO 060M refers to permitted CSO 060/077. The County's SWMM estimates 42 overflow events annually (updated 3/27/25 based on 2024 rainfall). The County has 42 overflows (11-operational and 31-abated). In 2024, the highest number of overflows was metered at CSO 066. The previous year, the County utilized County's SWMM estimates (updated 12/31/22 typical year).

Part III - Collection System Information**Baseline Information**

If Baseline information is unknown, please use a best estimate, then characterize/describe in the narrative box below.

Baseline - Percentage (%) of combined sewers in the collection system owned by the permittee

0

Baseline - Approximate length (mi) of combined sewers owned by the permittee

0

Baseline - Number of CSO Outfalls owned by the permittee

72

Baseline - Number of CSO Events

0

Baseline - Annual CSO Volume discharged (MG)

982

Baseline - Population Served by the CSS

145,170

Baseline - Number of Satellite System Connections

0

Post-LTCP Implementation Information

If an LTCP has not yet been developed, or wasn't required, please input the current year information for each field.

Future - Percentage (%) of combined sewers in the collection system owned by the permittee

30.7

Future - Approximate length (mi) of combined sewers owned by the permittee

52.46

Future - Number of CSO Outfalls owned by the permittee

42

Future - Number of CSO Events

27

Future - Annual CSO Volume Discharged (MG)

108

Future - Population Served by the CSS

148,620

Future - Number of Satellite System Connections

3

Use the space below to provide any further relevant information on the collection system & to indicate if baseline information is unknown. This should include a description of any unique ownership, operation and maintenance agreements or further explanation and description of POSS/satellite system connections. For POTW's with POSS's, please indicate which municipality owns/operates which infrastructure (Pump Stations, trunk sewers, interceptors, regulators, outfall structures, etc.) as well as who is responsible for reporting CSO events from CSOs within the POSS and who is responsible for reporting SSOs within the POSS.

Baseline refers to conditions prior to any abatement measures completed under the 1st stipulation of the ACJ (1998). If baseline conditions are unknown, entered 0. The County is currently governed by the ICMP and as such current values are being used for the Post-LTCP numbers.

The County has (3) publicly-owned systems that convey flow to combined system (Dewitt (T), City of Syracuse POSS, Onondaga(T)). The County has (6) publicly-owned sewer systems that convey flow to Metro but are not connected into the combined sewer system (Camillus Consolidated, Clay(T) Syracuse Metro WWTP Service area, Town of Salina-Salina POSS to Syracuse Metro, South Geddes and Part of North Geddes Sewer District, V of Solvay, and Camillus(V) POSS).

Part IV - CSO Control Implementation Information

Reporting Year Information

Provide a summary of any significant LTCP or PCCM projects completed within the reporting year and any milestones for the reporting year that were not achieved.

The County has completed six months of flow monitoring for SWMM model re-calibration of Harbor Brook.

CSO 029 was not flow monitored since modifications. Flow monitoring is planned after completion of the I-81 project.

Upcoming Year Information

Summarize significant LTCP and PCCM projects planned and milestones due for the upcoming year.

Modifications to the CSO 066 Regulator structure anticipate a reduction in the number of overflows.

Continued flow monitoring for the re-calibration of the SWMM model for Harbor Brook.

Additional flow monitoring as needed for capacity assurance.

Part V - CSO Best Management Practices (BMPs)

Which CSO BMPs does your SPDES permit require?

- 1- CSO Maintenance / Inspection
- 2- Maximize Use of the Collection System for Storage
- 5- Wet Weather Operating Plan (WWOP)
- 3- Industrial Pretreatment
- 4- Maximize Flow to POTW
- 6- Prohibition of Dry Weather Overflows
- 7- Control of Floatables and Settleable Solids
- 9- Combined Sewer / Extension
- 11- Septage and Hauled Waste
- 13- Public Notification
- 14- Characterization and Monitoring
- 12- Control of Runoff
- 10- Connection Prohibitions
- 8- Combined Sewer System Replacement

BMP No. 1 CSO Maintenance Inspection

6 NYCRR 750-2.8(a)(2)

(EPA NMC No. 1: Proper Operation and Regular Maintenance)

Is there a written program for the maintenance and inspection of the CSS and CSOs?

Yes

What is the minimum frequency of dry-weather CSO inspections?

Weekly

Are inspections of CSOs/regulators conducted during or following wet weather events?

Yes

Do the inspection reports indicate visual inspection observations, observed or presumed flows, weather conditions, equipment condition, and any repair work recommended?

Yes

Are the inspection reports submitted to the DEC Regional Office?

Yes, with Monthly Operating Reports

Indicate which of the following additional components are included in the maintenance and inspection program:

Pump Stations

Sewer Manholes & Catch Basins

CSO Outfalls

CSO Controls (e.g. regulators, screening/storage/treatment facilities)

Sewer Pipes & Interceptors

Are there existing inter-municipal agreements which specify responsibilities for inspection, maintenance, and/or repair?

Yes

IMA Listing - Please indicate the community name and year of last IMA update.

Community Name	Year of most recent IMA Update
Town of Dewitt	2024
Town of Onondaga	2024
Town of Camillus	2024
Town of Clay	2024
Town of Salina	2024
Town of Geddes	2024
Village of Solvay	2024
Village of Camillus	2024

Is the collection system mapped using GIS?

Yes, portions of the system (only interceptors & sewer pipes)

Is the collection system monitored using a SCADA system or other flow monitoring system?

Yes, SCADA

In the past year, was progress made to install, upgrade, or expand monitoring with SCADA/Other system?

Yes

In the upcoming year, is installation, upgrade, or expansion of monitoring with SCADA/Other system planned?

Yes

Does the municipality have an asset management program that includes the collection system?

Yes, in place

Have any work efforts or problems in the past year resulted in changes in overflows? If yes, describe below in the narrative box.

Yes

In the past year, was the inspection and maintenance program mostly:

Proactive (focusing on preventative maintenance to avoid problems)?

Use the space below to provide a narrative description of the following:

- a) Lengths of sewer cleaned and inspected,
- b) Number of manholes and catch basins cleaned and inspected,
- c) Any repairs or replacements conducted in the CSS,

In 2024, 9,635 LF of combined sewers were cleaned and 7,348 LF were televised. The County sewer crews also clean the siphons monthly (yearly total 28,083 LF). CSO manholes are inspected weekly (yearly total 2851). Outside of these inspections, 257 manholes were also inspected. In 2024, two (2) manholes were repaired.

Use the space below to describe any large equipment purchases made in the reporting year or planned for the upcoming year (e.g. vacuum trucks, pumps, etc.) , as well as, any work efforts or problems in the past year that resulted in changes to the collection system maintenance and inspection program, and any noticeable results of the system changes (e.g. fewer events, less CSO volume, a reduction in floatables or other pollutants discharges, visible improvement in water quality of receiving water).

The County will be working with their CSO/CMOM engineering consultant to review O&M Plan. CSO 066 modification project anticipates a reduction in the number of overflows and improved hydraulics. Future post construction monitoring is anticipated.

BMP No. 2 Maximize Use of the Collection System for Storage

6 NYCRR 750-2.7(f), 750-2.8(a)(2), 750-2.8(a)(5)
(EPA NMC No. 2: Maximization of Storage in the Collection System)

In the past year, was the collection system able to convey the required minimum flows to the treatment plant during ALL wet-weather events?

Yes

Has the hydraulic capacity of the collection system been evaluated?

Yes

When was the hydraulic capacity last evaluated?

2022

Have regulators and weirs ever been adjusted/modified to maximize storage?

Yes

In the past year, or the upcoming year, indicate if any of the following items have been changed or if changes are planned to improve use of the collection system for storage? If so, describe below in the narrative box.

Regulator or Weir Adjustment

FOG Program

Sewer Cleaning and Sediment Removal

Use the space below to provide a narrative description of the changes to structures or procedures that will improve use of the collection system for storage (e.g. tide gate maintenance/repairs/replacement, regulator or weir adjustment, FOG program changes, removal of bottlenecks/flow obstructions, sewer cleaning and sediment removal, in-line storage, etc.).

The completion of the modifications to the regulator structure at CSO 066 is anticipated in 2025.

On-going sewer cleaning and siphon cleaning reduces sediment build-up and maintenance of the collection system capacity.

The County continues to modify/adjust Maximo preventative maintenance workflow increasing sewer CCTV investigations and jet cleaning efforts to maintain sewer capacity. County's consulting engineer for CSO/CMOM program will review O&M Plan.

BMP No. 3 Industrial Pretreatment

6 NYCRR 750-2.7(f) and 2.9(a)(4)

(EPA NMC No. 3 & 7: Review and Modification of Pretreatment Requirements & Pollution Prevention Programs to Reduce Contaminants in CSOs)

Is there an approved pretreatment or mini-pretreatment program or acceptance of flow from non-domestic sources?

Yes, IPP or Mini-IPP

Is there an inventory of industrial or non-domestic dischargers?

Yes

Has the impact on CSOs from non-domestic users that discharge toxic pollutants been evaluated, and steps taken to minimize such impacts?

Yes

Does the pretreatment program consider CSOs in the calculation of local limits?

No

Are there any restrictions on industrial user discharges to the collection system during wet-weather events?

Yes

Are there any industrial discharges that could reach CSO outfalls?

Yes

Do industrial users upstream of CSOs discharge any bioaccumulative chemicals of concern (BCCs)?

No

Do any industrial users have a holding tank or equalization tank to store wastewater prior to discharge to the CSS?

Yes

In the past year or in the upcoming year, have there been or will there be negotiations or changes to agreements with industrial dischargers, which will potentially reduce impacts during CSO events? Describe these changes below in the narrative box.

Yes

Use the space below to provide a narrative description of industrial discharges to the collection system, any restrictions on industrial discharges during wet-weather events, and any agreements that will potentially reduce impacts during CSO events.

Syracuse University Chilled Water Plant holds all incoming water softener regeneration process during wet weather events.

SIUs are:

Anoplate Corporation, Aramark, Bitzer Scroll, Carr Street Station, Carrier Corporation, Century Linen and Uniform, Cooper Crouse-Hinds, Crucible Industries, Eagle Metalcraft, Feldmeier Equipment, G.C. Hanford, Honeywell Int. WB 1-8 pH Adj. Facility, Honeywell International (Overflow), Honeywell Willis-Semet GWTP, Inficon, LOTTE Biologics, omnesi(NexGen), S.U. Chilled Water, S.U. Steam Station, Sandy's Bumper Mart, Solvents & Petroleum Service, Steri-Pharma, Syracuse Hancock Airport, Teamwork Coatings, Terrells Potato Chip Co, Ultra Dairy, Unifirst Corporation, Upstate Farms Dairy, and WestRock-Solvay

BMP No. 4 Maximize Flow to POTW

6 NYCRR 750-2.7(f), 2.8(a)(2), and 2.8(a)(5)

(EPA NMC No. 4: Maximization of Flow to the POTW for Treatment)

What is the permit required minimum flow during wet weather events through the headworks (in MGD)?

168.40

What is the permit required minimum flow during wet weather events through primary treatment (in MGD)?

168.40

What is the permit required minimum flow during wet weather events through secondary treatment (in MGD)?

126.30

What is the permit required minimum flow during wet weather events through disinfection (in MGD)?

168.40

In the past year, were the headworks, primary treatment works and disinfection works able to pass the flows specified in the permit for all wet weather flows?

Yes

In the past year, was the secondary treatment works able to pass the flows specified in the permit for all wet weather flows?

No

If the minimum flows were not achieved for all wet-weather events in the reporting year, has a plan to accomplish this been developed and submitted to the Department?

No

In the past year or in the upcoming year, have there been or will there be any physical modifications to the collection system which have allowed more flow to reach the POTW? If yes, describe below in the narrative box.

Yes

Are there areas of the collection system, including pump stations that need additional study to evaluate capacity, condition, or to determine if illegal connections (i.e. inflow) exist? If yes, list below in the narrative box

Yes

In the past year, have any new problem areas been identified that restrict flow to the plant? If yes, list the locations below in the narrative box.

No

Use the space below to provide a narrative description of:

- a) any physical modifications to the collection system which are completed or anticipated and will allow for more flow to reach the WWTP,
- b) any areas of the collection system which need additional study to evaluate capacity or inflow issues,
- c) any known problem areas that restrict flow to the WWTP, and
- d) any plans to address hydraulic restrictions (e.g. pipe replacement, construction of relief sewer or overflow tanks, pump station improvements, weir adjustment, smoke/dye testing to identify illicit connections).

The CSO 066 Regulator Modification Project will be constructed in 2025.

In 2025 the Richmond St, Sackett St, and Taylor St pump stations construction is anticipated.

In 2024 the County the evaluation of Kirkpatrick Pump Station for rehabilitation began. Construction is anticipated in 2025.

In 2024 Metro was not able to pass 126.3 MG through secondary treatment works during (14) bypass events due to construction activity that led to reduced capacity.

BMP No. 5 Wet Weather Operating Plan

6 NYCRR 750-2.8(a)
(EPA NMC: None)

Does the plan identify the maximum flows through preliminary, primary, secondary treatment, tertiary, and disinfection units?

Yes

In the past year, did treatment of wet weather flows cause any effluent violations or destabilize treatment upon return to normal service? If yes, describe below in the narrative box.

Yes

If the collection system or plant has been modified or upgraded, has the WWOP been modified to reflect new flow rates or new procedures and the revised plan submitted to the NYSDEC Regional Office?

No, no changes

In the upcoming year, are changes to the WWOP expected? If so, describe below in the narrative box.

No

When was the WWOP last updated?

2019

When was the WWOP last submitted and approved by NYSDEC?

2019

Use the space below to provide a narrative description of any changes to the WWOP during the reporting year or anticipated in the upcoming year.

In 2024, there were four permit violations for bypass events. These violations included fecal coliform and chlorine residual exceedances, as well as sample preservation errors. Details of these violations are included in the RNC attachments to the DMRs. At no time in 2024 was treatment destabilized due to wet weather conditions.

BMP No. 6 Prohibition of Dry Weather Overflows

6 NYCRR 750-2.7 and 2.8(b)(2)
(EPA NMC No. 5: Elimination of CSOs During Dry Weather)

In the past year, were there any dry weather overflows?

Yes

Were all dry weather overflows reported via NY-Alert, in accordance with 6 NYCRR 750-2.7?

Yes

Did dry weather overflows lead to improvement of procedures or equipment?

Yes

Has the likelihood of future dry weather overflows been eliminated? If not, describe why below in the narrative box.

No

Use the space below to provide a narrative description of the both the causes of any dry weather events that occurred in the reporting year and resulting changes or improvements that were made to procedures or equipment (e.g. routine inspection schedule, OMIP, inter-municipal agreements, FOG program, removal of illicit connections, I/I Control program, leaky tidegates, adjustment and/or repair of regulators, upgraded auxiliary power, elimination of hydraulic bottlenecks, etc.).

There were multiple blockages of town owned sewers resulting in SSOs and execution of IWAs at end of 2024. The weir at CSO 052 was leaking and repairs were made. On 6/6-7/23/24 the Ley Creek Force Main had a break resulting in SSO to Onondaga Lake. The County continues to work on force main assessments and rehabilitation. Monthly SSO reports are submitted with the Metro DMRs.

BMP No. 7 Control of Floatables and Settleable Solids

6 NYCRR 750-2.8(a)(4)
(EPA NMC No. 6: Control of Solid and Floatable Materials in CSOs)

In the past year, did any outfalls discharge floating solids, oil and grease, or solids of sewage origin?

No

Indicate which of the following engineering controls or control measures, if any, have been implemented or will be implemented in the upcoming year?

Booming & Skimming of Open Waters

In-line Netting

Source controls (street cleaning, public education, household hazardous waste collection, solid waste collection, recycling, and/or composting of lawn/leaf/roadkill deer)

Catch basin hoods

Use the space below to provide a narrative description of any ongoing issues with control of floatables and settleable solids from CSO outfalls and any existing or planned engineering controls or control measure to be implemented.

Floatable Control Facilities are inspected weekly and after an event. A Skimmer Boat is used to remove floatables with the Syracuse Inner Harbor and near the outlet of Onondaga Creek. Trash pickup is also included in the County's green infrastructure maintenance program.

BMP No. 8 Combined Sewer System Replacement

6 NYCRR 750-2.10(i)
(EPA NMC: None)

In the past year, were any combined sewers designed or constructed that were not approved by NYSDEC?

No

Are there any plans or current projects to separate combined sewers into sanitary & storm sewers?

No

Were any cross-connections eliminated in the past year or planned for the upcoming year?

No

In the past year, how many miles of combined sewer were separated?

0.00

In the upcoming year, how many miles of combined sewer are scheduled to be separated?

0.00

Use the space below to provide a narrative description of how this BMP was implemented during the reporting year.

Sewer separation project along Fayette Street has NYSDEC approval and construction is anticipated in 2025. The sewer separation will be tied back into the combined system until NYSDOT constructs the new I-81 storm sewer. At that point, the storm sewers would be connected and officially separated from the combined system.

BMP No. 9 Combined Sewer / Extension

6 NYCRR 750-2.10(i)
(EPA NMC: None)

In the past year, were any combined sewers extended?

No

Is any development planned upstream of a combined sewer in the near future?

No

If a plan contained a flow credit requiring removal of I/I, what was the requirement or ratio?

1:1

Use the space below to provide a narrative description of how this BMP was implemented during the reporting year.

The combined sewer system has not been extended. Upstream of the CSS within the Town of Onondaga, there are several new developments proposed that will increase the amount of flow sent to the CSS. The County requires a 1:1 offset for all new developments in this area.

BMP No. 10 Connection Prohibitions

6 NYCRR750-2.9(a)(5)
(EPA NMC: None)

Are new connections prohibited by NYSDEC?

No

In the upcoming year, is any work planned to either increase capacity or reduce hydraulic loading to the WWTP? If so, describe below in the narrative box.

No

BMP No. 11 Septage and Hauled Waste

6 NYCRR750-2.7(f) and 2.8(a)(1)
(EPA NMC: None)

Does the POTW accept septage or hauled waste?

Yes

In the past year, were there any discharges or releases of septage or hauled waste INTO the collection system upstream of a CSO?

No

Are there restrictions on when the POTW accepts hauled waste or septage?

Yes

Is there a dedicated location to discharge septage at the WWTP?

Yes

Does the facility have authorization from NYSDEC to accept hauled waste or septage at a location other than the WWTP?

No

Have there been, or will there be, any changes to the POTW's policy on septage and hauled waste?

No

Use the space below to provide a narrative description of how septage and hauled waste are received by the POTW, where remote acceptance locations are, any POTW restrictions on when these wastes can be received, and the total volume of these wastes received at remote locations during the reporting year.

Waste haulers are permitted by the Department to deliver wastestreams on their 364 permit with NYS. Haulers complete an invoice describing the waste delivered with other pertinent information. All waste is discharged at an off-load area at the head of the Metro WWTP. Hauled waste deliveries are suspended during front-end bypass events. The County requires analytical data for miscellaneous non-industrial wastestreams which has decreased the number of haulers disposing at Metro.

BMP No. 12 Control of Runoff

6 NYCRR750- 2.1(e)
(EPA NMC: None)

Is sediment in runoff from construction zones entering catch basins in the combined sewer system?

No

Are impacts of run-off, from development and re-development in areas served by combined sewers, reduced by requiring compliance with the New York Standards for Erosion and Sediment Control and the quantity control requirements included in the New York State Stormwater Management Design Manual?

Yes

Is there adequate communication between the local municipal department that enforces local stormwater codes and ordinances and the collection system staff regarding stormwater runoff?

Yes

Do the municipalities within the combined sewer system have adequate storm water pollution prevention programs to reduce pollutants in stormwater?

Yes

Are any changes needed in the implementation of this BMP to reduce the number of CSO events, the volume discharged, or pollutants in the discharge? If yes, describe below in the narrative box.

No

Use the space below to provide a narrative description of how this BMP was implemented during the reporting year and any planned changes for the upcoming year.

Implementation of planned changes to BMPs are consistent with the Order on Consent Case number R7-202100304-6.

Onondaga County continues to evaluate opportunities for increasing capture of stormwater runoff in all CSO areas, implementing new projects and practices on a regular basis, with a focus on both volume reduction and pollutant removal.

BMP No. 13 Public Notification

6 NYCRR 750-1.12
(EPA NMC No. 8: Public Notification)

In accordance with the Discharge Notification Act Requirements of the SPDES permit, outfall identification signs must be installed and maintained at all permitted CSO outfalls. Are these signs installed and maintained at all permitted CSO outfalls?

Yes

Are all CSO events in accordance with the SPDES permit reported via NY-Alert?

Yes

In accordance with the Sewage Pollution Right to Know Law, as detailed in 6 NYCRR Part 750-2.7, all CSO discharge events must be reported via the NY-Alert electronic notification system.

CSO events not in accordance with the SPDES permit conditions should be reported as a bypass via NY-Alert. When these events occur, are they being reported via NY-Alert?

Yes

Beyond the use of NY-Alert, does the POTW maintain any other public notification systems (e.g. websites, social media, email systems, public media broadcasts) to alert potential users of receiving waters affected by CSOs?

No

For all CSOs to receiving waters that are Class B or higher, a written public notification program (PNP) is required to be developed, implemented, and publicly available to inform citizens of the location and occurrence of CSO events. Is there a written PNP?

Yes

For all CSO communities within the Great Lakes Basin, a written PNP is required. Is your community within the Great Lakes Basin?

Yes

For communities with a PNP, when was the PNP last updated?

2023

Use the space below to provide a narrative description of how any updates to CSO outfall signs and PNPs, as well as a summary of any other public notification systems (beyond NY-Alert) used to alert the public of CSO events.

CSO outfall signs are publicly posted, routinely checked, and replaced as needed. Several CSOs discharge into the covered portion of Harbor Brook and the discharges are below grade. There is no signage at CSO #s 003, 005, 006, 006A, 007, 008, 009, 010, 011, and 013 for this reason.

BMP No. 14 Characterization and Monitoring

(6 NYCRR 750-1.11(a), 2.5(a) and 2.7(g))

(EPA NMC No. 9: Monitoring to Characterize CSO Impacts and the Efficacy of CSO Controls)

Has the combined sewer system been modeled for use in determining or estimating the frequency of overflows and identifying CSO impacts?

Yes

Was baseline sampling conducted as part of LTCP development?

Yes

Was any Post Construction Compliance Monitoring (PCCM) sampling conducted in the reporting year or planned for the upcoming year?

Yes

In what years does the SPDES permit, Order on Consent, or other enforcement mechanism require PCCM sampling to be conducted?

annual

CSO discharge monitoring methods should be specified for each CSO outfall in Part II of this Annual Report. For all CSO outfalls that are not metered, explain how overflow volumes are either modeled or estimated to collect sufficient data and document permit compliance and the success of CSO BMP implementation. In addition, please provide a brief summary of the findings from the most recently submitted PCCM Report (including compliance with the selected CSO Policy Approach criteria and attainment of water quality standards).

CSOs are metered as required by the Metro SPDES permit. All remaining CSOs are modeled using SWMM.

The CSO Interim Corrective Measures Plan includes an annual PCCM sampling plan. The County continues to monitor tributary sampling locations upstream and downstream of CSOs on Onondaga Creek and Harbor Brook. Flow metering will be continued in 2025 for the CSOs on Harbor Brook to support calibration of SWMM.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

625 Broadway, Albany, New York 12233-3500

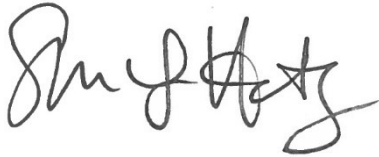
P: (518) 402-8233 | F: (518) 402-9029

www.dec.ny.gov

NYSDEC State Pollution Discharge Elimination System (SPDES) Combined Sewer Overflow Best Management Practices Annual Report

OWNER/OPERATOR CERTIFICATION

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 gathered and evaluated 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.



Name (please print or type)

Shannon L. Harty, P.E., Commissioner

Signature

3/27/2025

Date



Department of
Environmental
Conservation

Appendix A1

Service Area Summary Report “City of Syracuse” (2024)

Service Area Summary Report

For overflows between: 1/1/24 And 1/1/25

For service area: *City of Syracuse*

Overflow ID	Type	Service Area / Municipality	Facility	Date Began	Date Ended	Duration (hours)	Volume Gallons	Receiving Water	Cause	POTW
636	SSO	City of Syracuse	CSO 052	02/12/2024	02/12/2024	6.33	760	Onondaga Creek	The bottom of the weir at CSO 052 was leaking resulting in dry weather SSO to Onondaga Creek.	Metropolitan Syracuse
642	SSO	City of Syracuse	Colvin Street Trunk Sewer	05/29/2024	05/29/2024	2.17	3,900	Onondaga Creek	A planned diversion of the Colvin Trunk sanitary flow to the East Side Interceptor Sewer (ESIS) caused the ESIS to surcharge and relieve at CSO 060M. It is related to an ongoing emergency repair work at the Midland Trunk Sewer.	Metropolitan Syracuse
643	SSO	City of Syracuse	Ley Creek Force Main	06/06/2024	07/23/2024	1,130.75	69,000	Onondaga Creek	The Ley Creek Force Main had a break and was leaking untreated sanitary sewage into Onondaga Creek.	Metropolitan Syracuse
645	SSO	City of Syracuse	219 Lamson Street	06/19/2024	06/19/2024	4.25	2,550	None (ground)	A county owned trunk sewer section (SL-39090) became blocked, potentially by grease. The sewer blockage caused an upstream manhole (MH#24430) to surcharge and discharge onto the ground.	Metropolitan Syracuse

Appendix B1

CSO Facility Performance Summary (2024)

CSO Facility Performance Summary (2024)

CSO Facility	Quarter	Estimated CSO Volume Retained (gallons)	Estimated Treated CSO Volume Discharged (gallons)	Estimated Untreated CSO Volume Discharged (gallons)	Annual Grit Removal/Screenings (cu. Yds)
Clinton Storage Facility (CSF)-CSO 033A	First	8,667,940	0	600,000	
	Second	15,905,898	0	0	
	Third	29,945,304	0	7,980,000	
	Fourth	7,485,998	0	0	
Total (CSF)		62,005,140	0	8,580,000	169
Erie Boulevard Storage System (EBSS)-CSO 080	First	5,800,000	0	1,686,063	
	Second	20,800,000	0	0	
	Third	26,300,000	0	5,962,815	
	Fourth	4,400,000	0	0	
Total (EBSS)		57,300,000		7,648,878	0
Midland RTF-Main Outfall M01 and Emergency Bypass Outfall M02	First	9,546,800	6,216,000 ¹	0	
	Second	15,373,800	0	0	
	Third	23,673,600	13,616,000	0	
	Fourth	10,010,000	962,000 ¹	0	
Total (Midland RTF)		58,604,200	20,794,000	0	131
Hiawatha Regional Treatment Facility (CSO 074)	First	0	0	0	
	Second	0	0	0	
	Third	270,900	0	0	
	Fourth	0	0	0	
Total (Hiawatha RTF)		270,900	0	0	2
CSO 018 Pilot Constructed Wetlands Treatment Facility Main Outfall 018	First	0	2210000 ²	0	
	Second	180,000	130,000	0	
	Third	870,000	2,390,000	0	
	Fourth	0	110000 ³	0	
Total (CSO 18 PCWTF)		1,050,000	4,840,000	0	0
Lower Harbor Brook Storage Facility (LHBSF)-CSO 04A	First	6,069,856	0	0	
	Second	10,095,500	0	0	
	Third	19,101,799	0	0	
	Fourth	4,425,999	0	0	
Total (LHBSF)		39,693,154	0	0	19
TOTAL		218,923,394	25,634,000	16,228,878	321

¹ Midland RTF discharges were not chemically treated; overflows occurred outside disinfection season; chemical treatment not required

² Effluent caused by backflow of Harbor Brook into wetlands and not an influent diversion event

³ Effluent caused by rainfall and groundwater directly into Wetland Cell #3 and not associated with influent diversion flow

Appendix C1

Floatables Control Report (2024)

ONONDAGA COUNTY, DEPARTMENT OF WATER ENVIRONMENT PROTECTION

2024 FLOATABLE CONTROL SUMMARY

This report summarizes the efforts to address floatable material in the areas impacted by the combined sewer overflow (CSO) system within the Onondaga County Consolidated Sanitary District. Onondaga County currently operates five (5) floatable control facilities (FCF). These include the Burnet FCF, Butternut FCF, and Maltbie FCF net bag facilities tributary to Onondaga Creek, the Harbor Brook FCF net bag facility within Harbor Brook and the Teall FCF combing screen facility tributary to Teall Brook.

Onondaga County personnel, at a minimum, perform weekly inspections of the floatable control facilities (FCF) regardless of the weather that has occurred. After each wet-weather event, County personnel inspect each floatable control facility to evaluate system performance, identify problems, and clean and schedule net bag replacement, as warranted. When net bags reach approximately 30%-40% of capacity (or as otherwise needed), replacement is scheduled. Table 1 is a Floatable Control Facility Debris Disposal Summary and disposal amounts are combined for all the facilities. Table 2 contains information about the individual FCFs and the associated debris.

Table 1: 2024 Floatable Control Facility Debris Disposal Summary

Date of Disposal	Debris (tons)
2/3/24	0.42
4/25/24	2.41
5/16/24	2.25
6/12/24	2.9
8/13/24	3.61
10/22/24	1.78
11/15/24	0.34
Total	13.71

Table 2: 2018-2024 Floatable Control Facility Operation Comparison

Year	Burnet FCF		Butternut FCF		Maltbie FCF		Harbor Brook FCF	
	Net Bags Replaced (#)	Debris (tons)	Net Bags Replaced (#)	Debris (tons)	Net Bags Replaced (#)	Debris (tons)	Net Bags Replaced (#)	Debris (tons)
2018	84	8.51	120	12.65	30	3.19	24	2.60
2019	114	10.6	160	14.93	39	3.73	42	4.17
2020	72	7.23	96	9.49	33	3.03	27	2.97
2021	66	6.41	88	8.55	33	3.20	30	2.94
2022	54	5.46	72	7.28	24	2.46	24	2.37
2023	54	5.74	72	7.65	21	2.20	18	2.12
2024	36	4.23	44	5.47	15	1.99	15	2.02

HARBOR BROOK FLOATABLES CONTROL FACILITY (FCF)

Onondaga County WEP received permission to decommission Harbor Brook FCF at the end of 2024 as per NYSDEC approval letter (December 20, 2024) for Harbor Brook Floatables Control Facility Modification Engineering Report, Jacobs, November 13, 2024. In early 2025 the bar rack and pontoon structure facility will be removed from Harbor Brook Creek.

SKIMMER BOAT OPERATION

The County has contracted services to operate a skimmer boat providing floatables debris collection and disposal in the Inner Harbor of Syracuse, along the mouth of Onondaga Creek, as well as the near-shore portions of Onondaga Lake within 1,000 feet of the mouth of Onondaga Creek, with an option for the skimmer boat service to Onondaga Lake shorelines east and west. In 2024, a total of 7.21 tons of debris was collected by the skimmer boat operation. In addition, there were (2) dumpsters of wood debris collected at an estimated 5,000 pounds each. The quantity of debris collected after heavy prolonged rain events is greater than dry weather periods.

The debris collected typically consisted of the following elements: leaves, grass and brush, tree limbs and logs, plastic styrene food packaging, plastic containers, bottles, aluminum cans, playground equipment (balls, sneakers, etc.), pharmaceutical bottles, blister packs and syringes, sanitary items, construction barricades, pallets and lumber, and dead fish.

Table 3: 2023 Summary of Skimmer Boat Operation

Month	Operation Days
April	8
May	9
June	8
July	9.5
August	7
September	6.5
Total	48

Table 4: 2024 Summary of Skimmer Boat Debris Disposal

Date of Disposal	Debris (tons)
4/16/24	1.07
6/5/24	1.83
8/13/24	1.78
9/27/24	2.53
Total	7.21

GREEN INFRASTRUCTURE MAINTENANCE

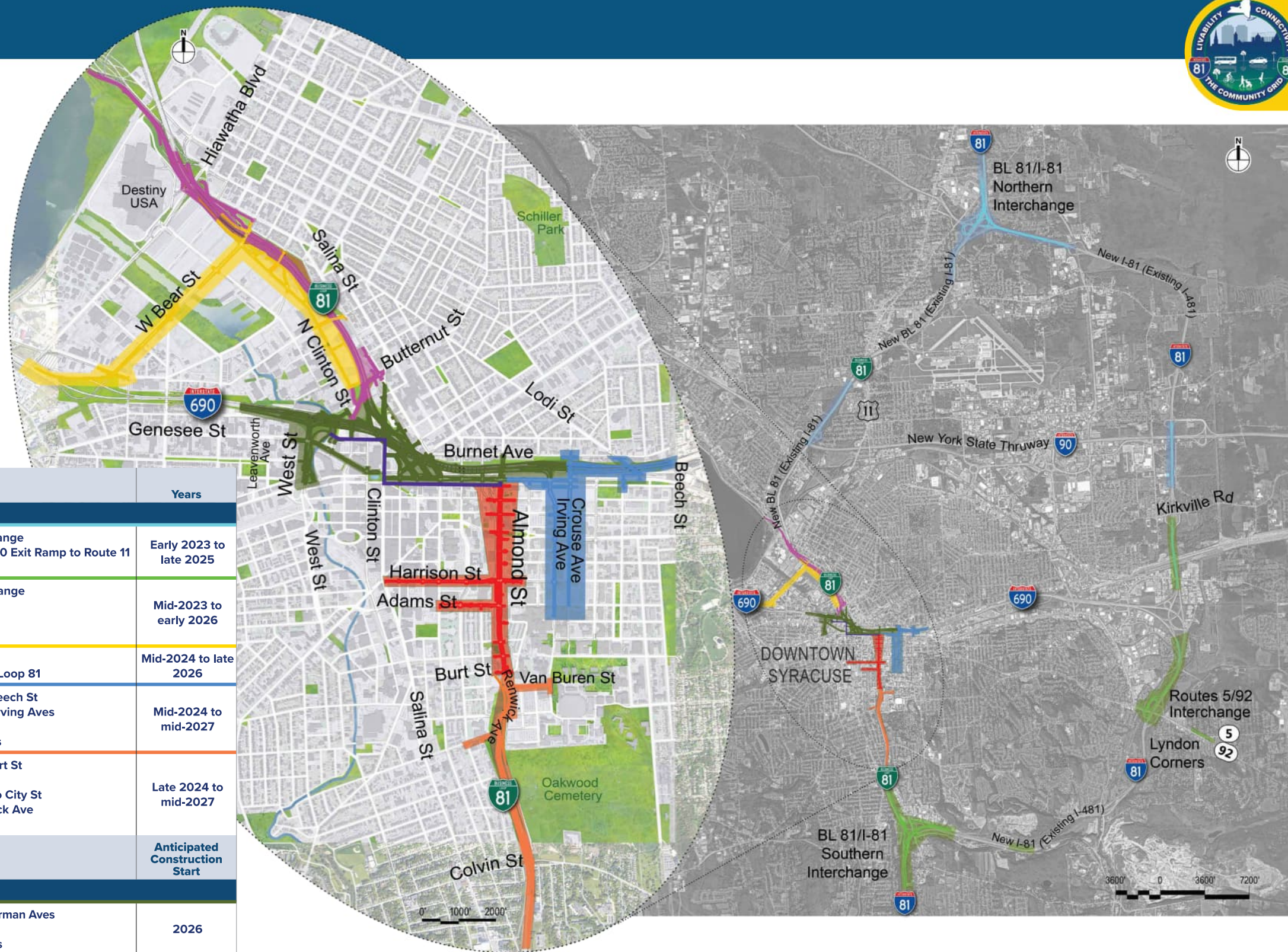
In addition, the County conducts green infrastructure maintenance which includes several scheduled and corrective work procedures related to the control of floatable debris. These include general trash clean up, in 2024 the County collected 243 bags (55-gallon bags) approximately 66.15 Cubic Yards of trash from our green infrastructure projects.

Appendix B
NYSDOT I-81 Viaduct Project Phasing Overview

Overview



Downtown Detail



Contract Number	Construction Work	Years
Phase 1		
1	Business Loop 81/I-81 Northern Interchange Business Loop 81 Noise Barrier from I-90 Exit Ramp to Route 11 I-81 Kirkville Rd to I-90	Early 2023 to late 2025
2	Business Loop 81/I-81 Southern Interchange Routes 5/92 Interchange Lyndon Corners I-81/I-690 Interchange to Kirkville Road	Mid-2023 to early 2026
3	Northside Local Sts Rehabilitate Bear St, I-690 to Business Loop 81	Mid-2024 to late 2026
4	I-690 Reconstruction, Forman Ave to Beech St New I-690 Interchange at Crouse and Irving Aves Crouse Ave Improvements Irving Ave Extension and Improvements	Mid-2024 to mid-2027
5	Business Loop 81, E Brighton Ave to Burt St New Northbound Exit to Colvin St Traffic Calming to Transition Freeway to City St Replacement of Rail Bridge over Renwick Ave Roundabout at Van Buren St	Late 2024 to mid-2027
Contract Number	Construction Work	Anticipated Construction Start
Phase 2		
6	I-690 Reconstruction, Leavenworth to Forman Aves Reconstruct West St Interchange Improvements to West and Genesee Sts	2026
6A	Storm Water Trunk Line, Almond St to Onondaga Creek Associated Sanitary and Water Relocations	Mid-2026
7	Business Loop 81, I-690 to Hiawatha Blvd New Bear St Interchange	Early 2027
8	Almond St, Burt St to Burnet Ave Improvements to Adams and Harrison Sts	Early 2027

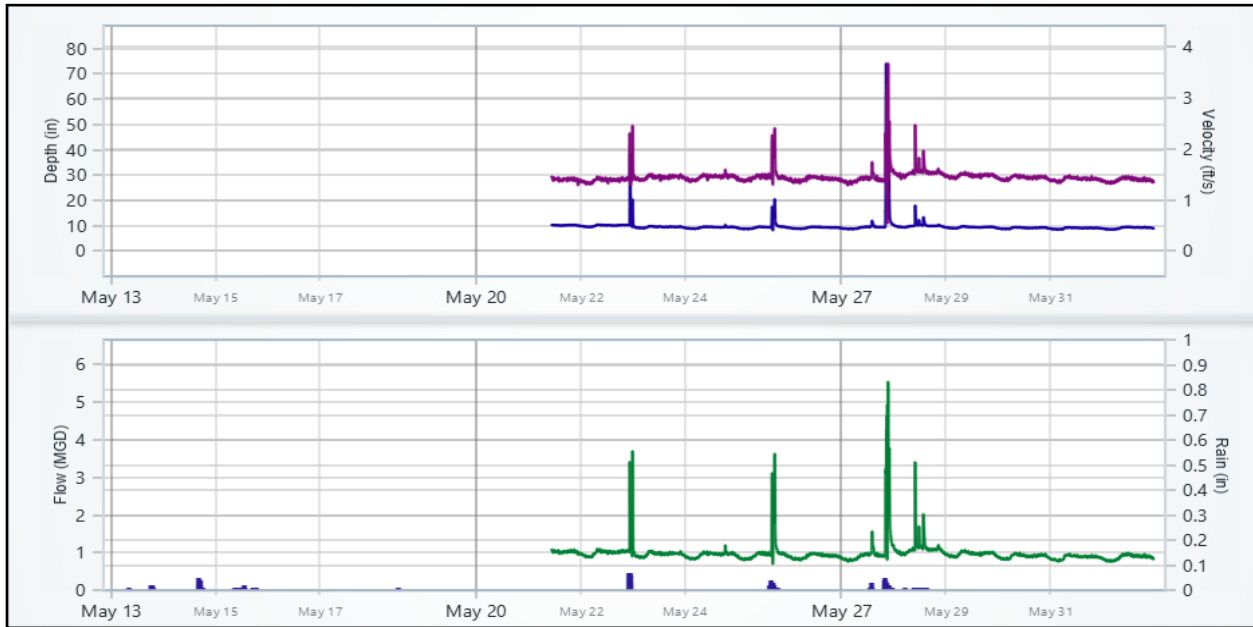
Appendix C
2024 Harbor Brook Flow Meter Data

Appendix C – 2024 Harbor Brook Flow Meter Data

Note: Location map of each flow monitoring device is provided in Figure 4-1

1. HBIS-1

1.1 May 2024

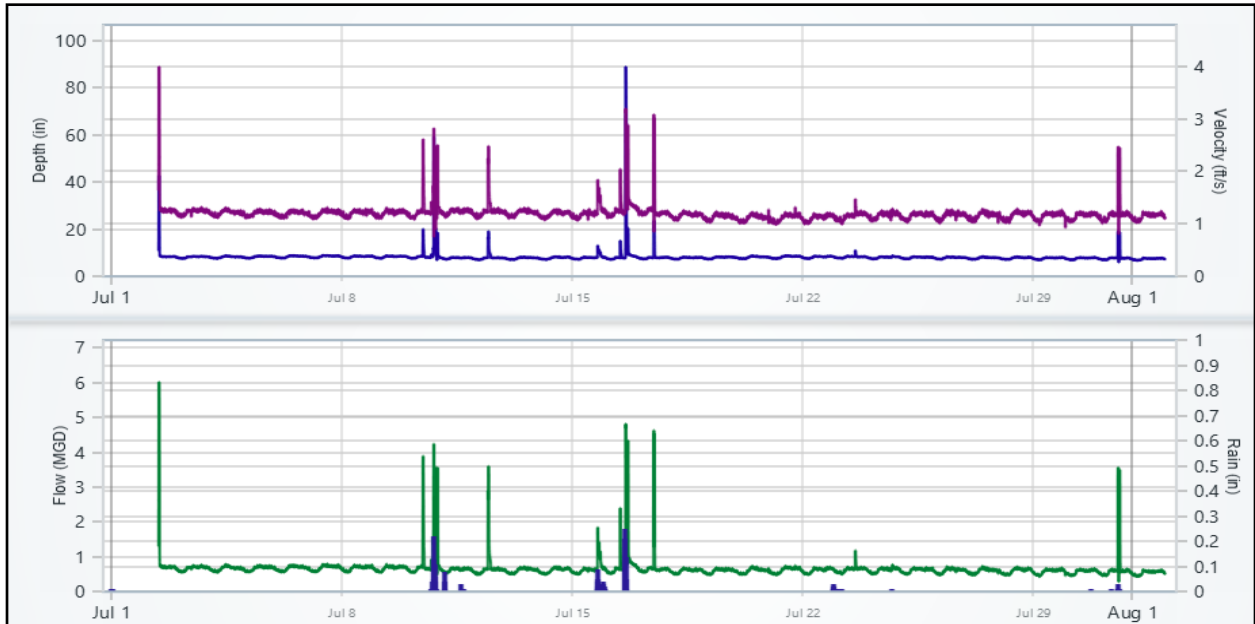


1.2 June 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

1.3 July 2024

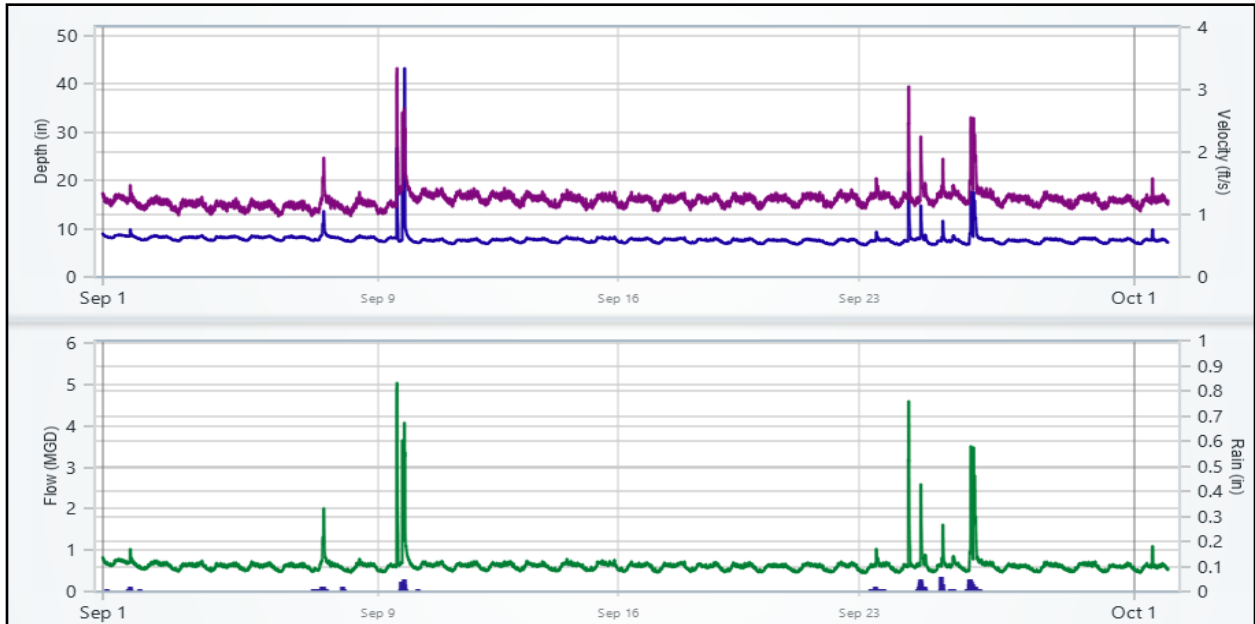


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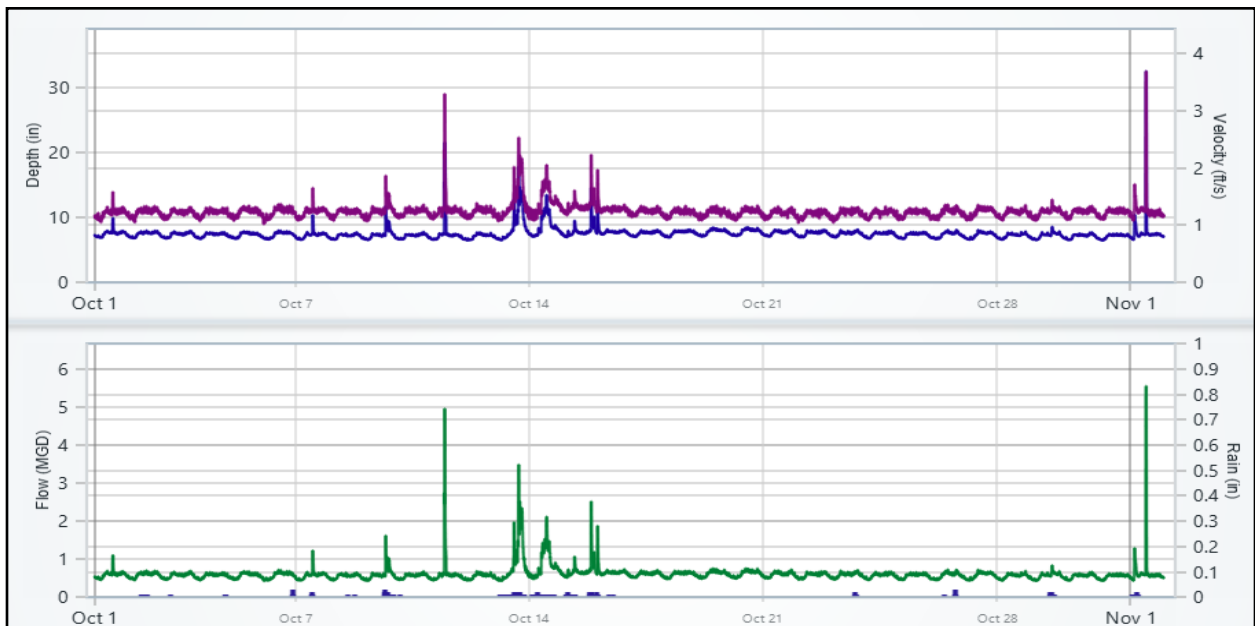


Appendix C – 2024 Harbor Brook Flow Meter Data

1.5 September 2024

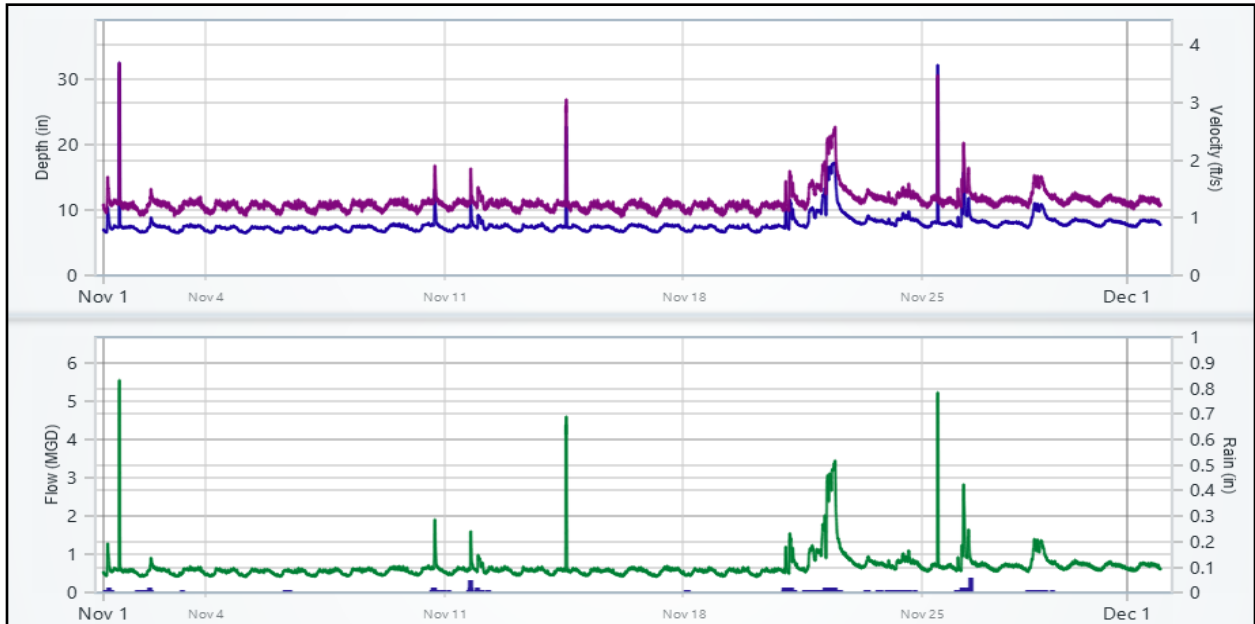


1.6 October 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

1.7 November 2024

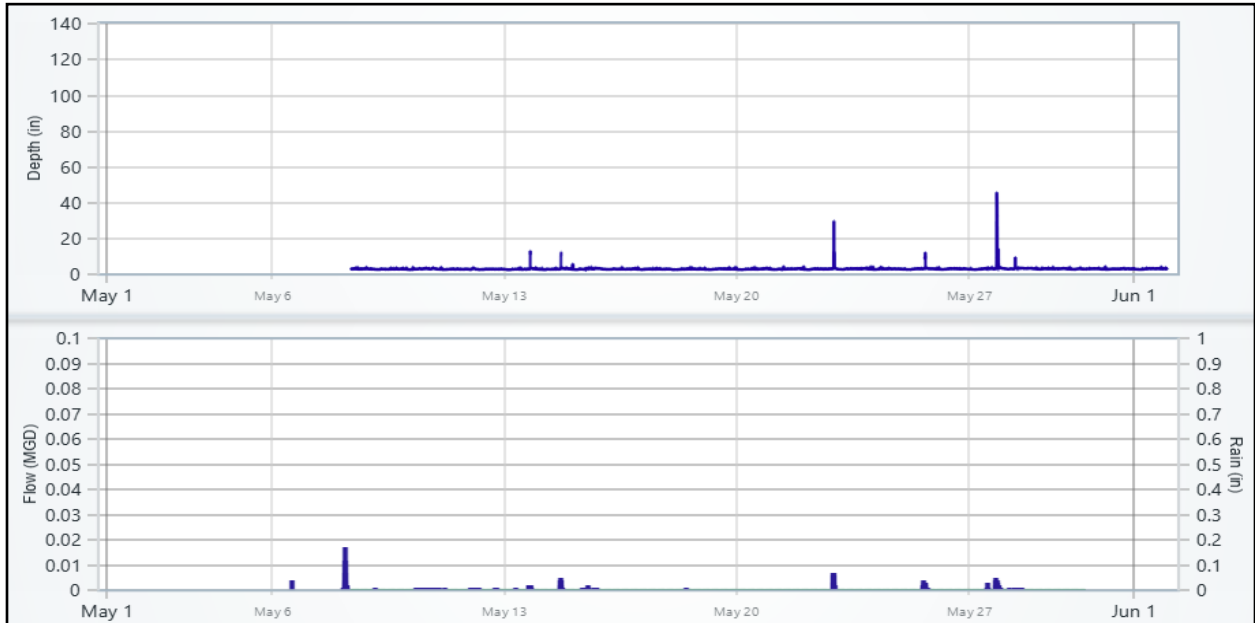


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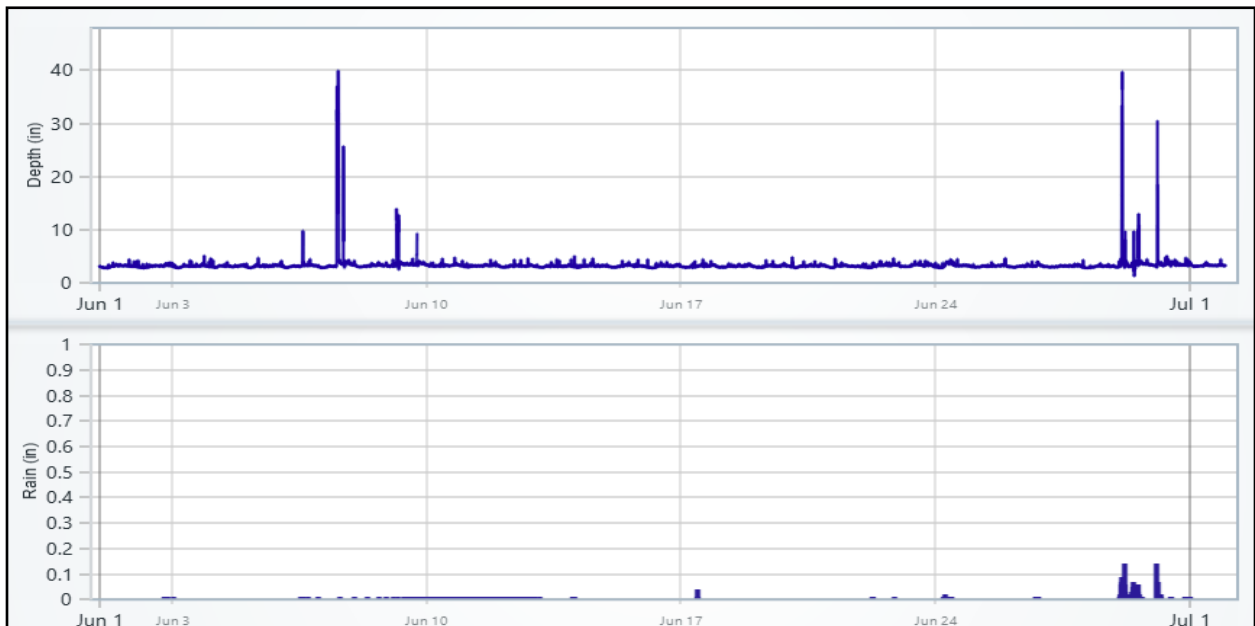


2. CSO-017_OverflowUS

2.1 May 2024

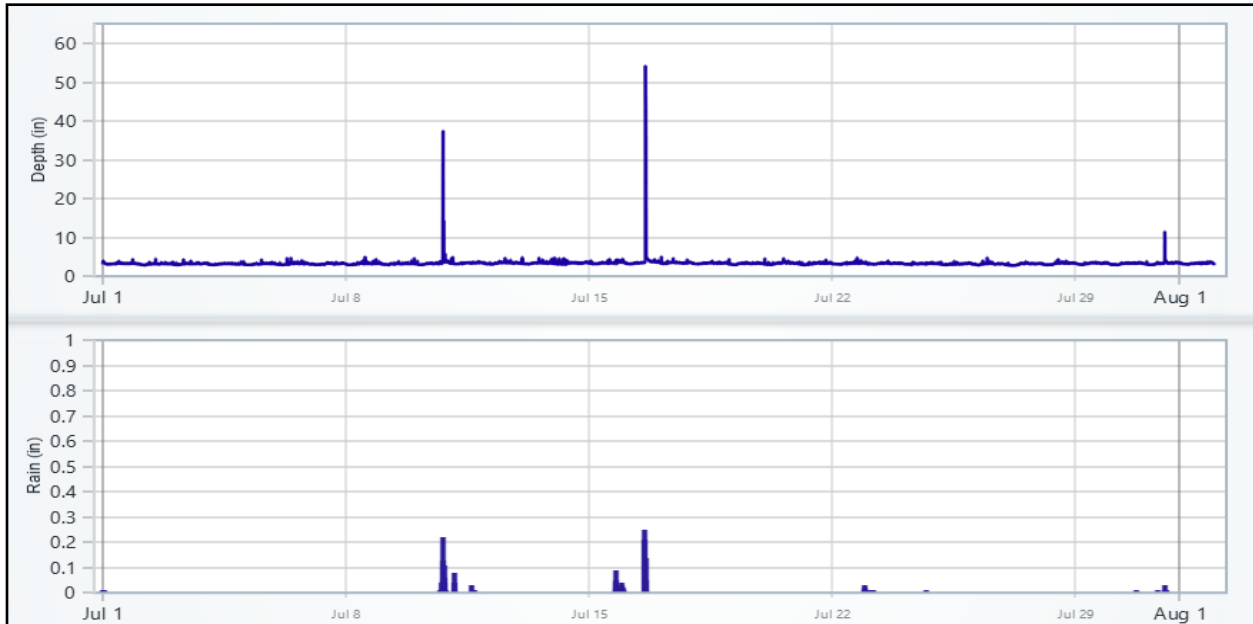


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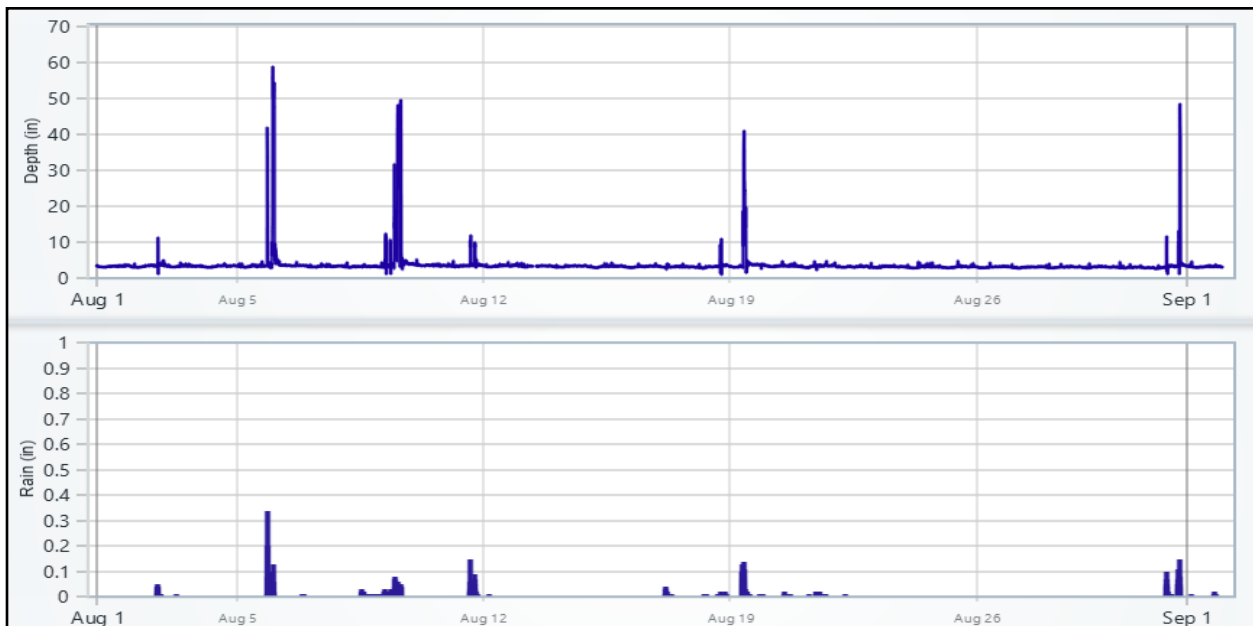


Appendix C – 2024 Harbor Brook Flow Meter Data

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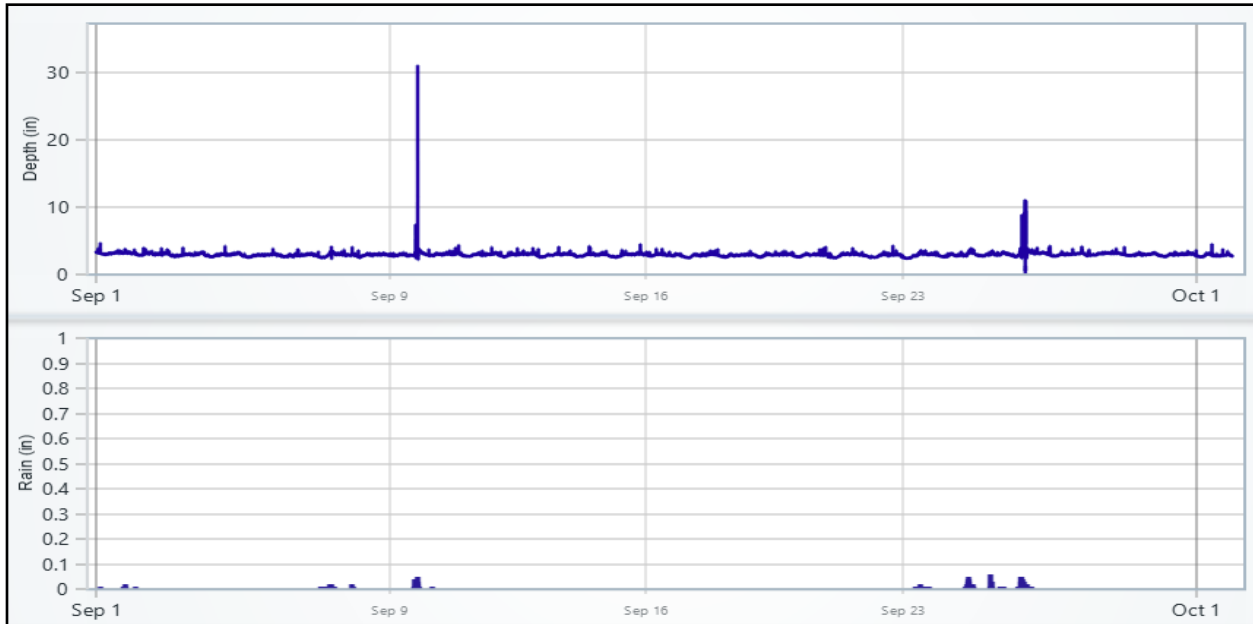


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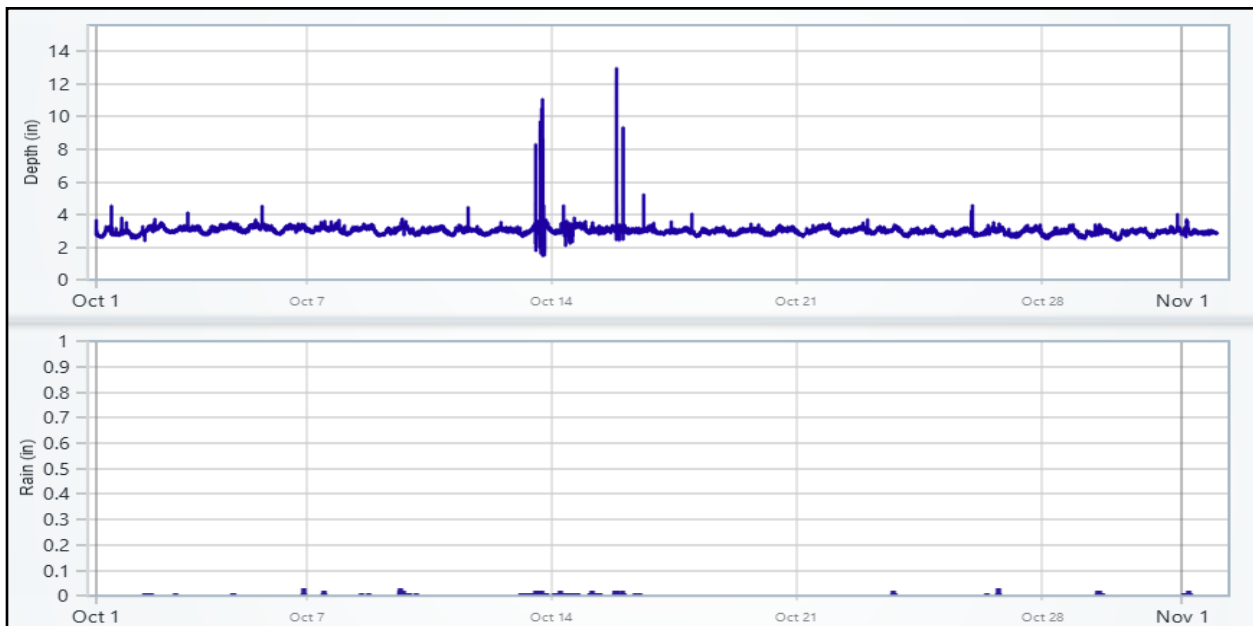


Appendix C – 2024 Harbor Brook Flow Meter Data

2.5 September 2024



2.6 October 2024

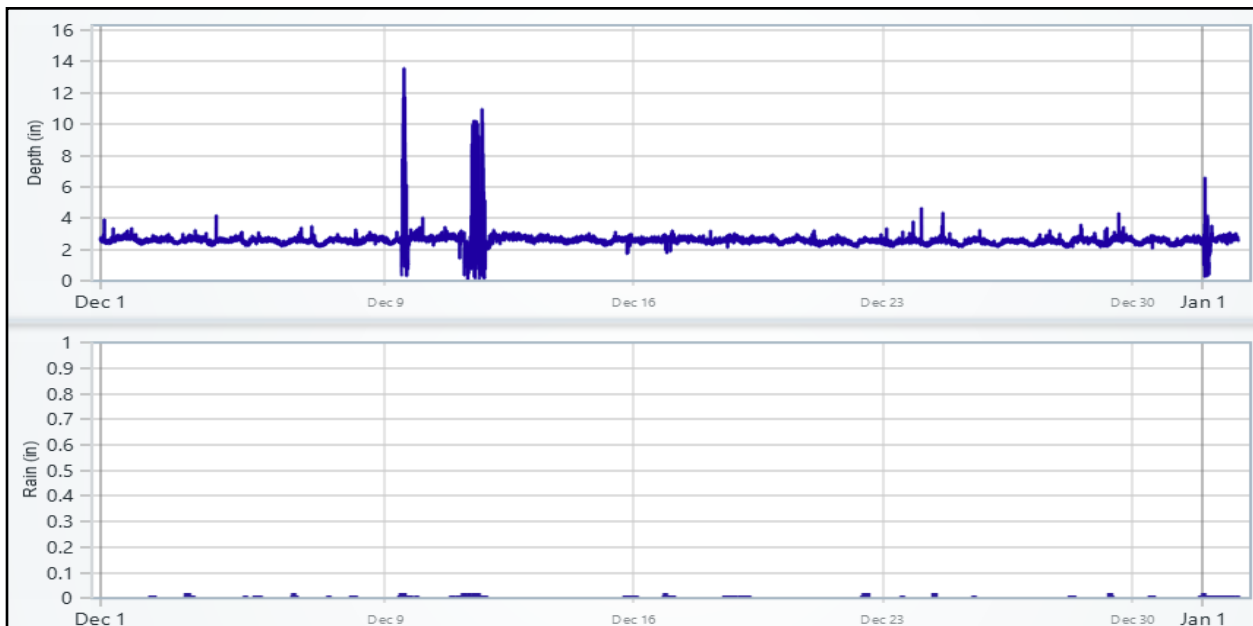


Appendix C – 2024 Harbor Brook Flow Meter Data

2.7 November 2024



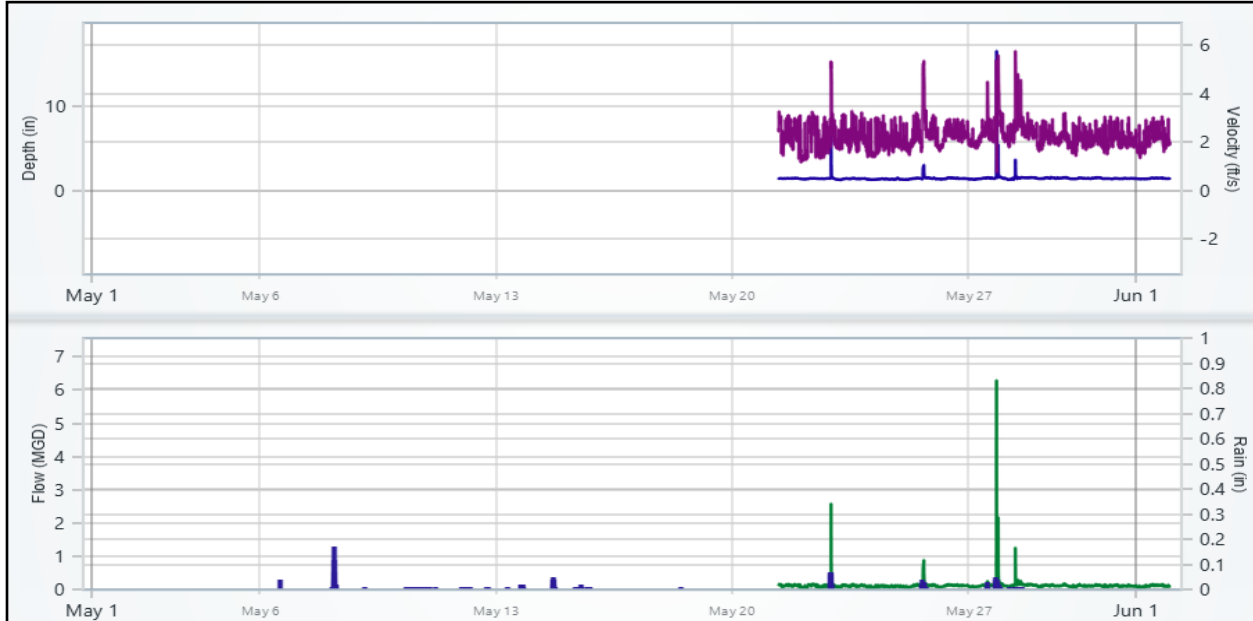
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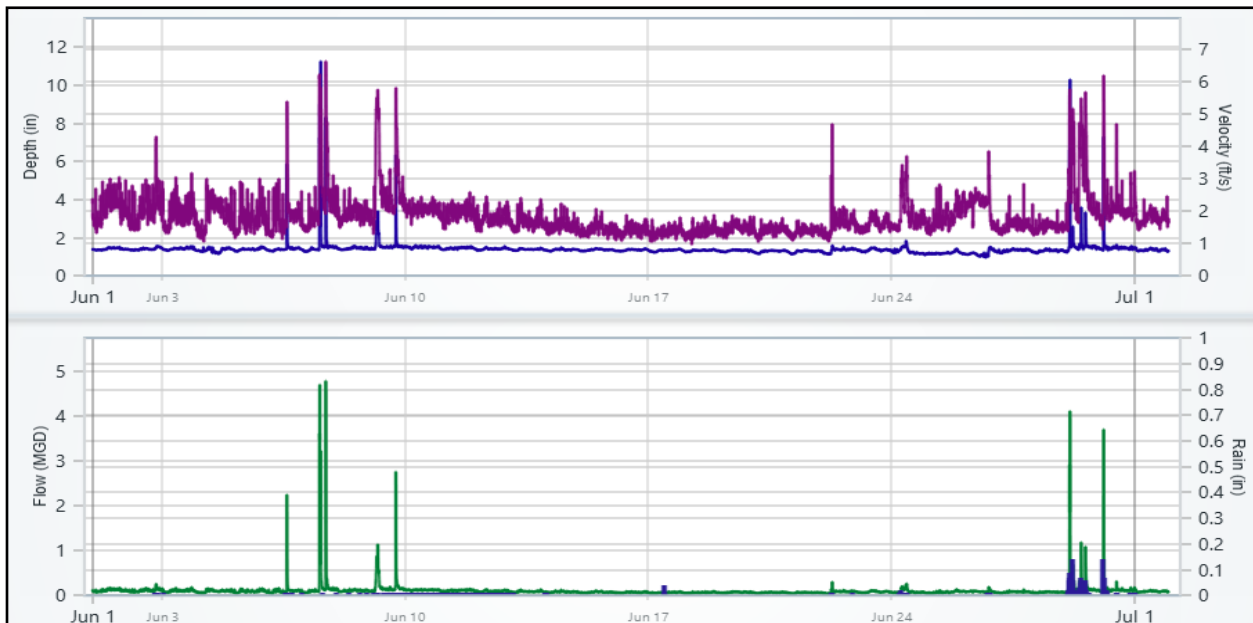
Appendix C – 2024 Harbor Brook Flow Meter Data

3. CSO-017_Trunk

3.1 May 2024



3.2 June 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

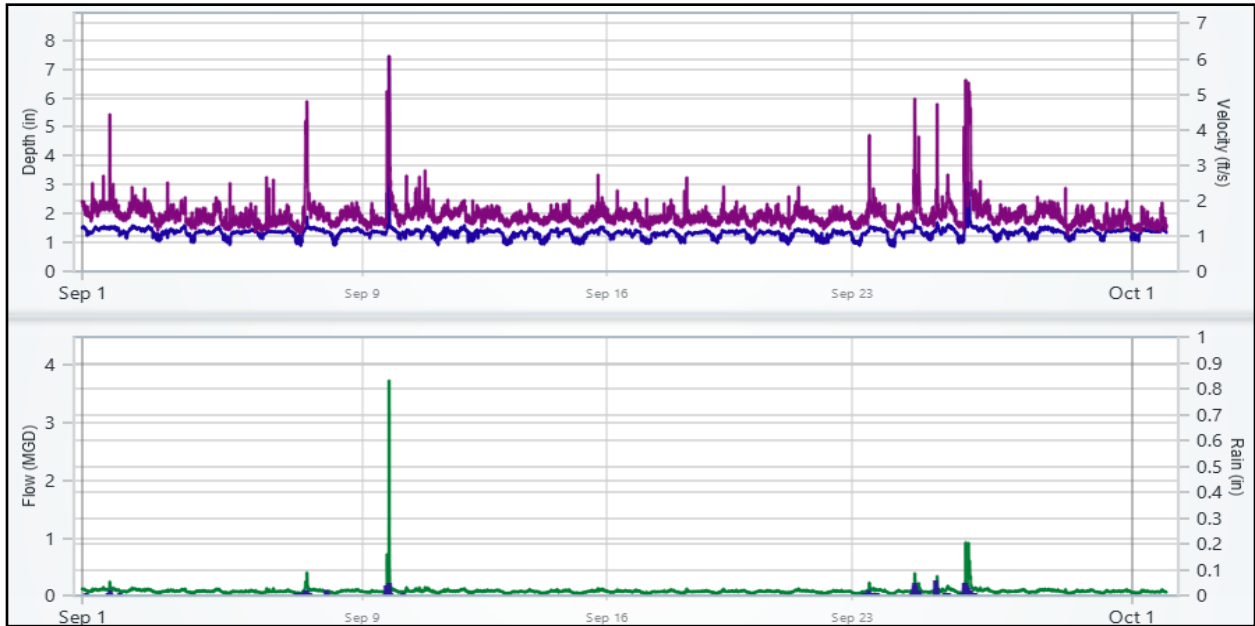
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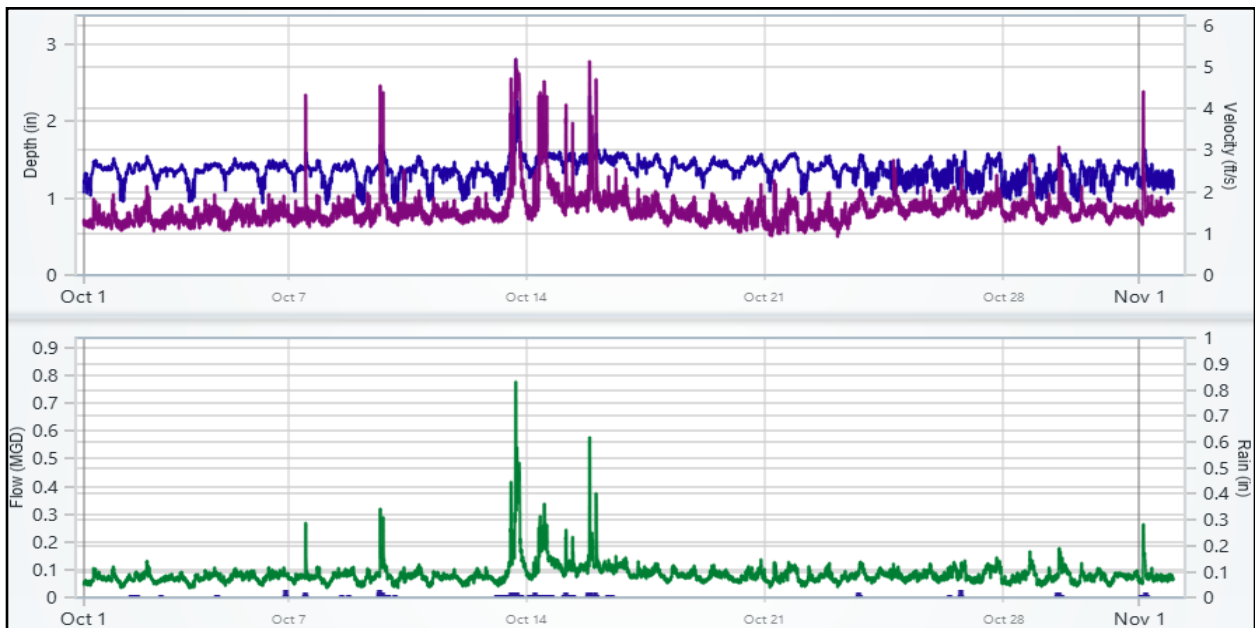
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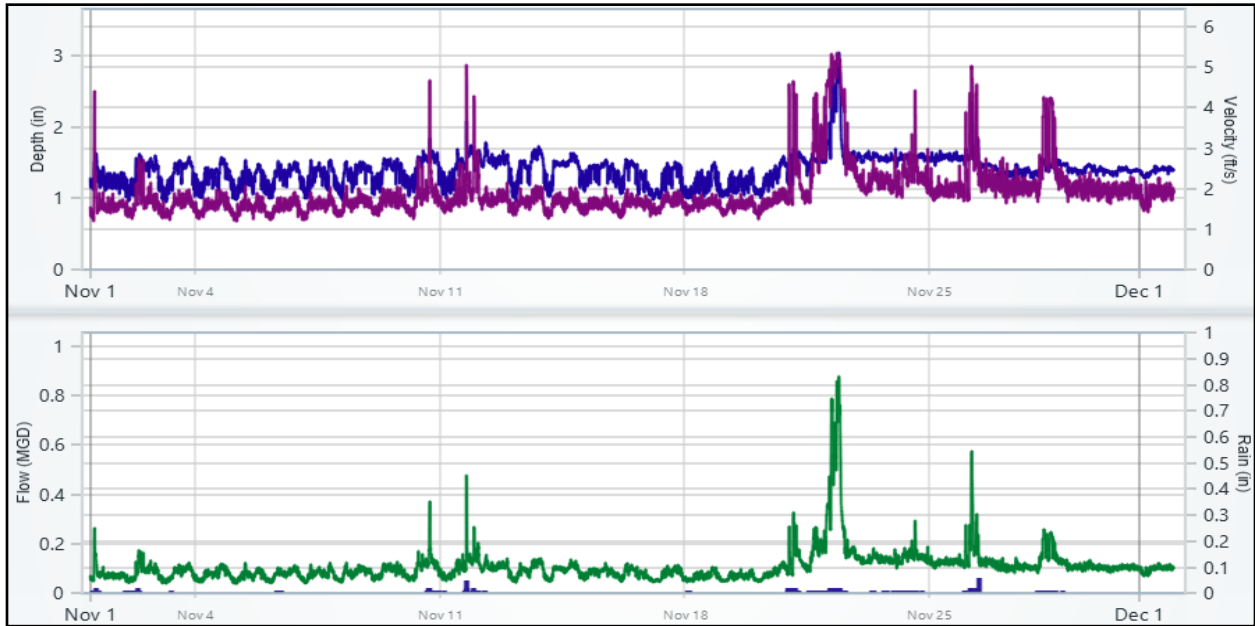
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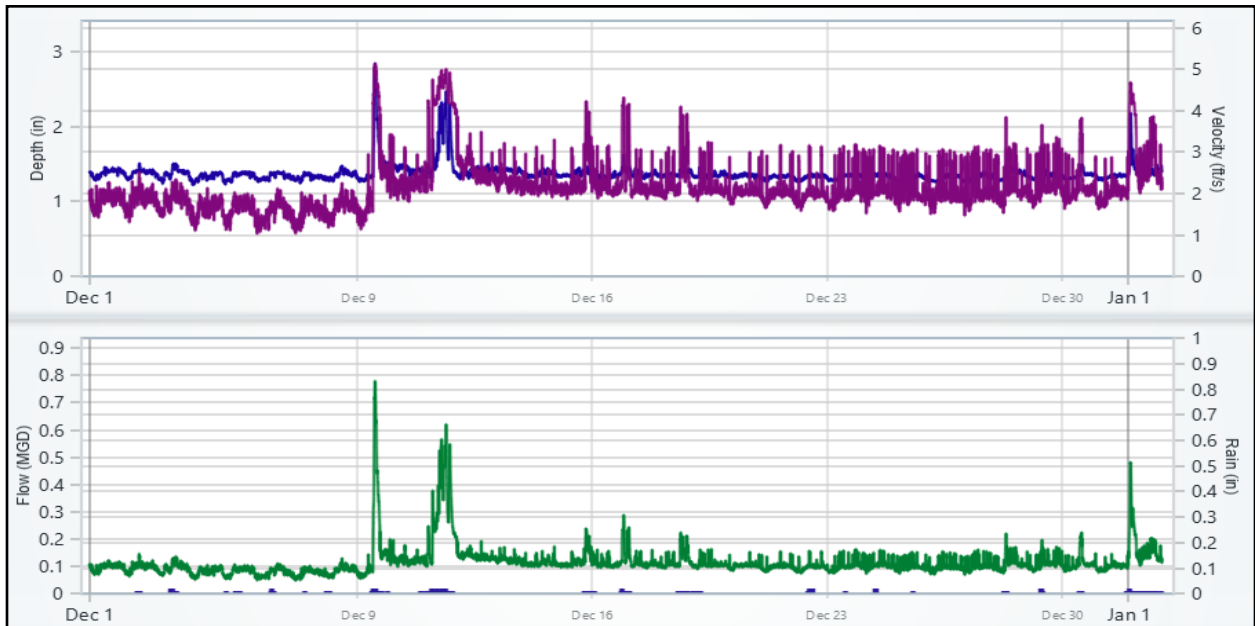
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3.7 November 2024



3.8 December 2024

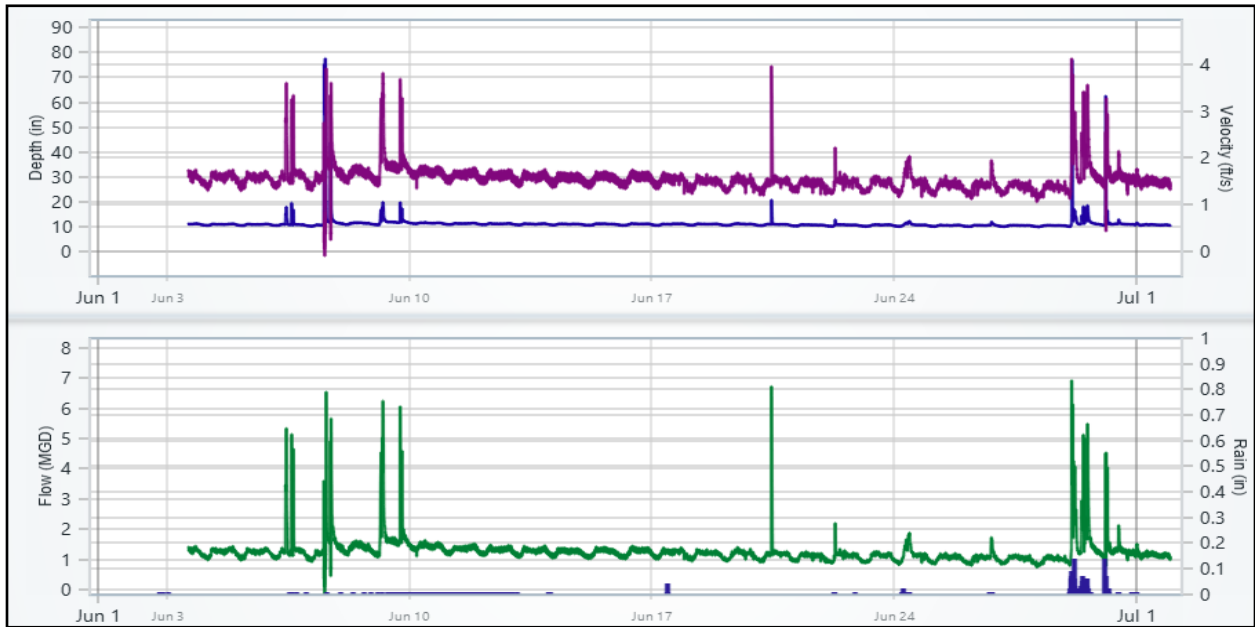


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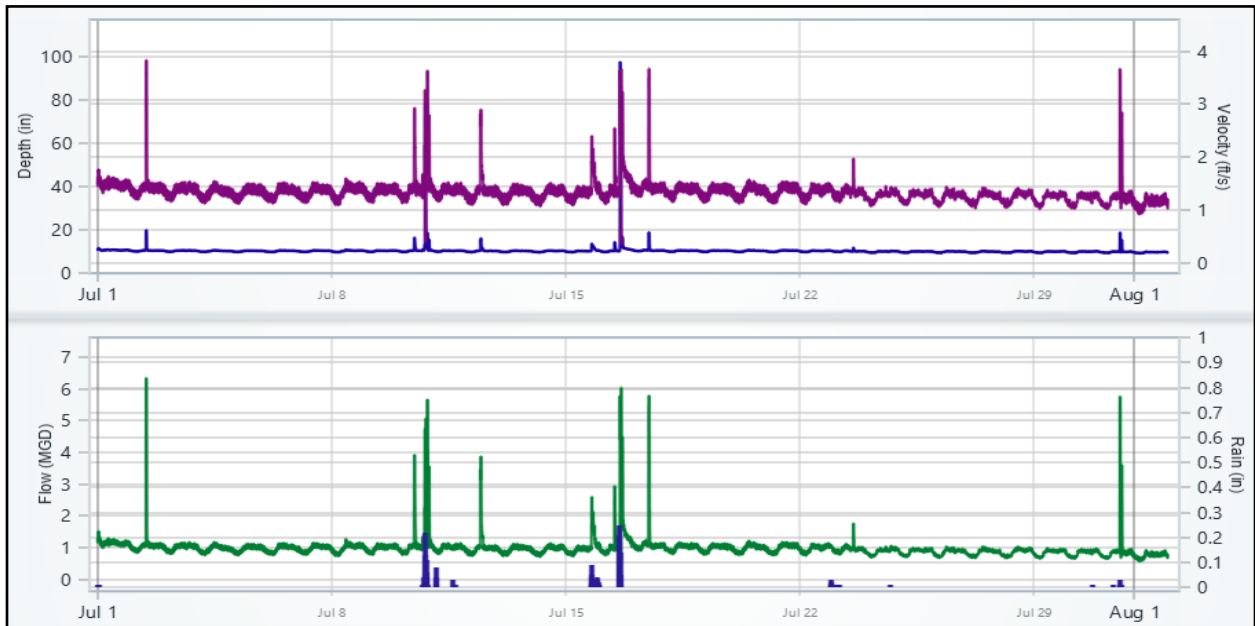
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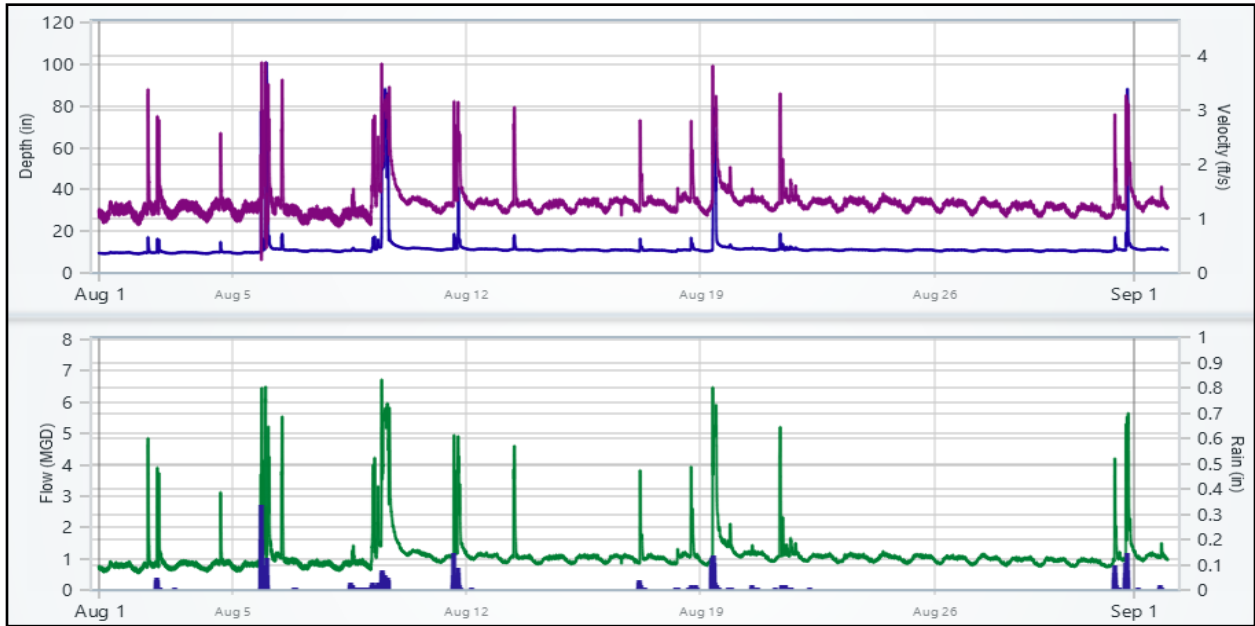


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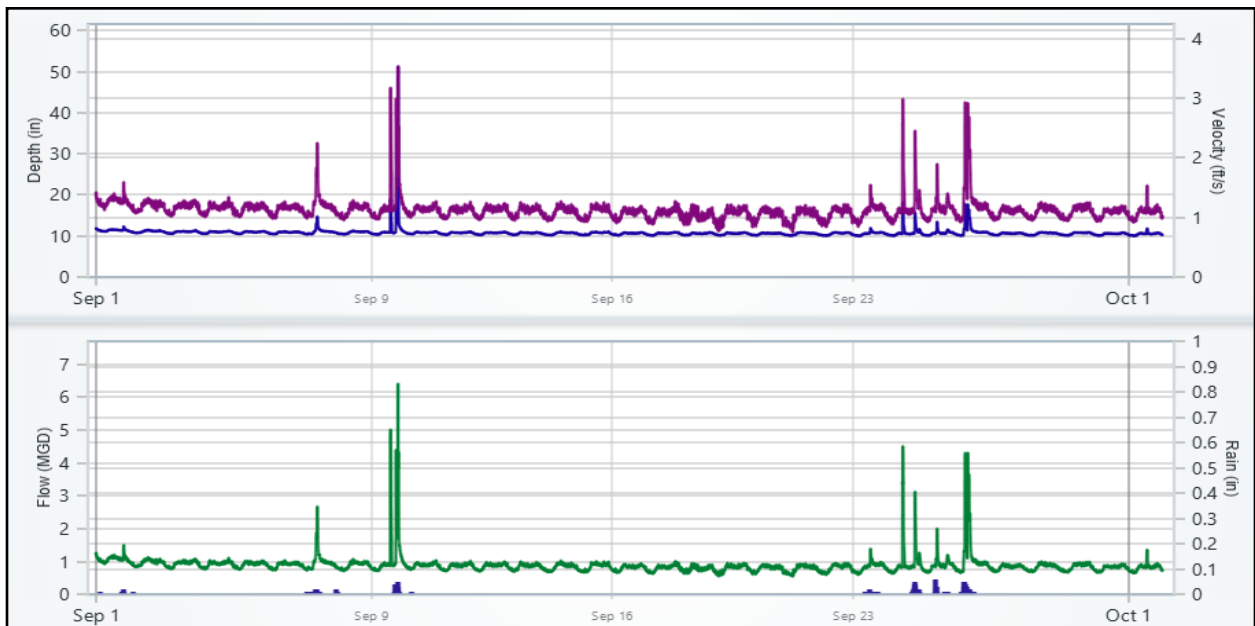


Appendix C – 2024 Harbor Brook Flow Meter Data

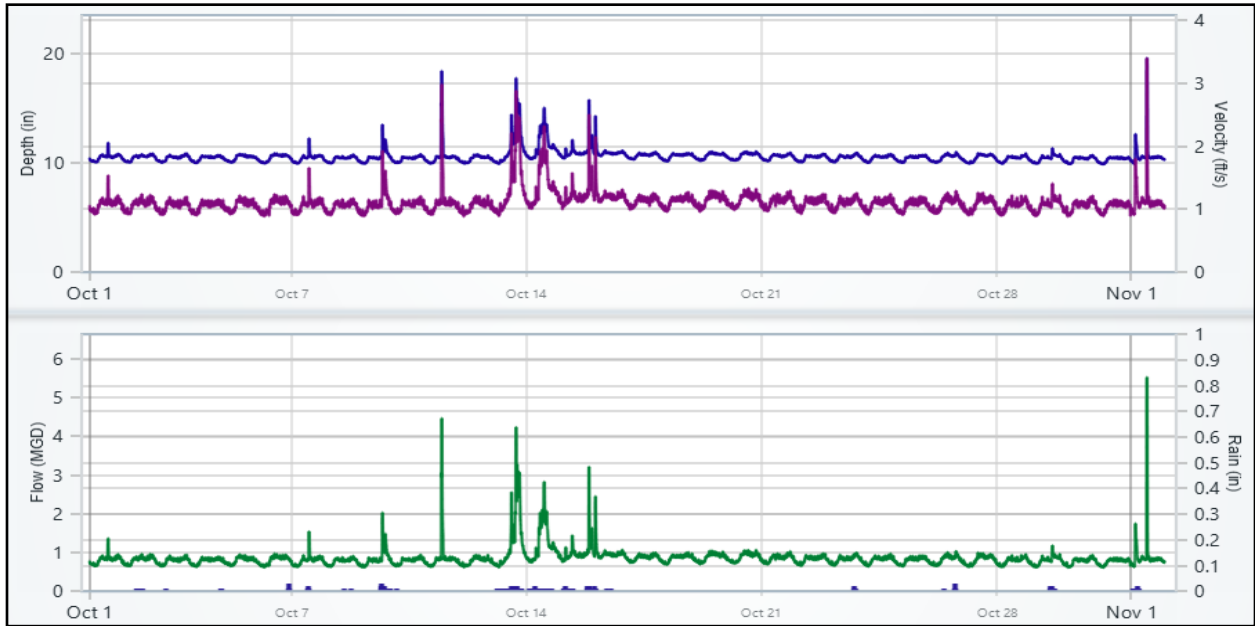
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4.5 September 2024



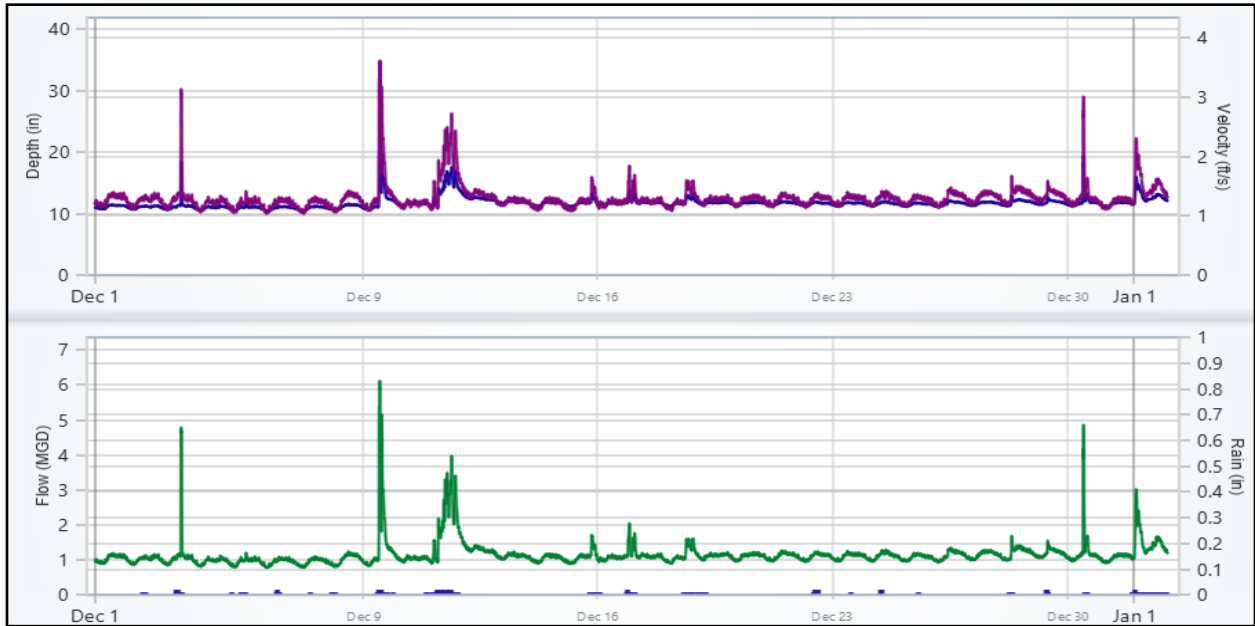
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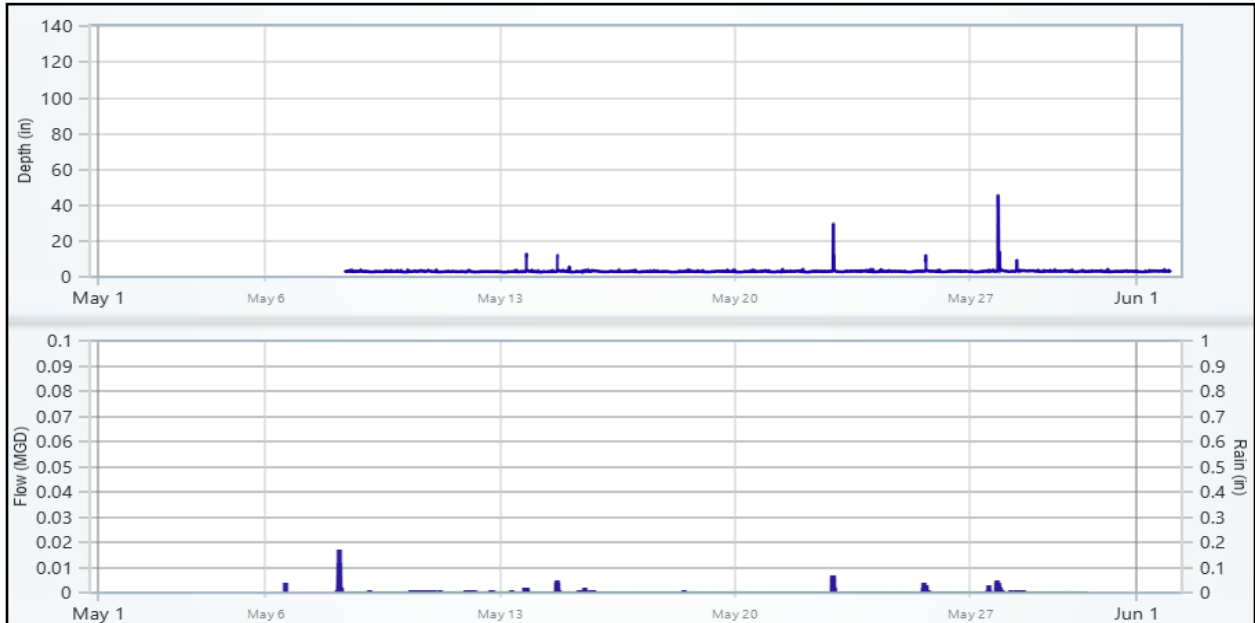


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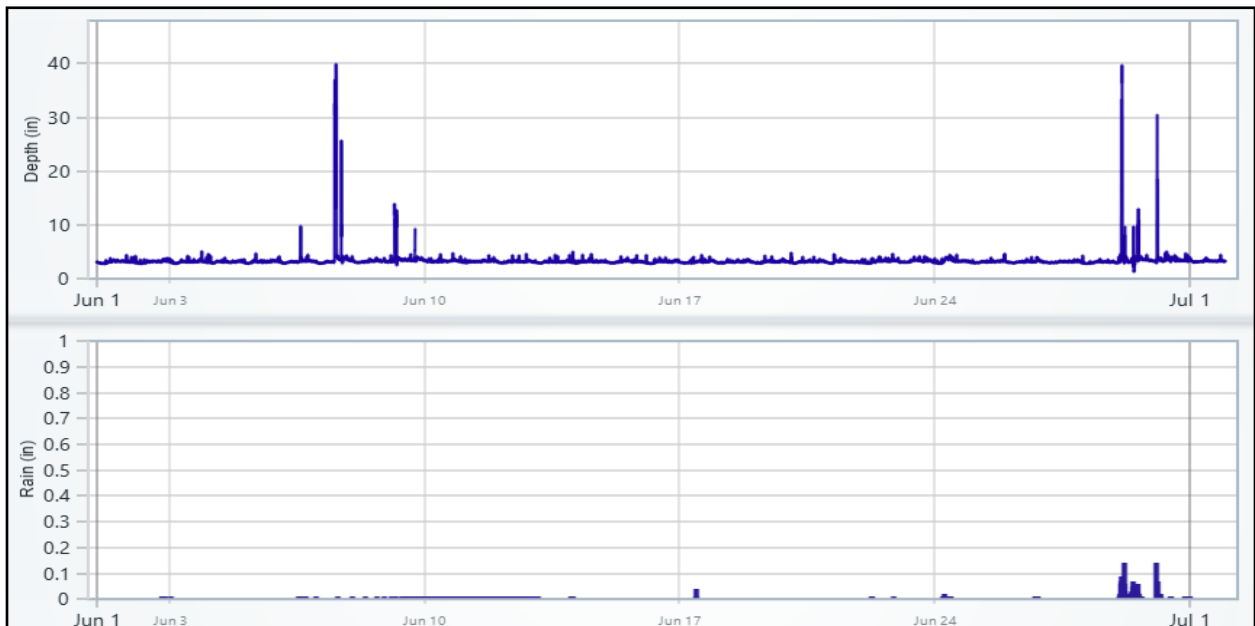


5. CSO-015_OverflowUS

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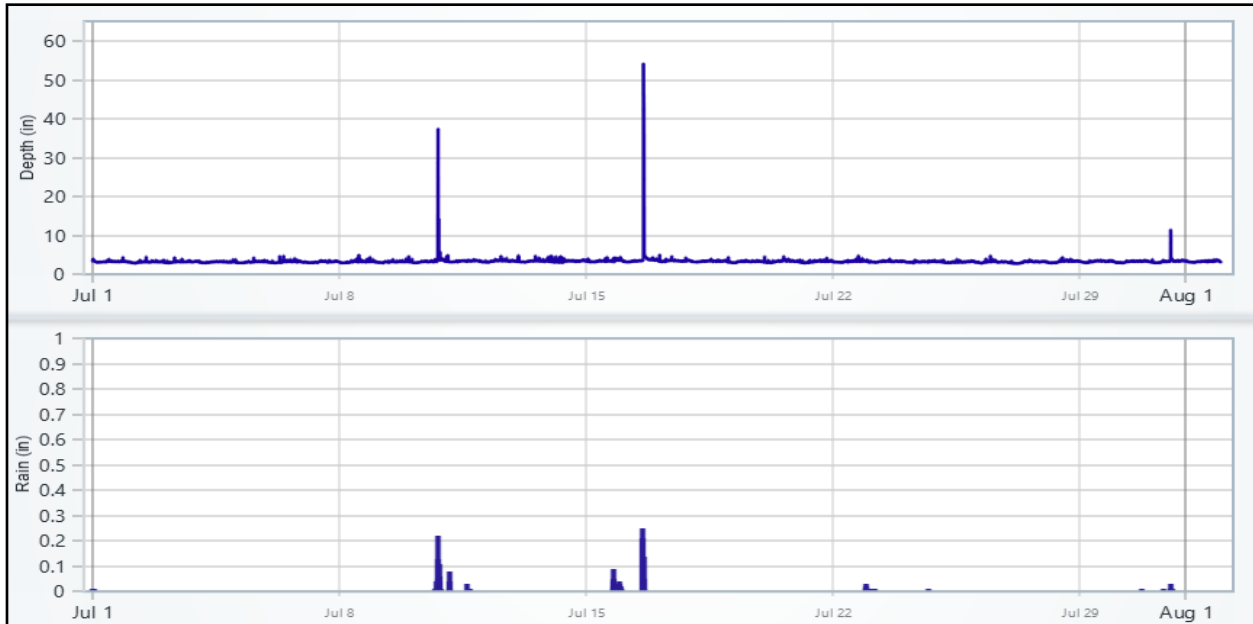


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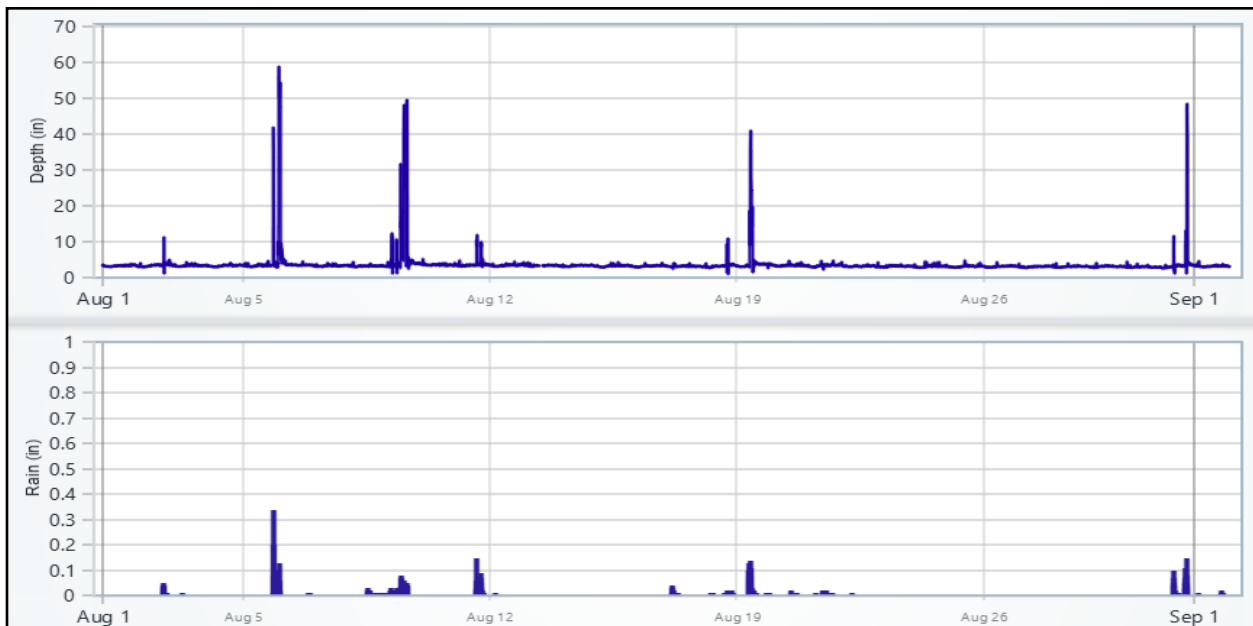


Appendix C – 2024 Harbor Brook Flow Meter Data

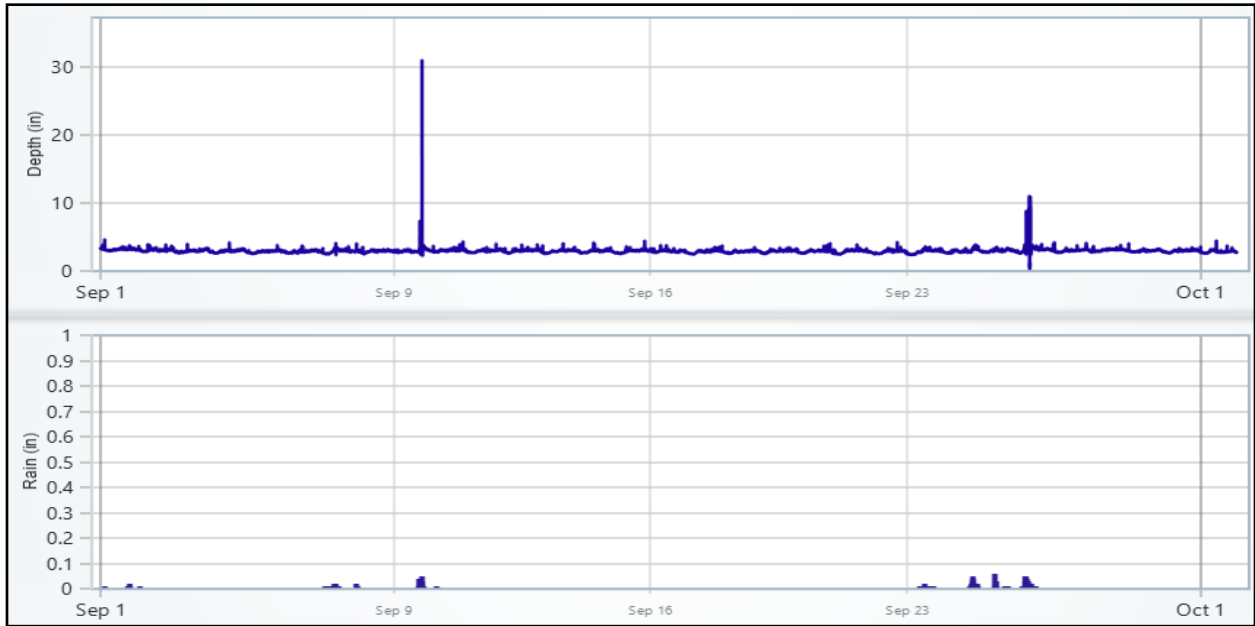
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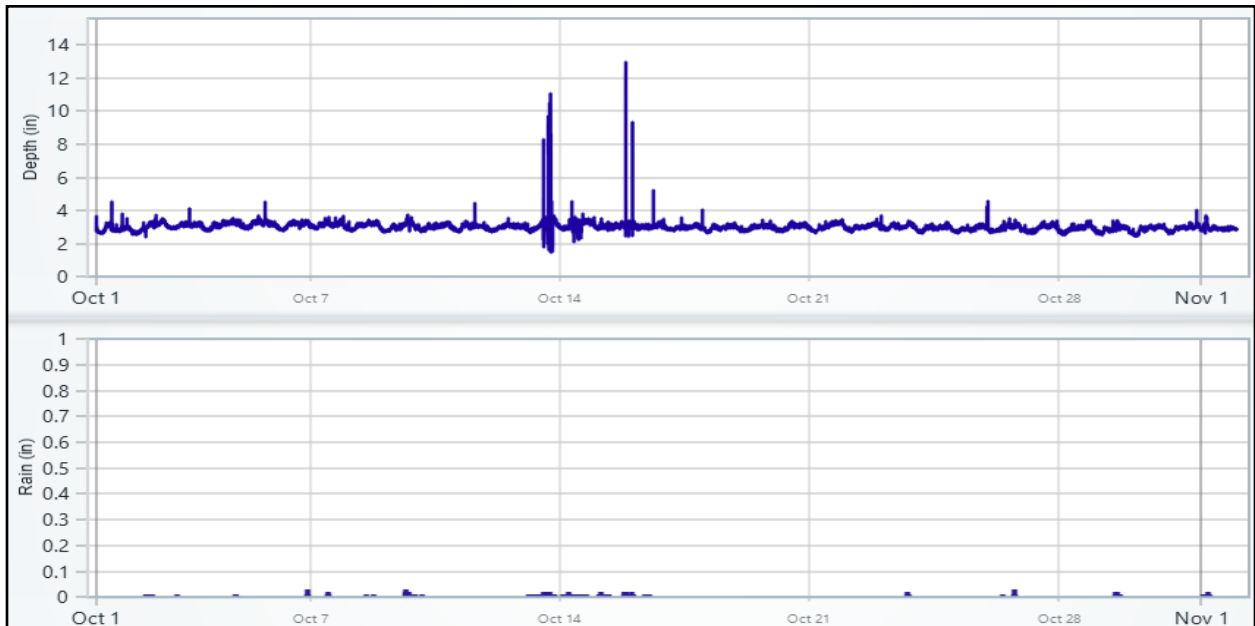
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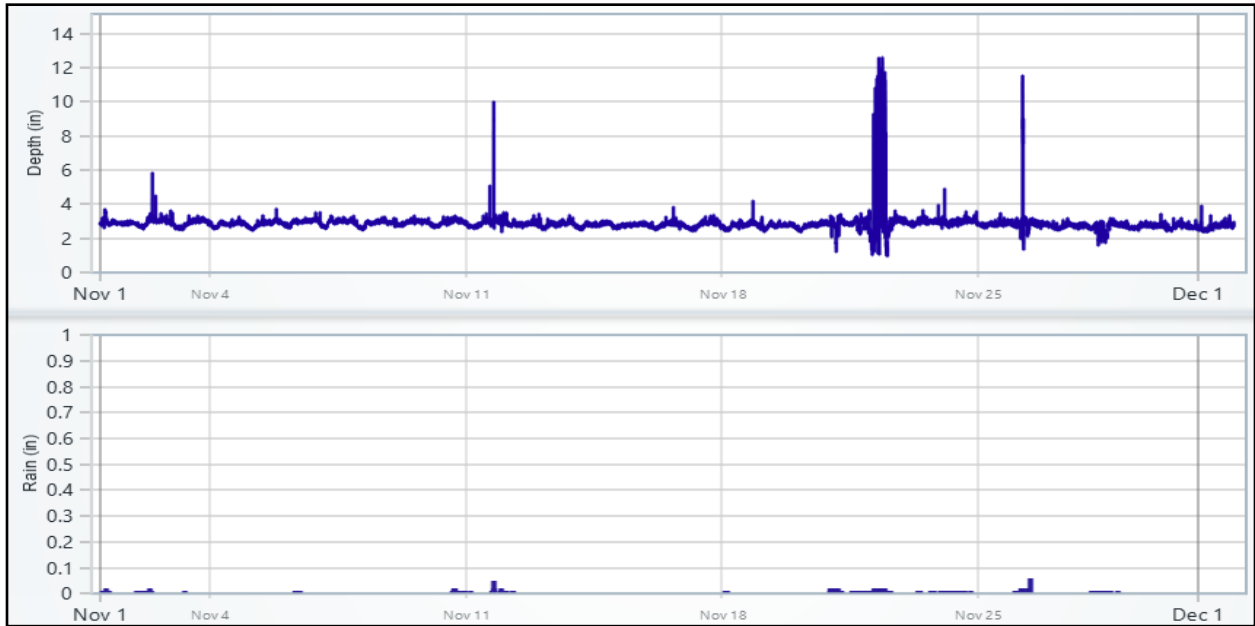
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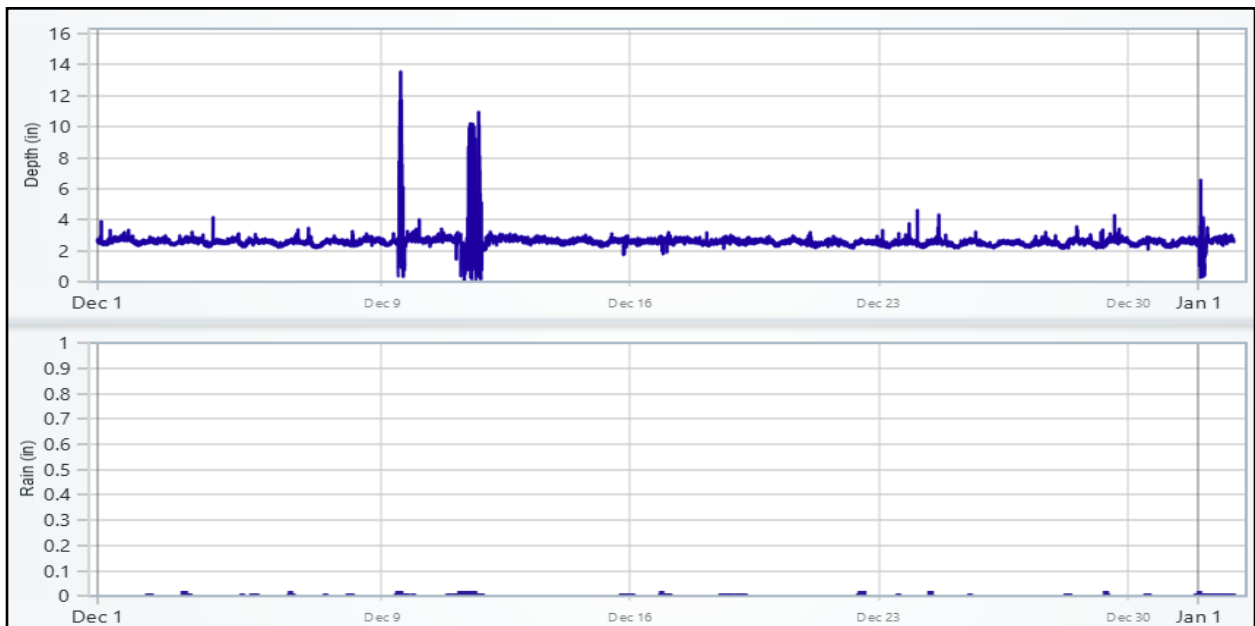
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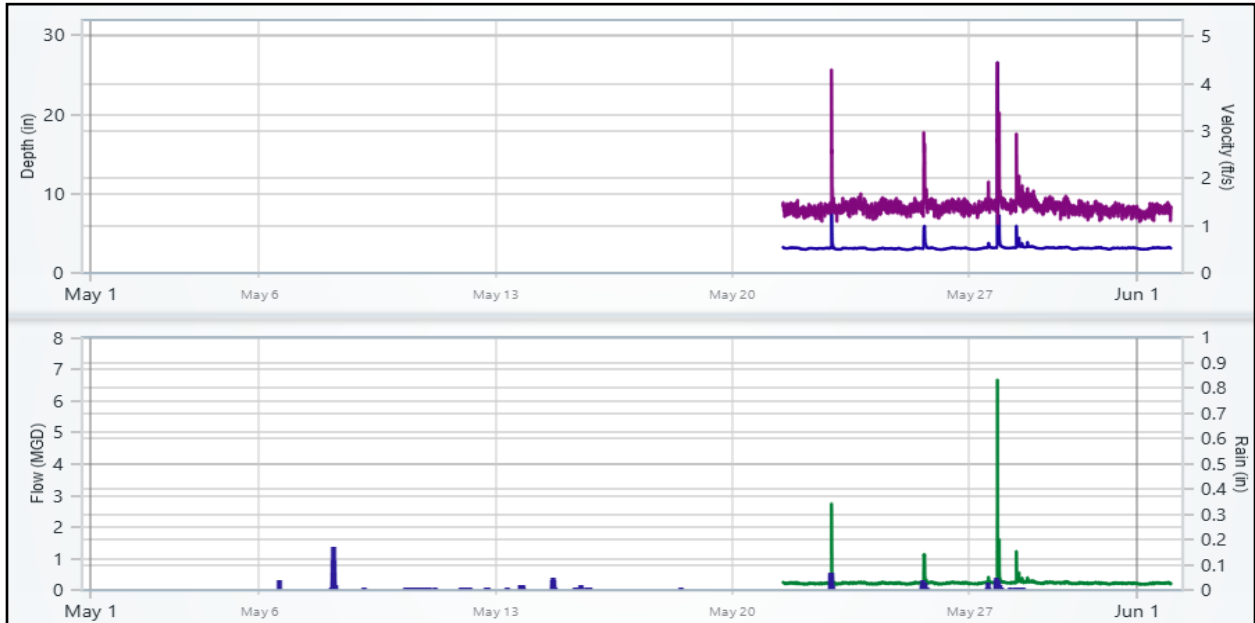


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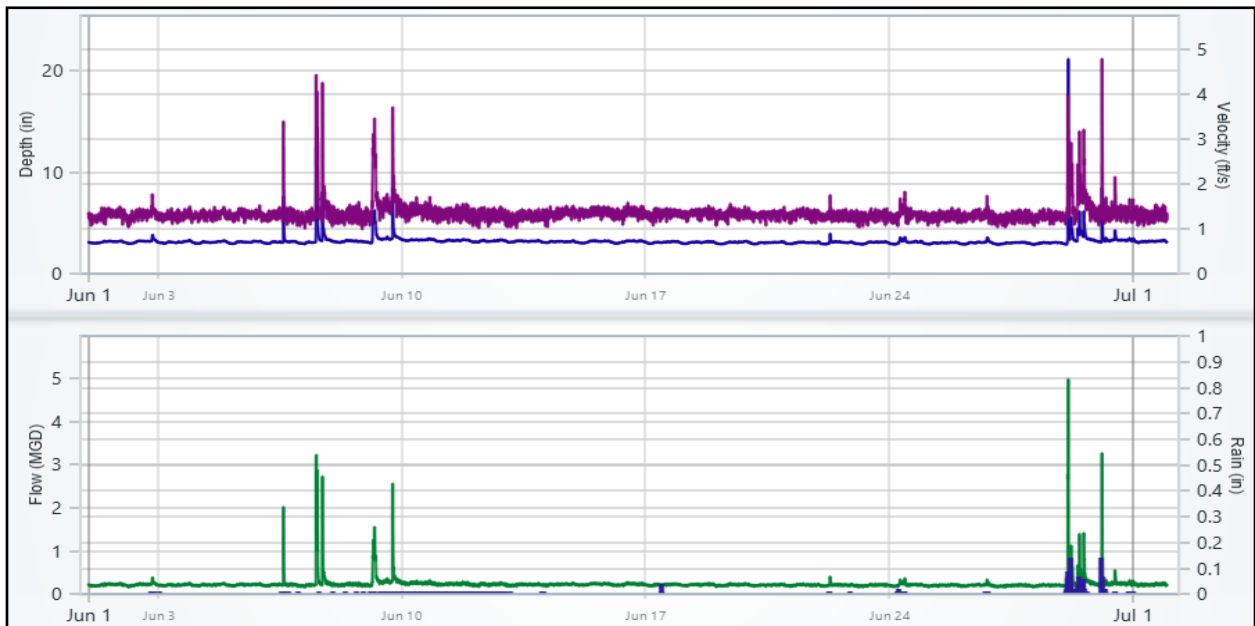


6. CSO-015_Trunk

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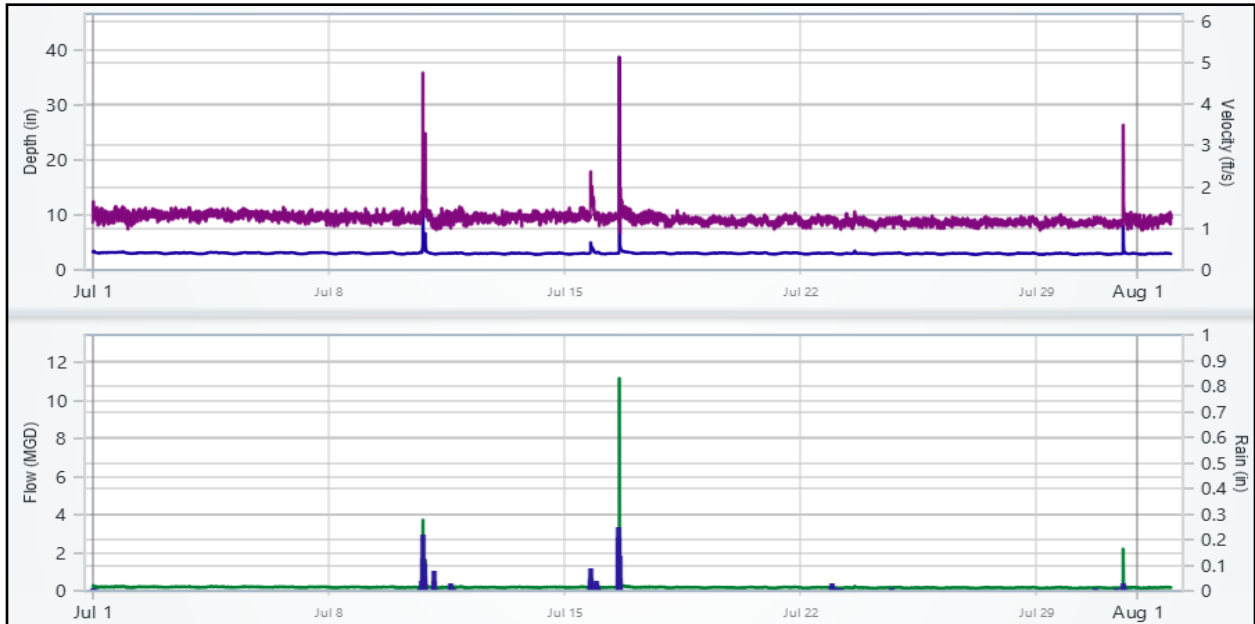


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Appendix C – 2024 Harbor Brook Flow Meter Data

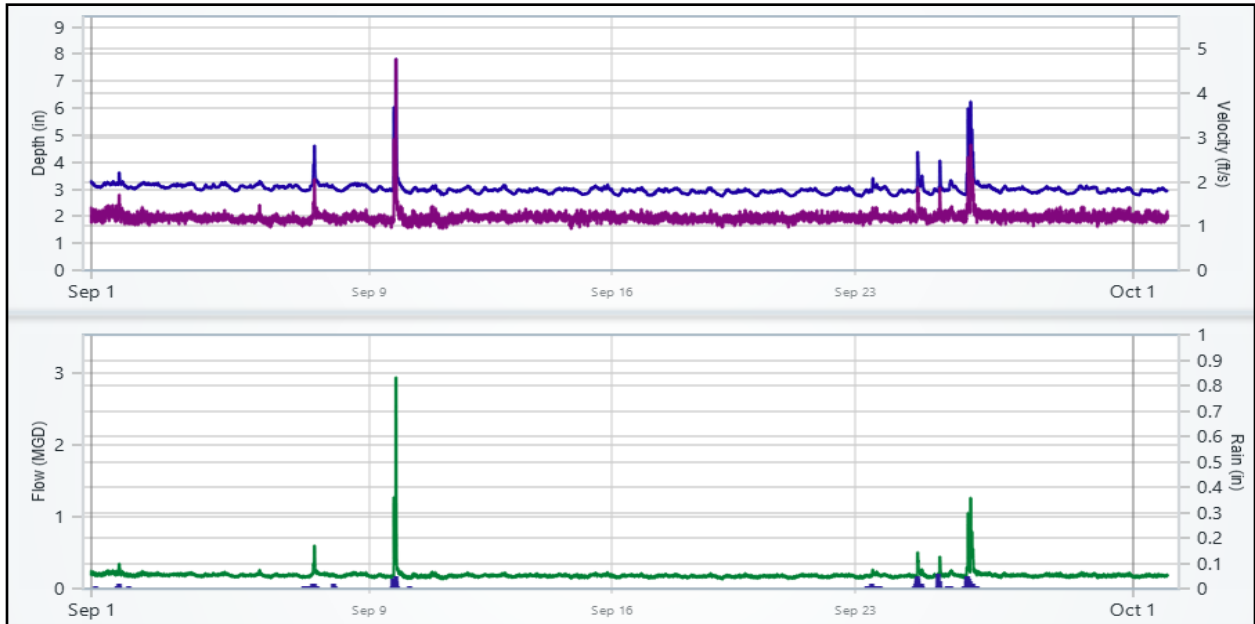
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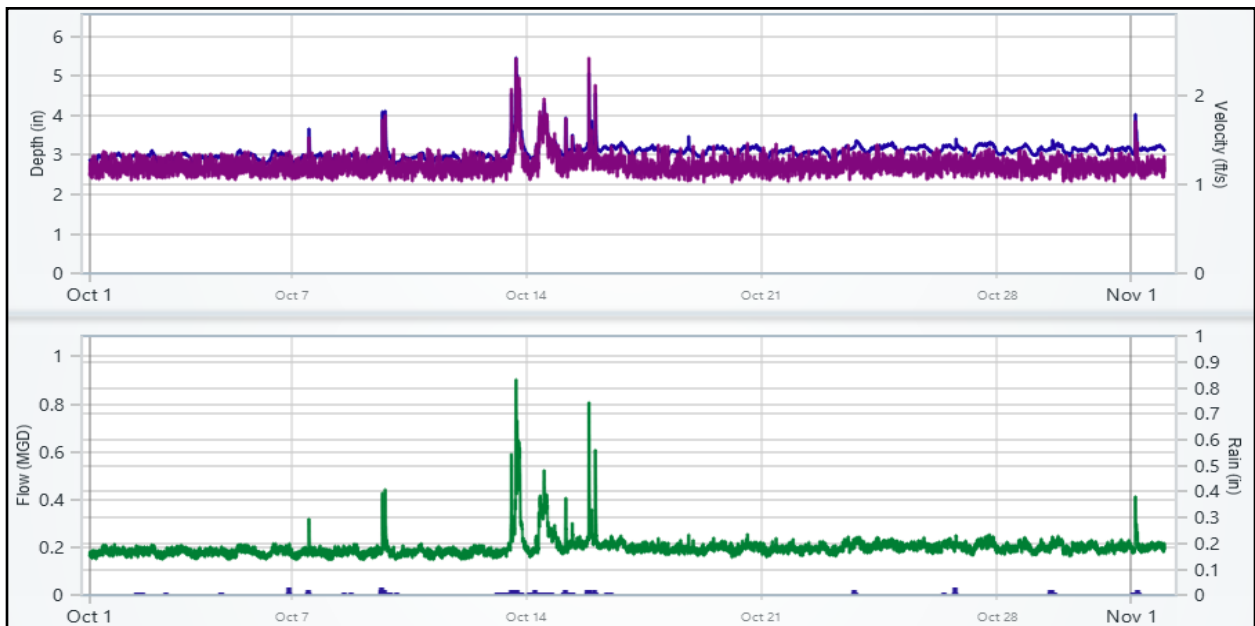
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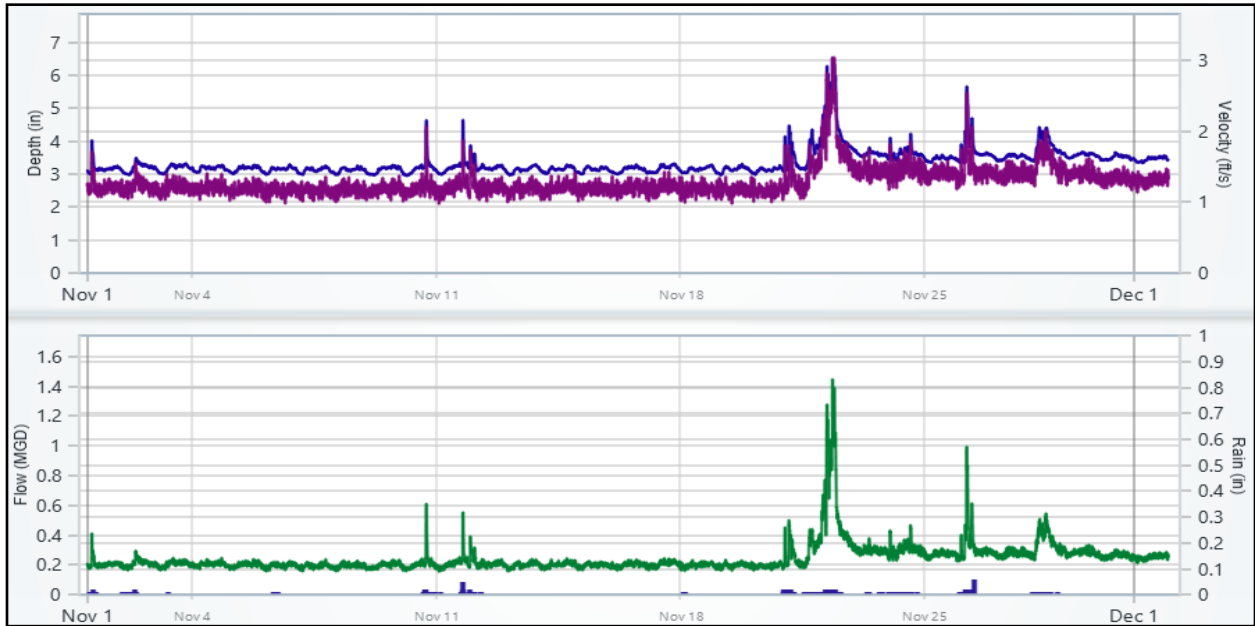
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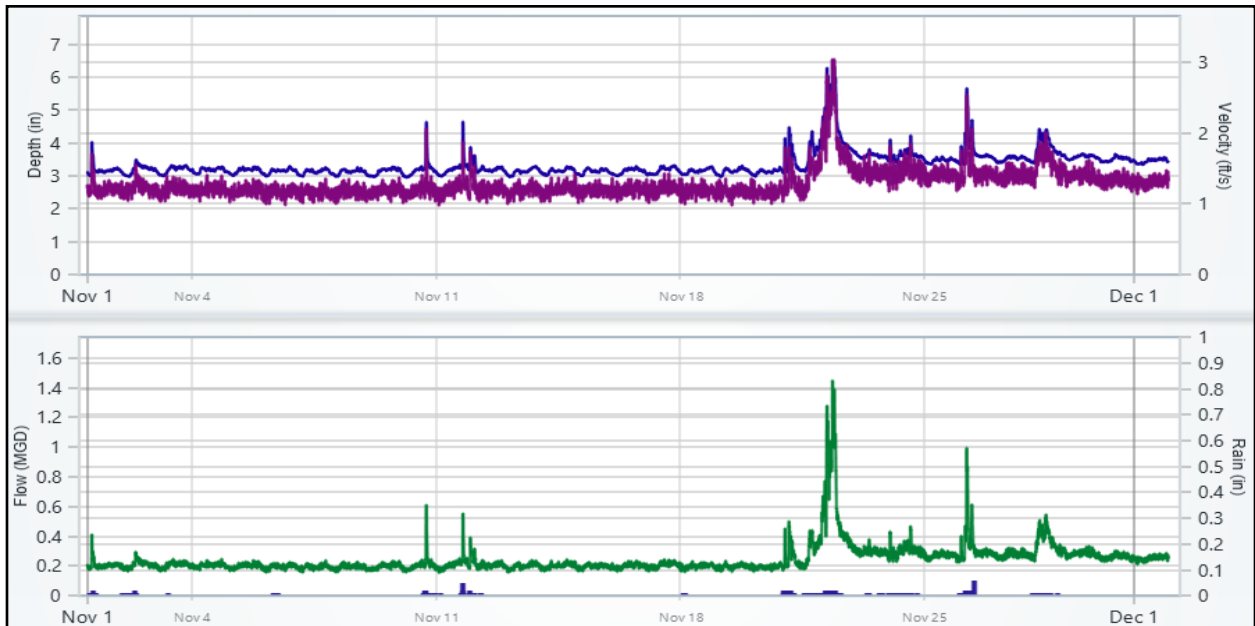
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6.7 November 2024



6.8 December 2024

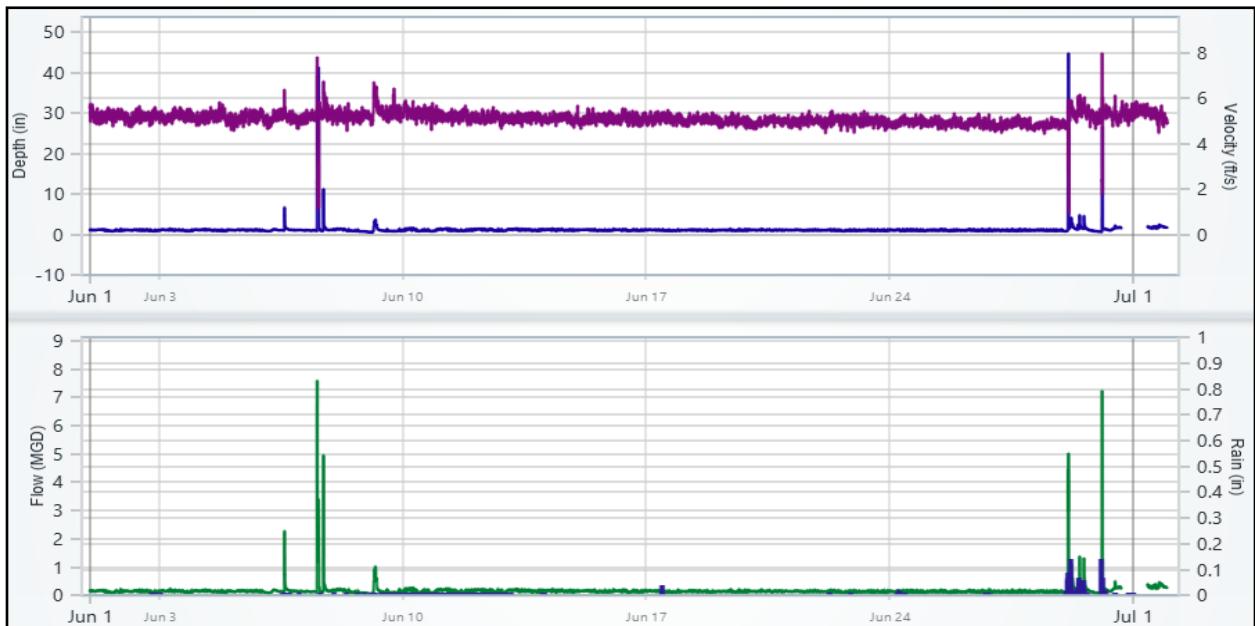


7. CSO-015_Underflow

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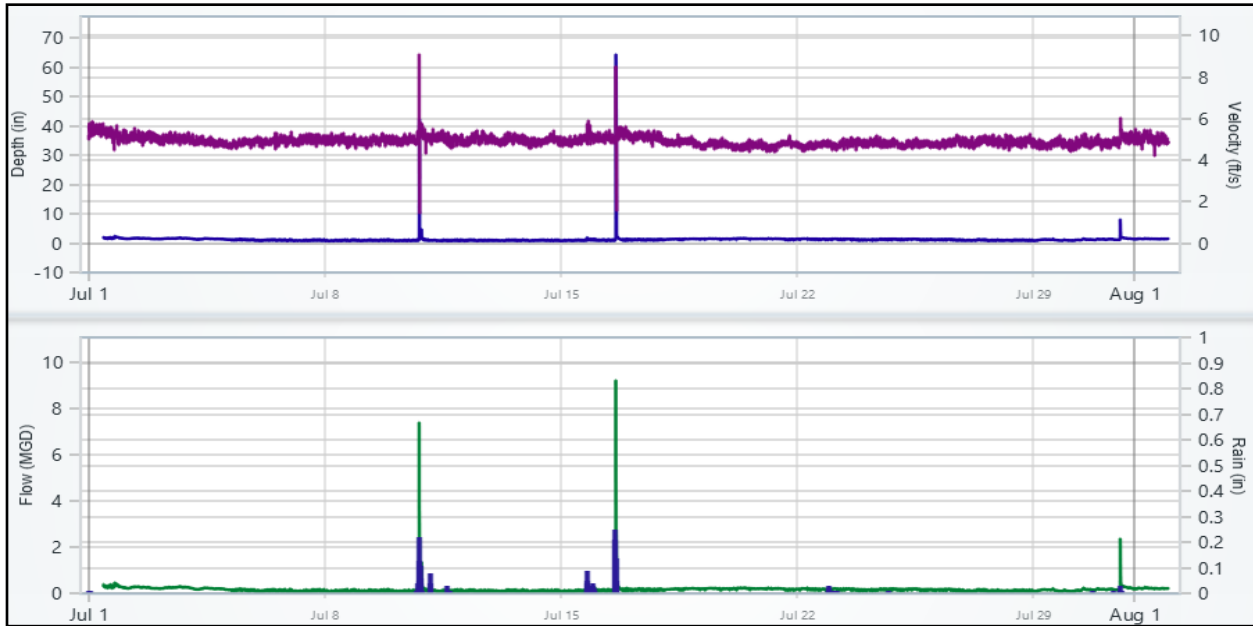


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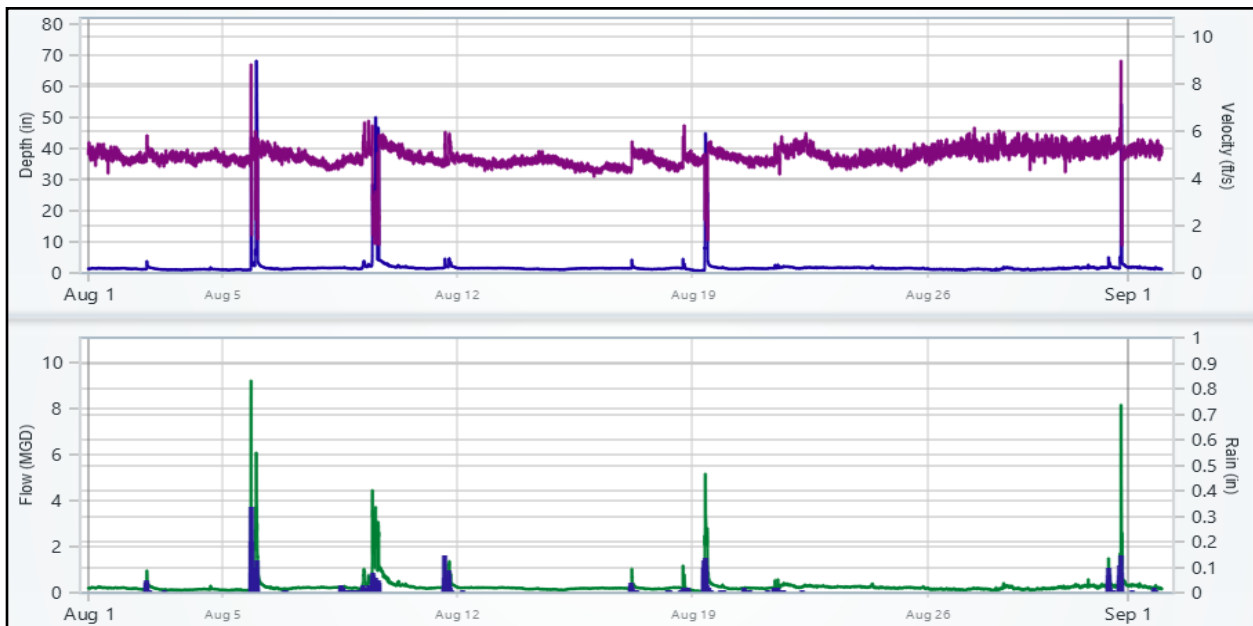


Appendix C – 2024 Harbor Brook Flow Meter Data

7.3 July 2024

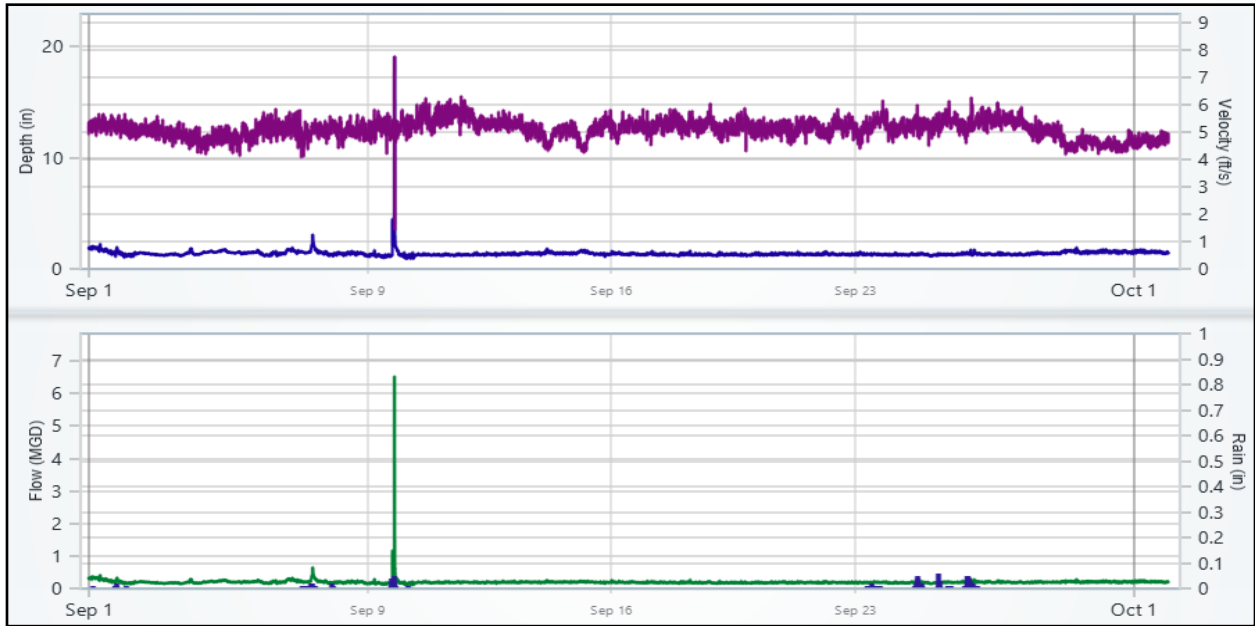


7.4 August 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

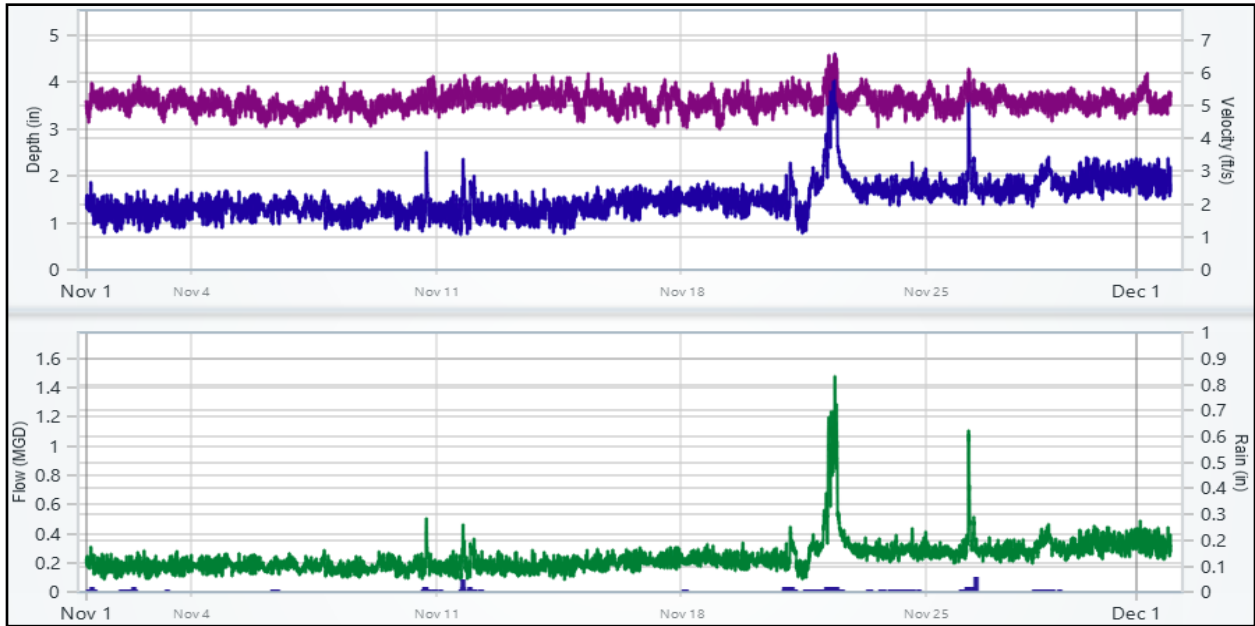
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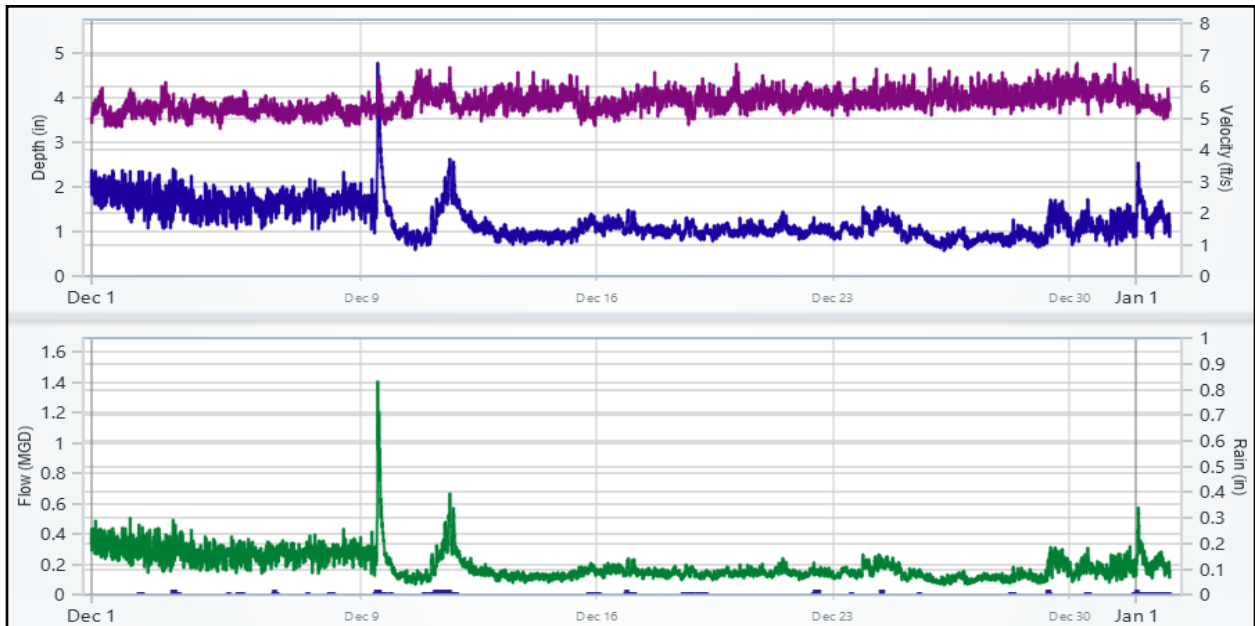
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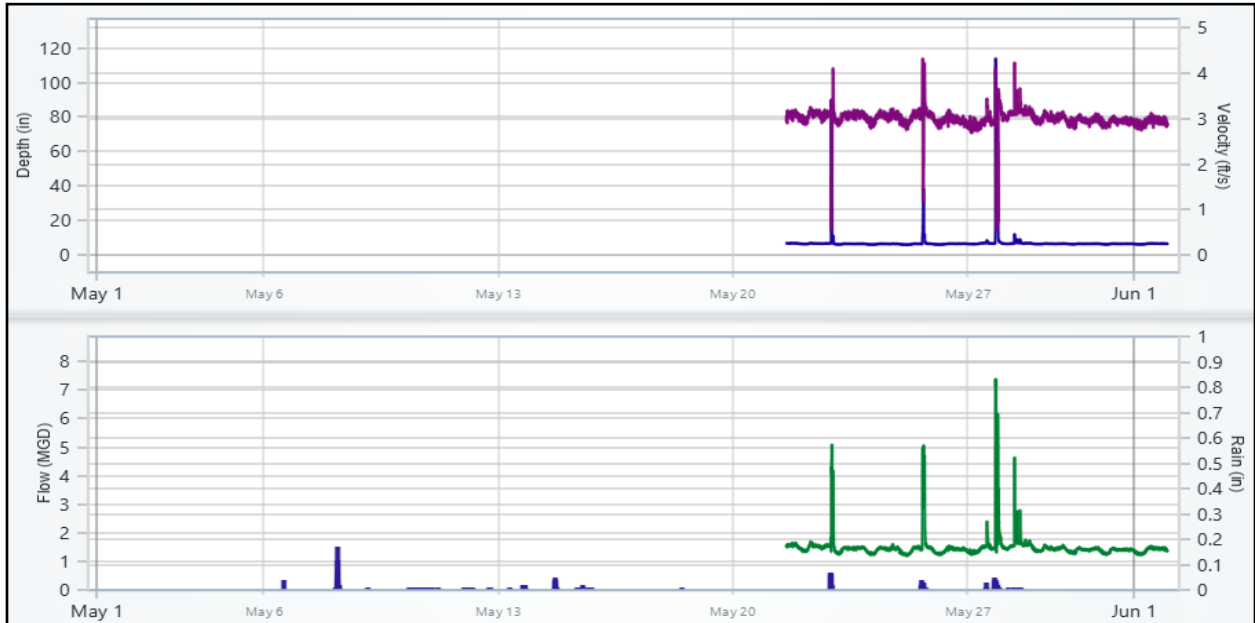


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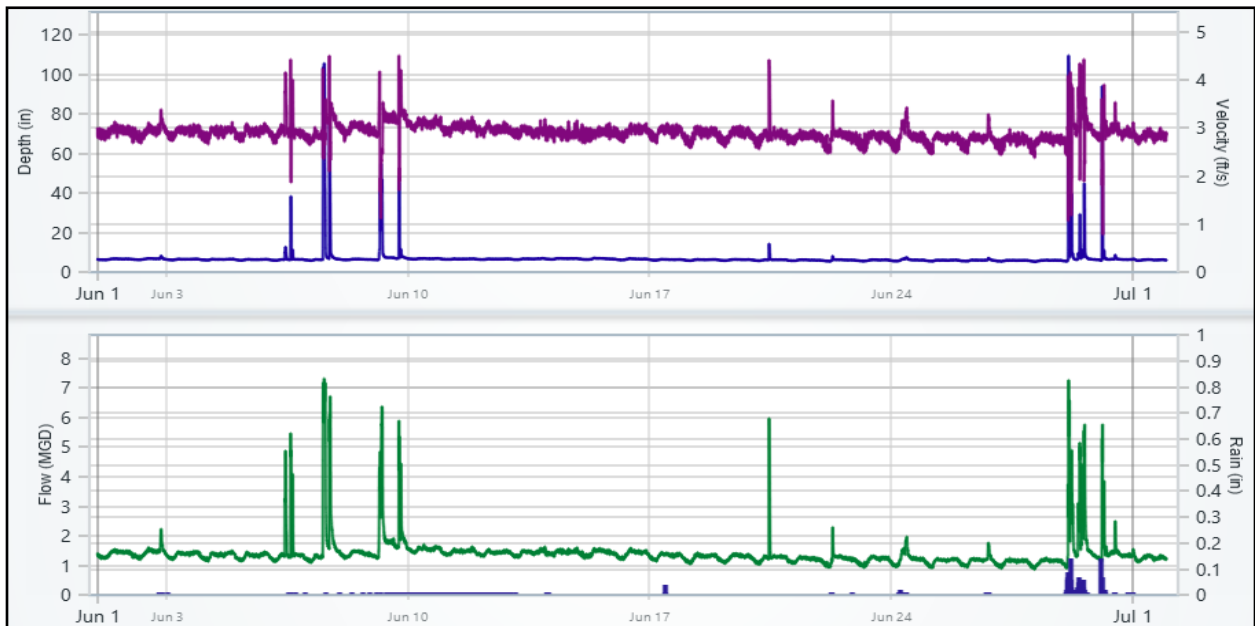


8. HBIS-2

8.1 May 2024



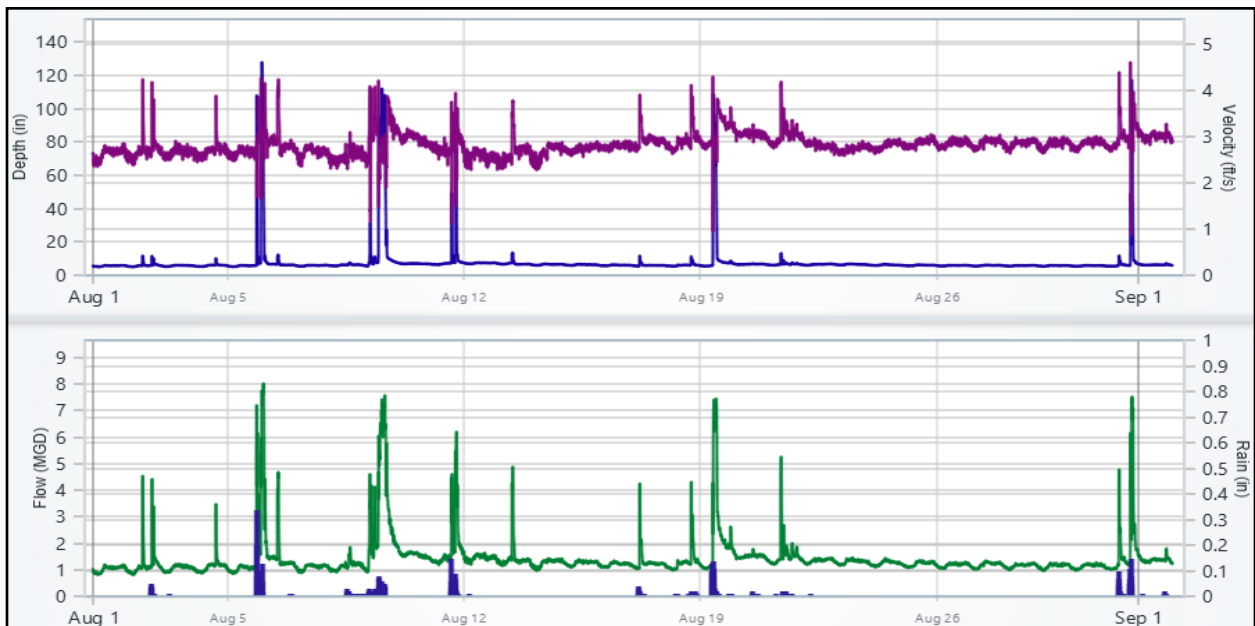
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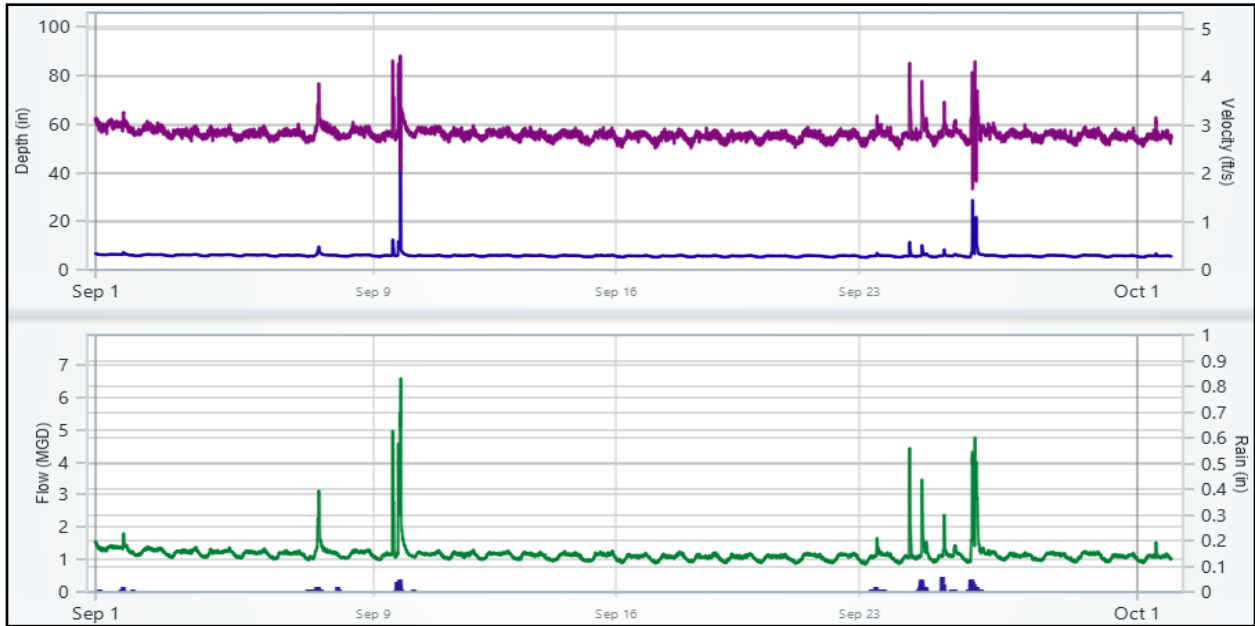
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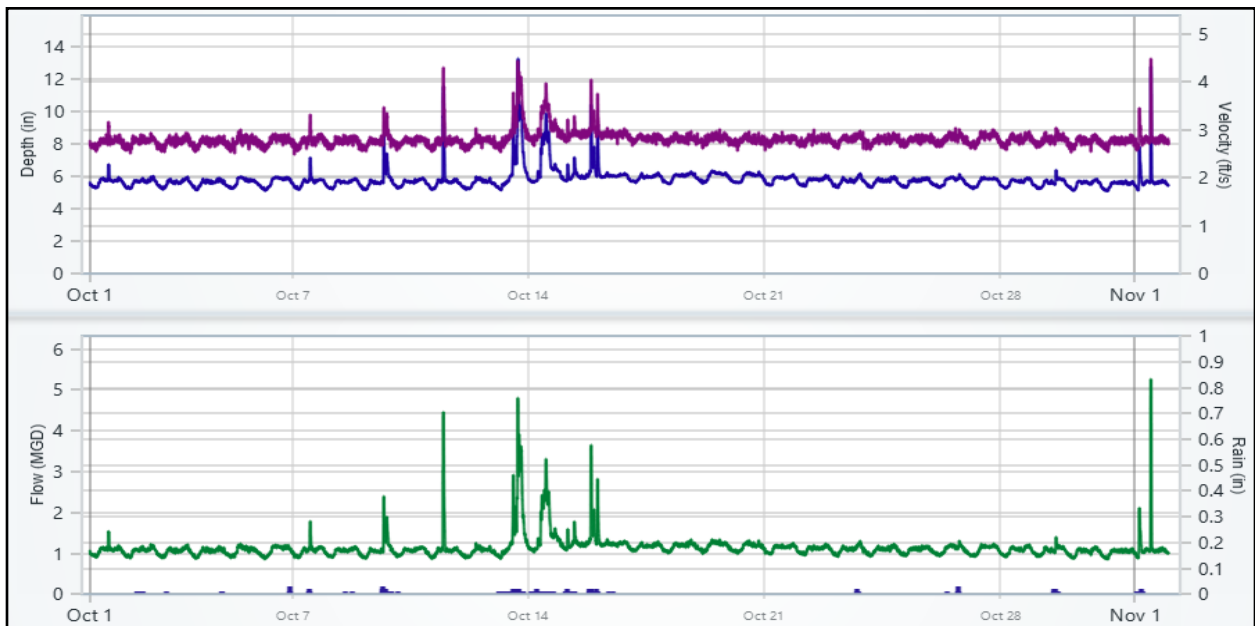
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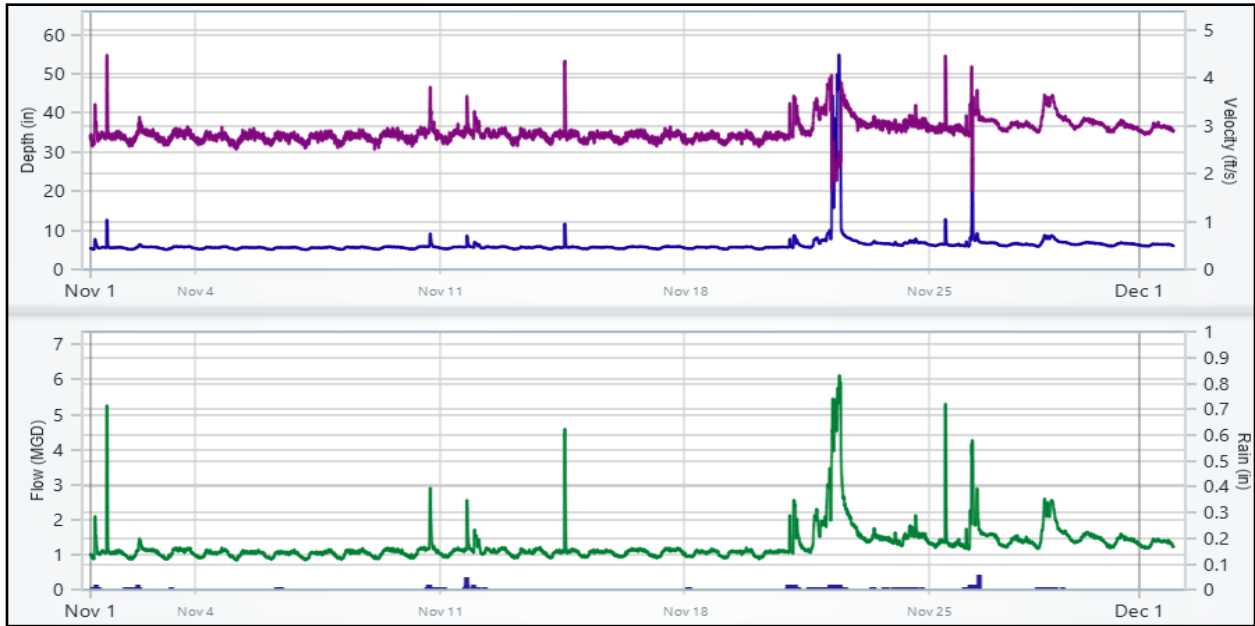
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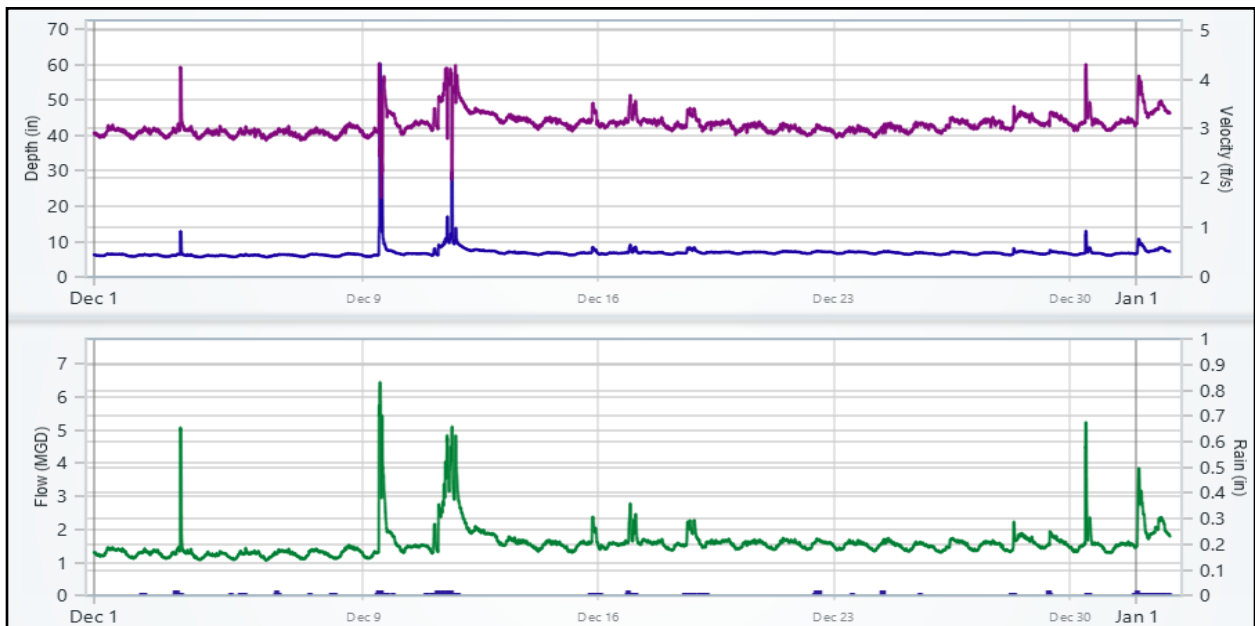
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8.7 November 2024

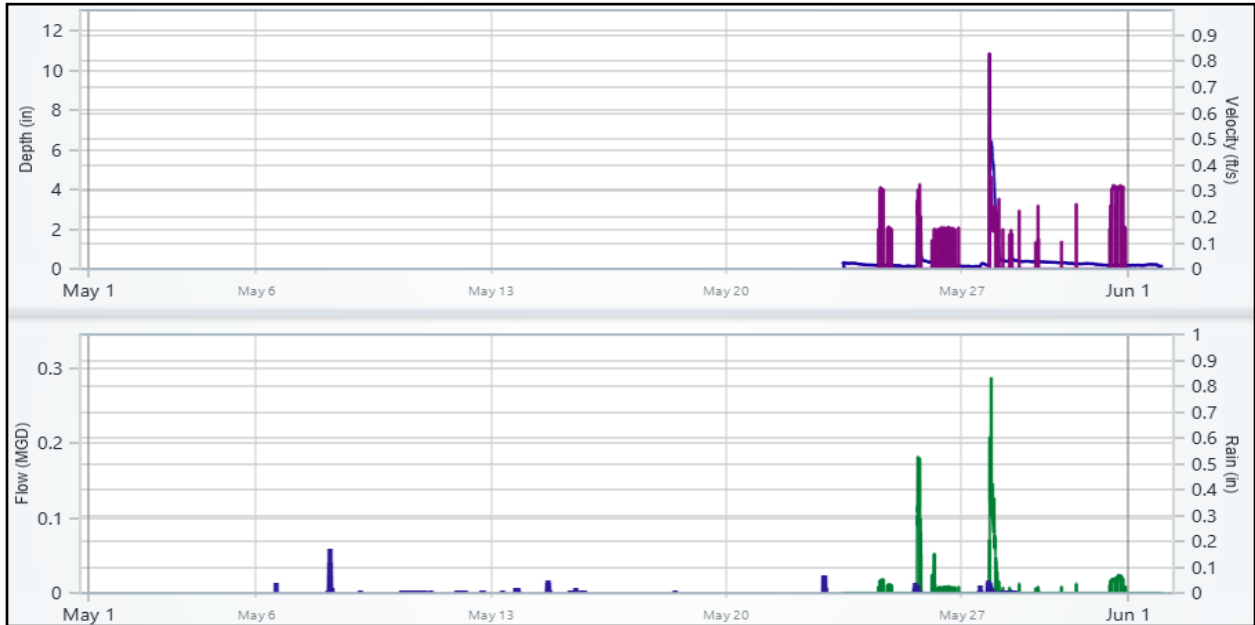


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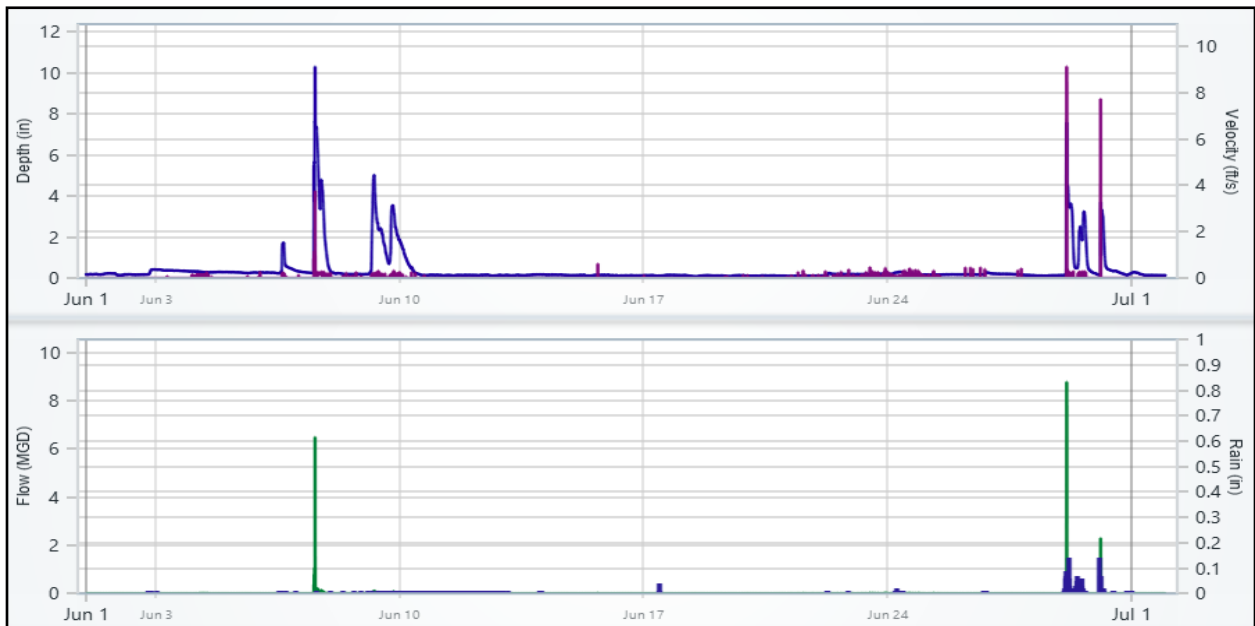


9. CSO-014_Overflow

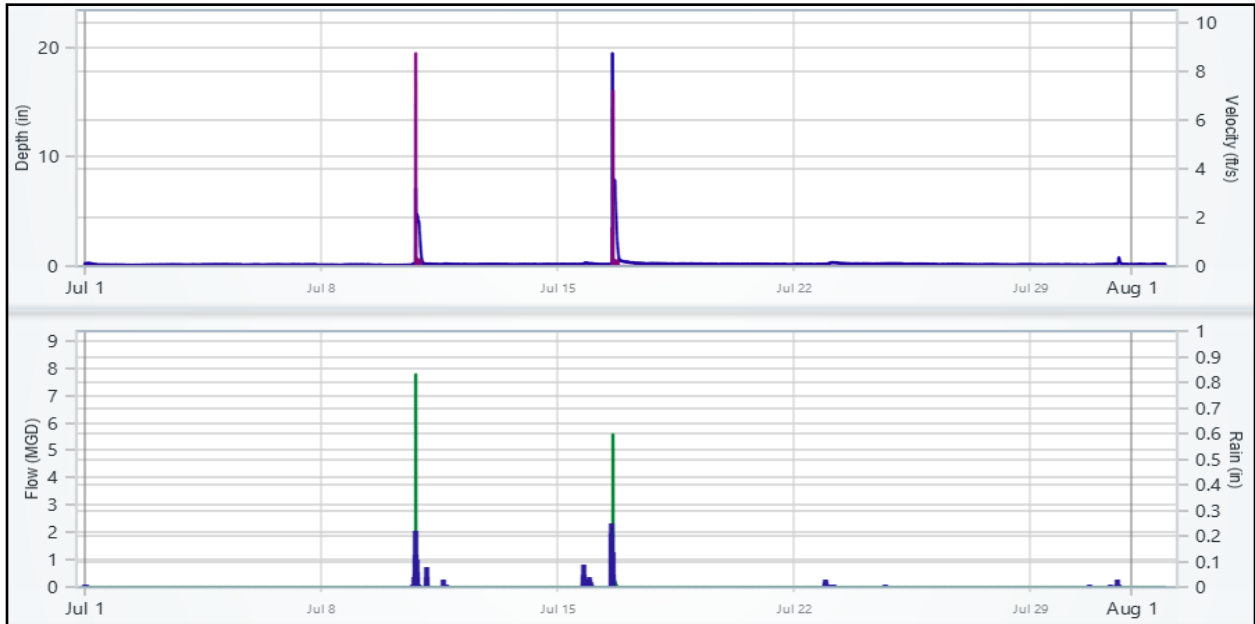
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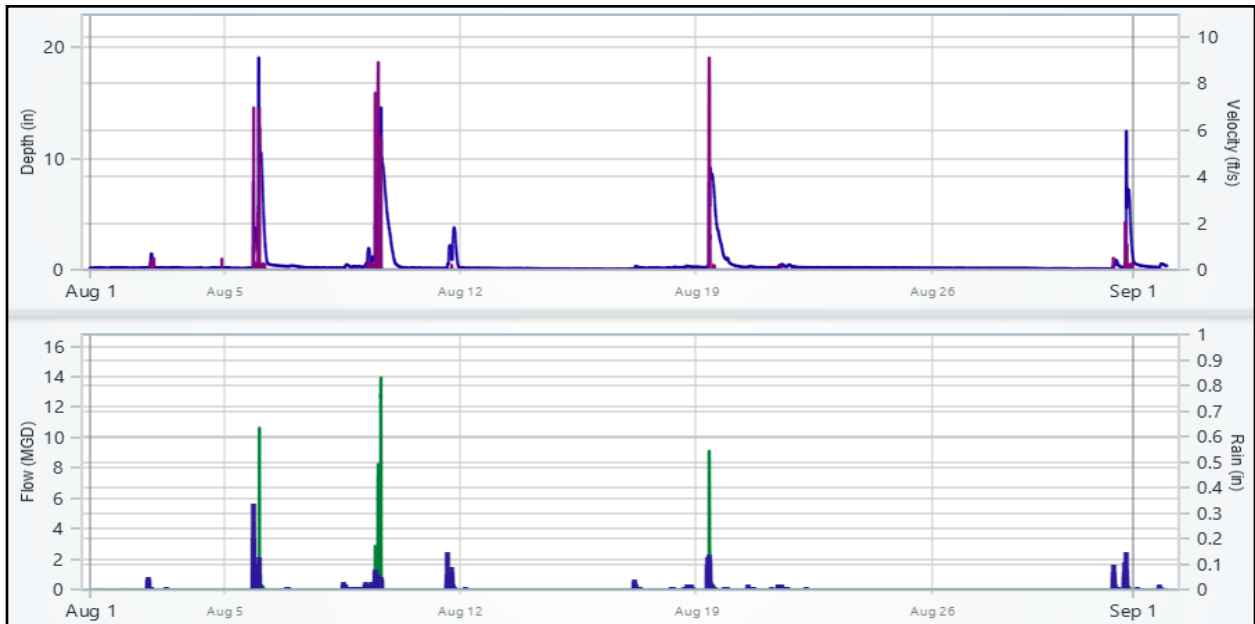
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9.3 July 2024



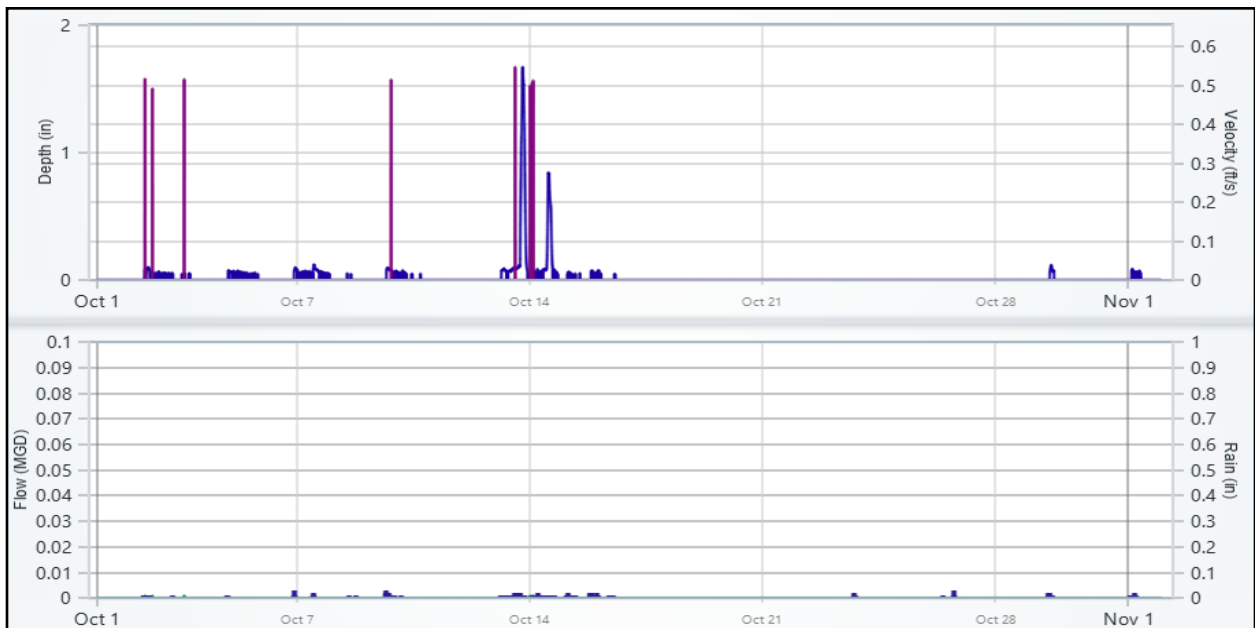
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9.5 September 2024

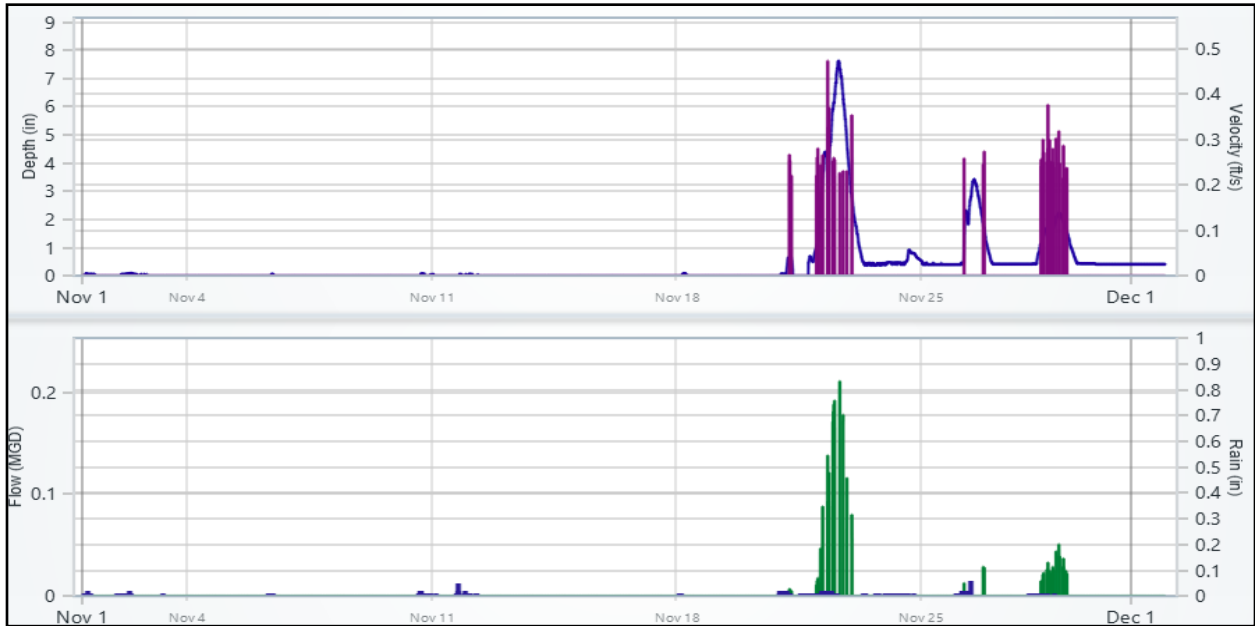


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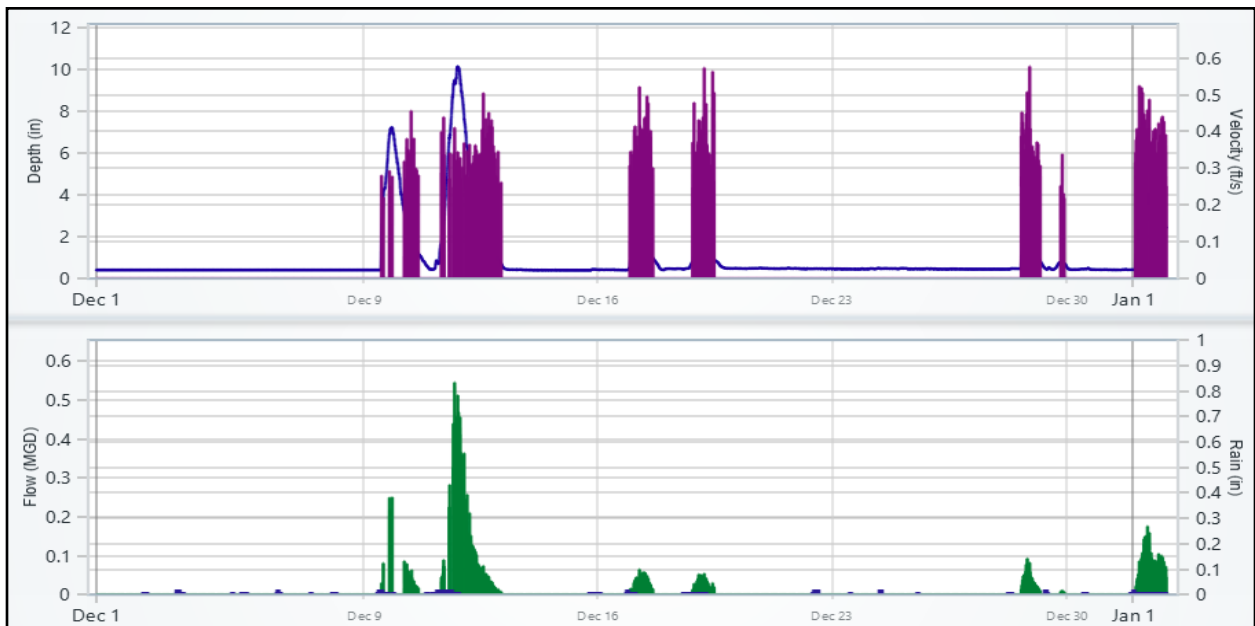


Appendix C – 2024 Harbor Brook Flow Meter Data

9.7 November 2024

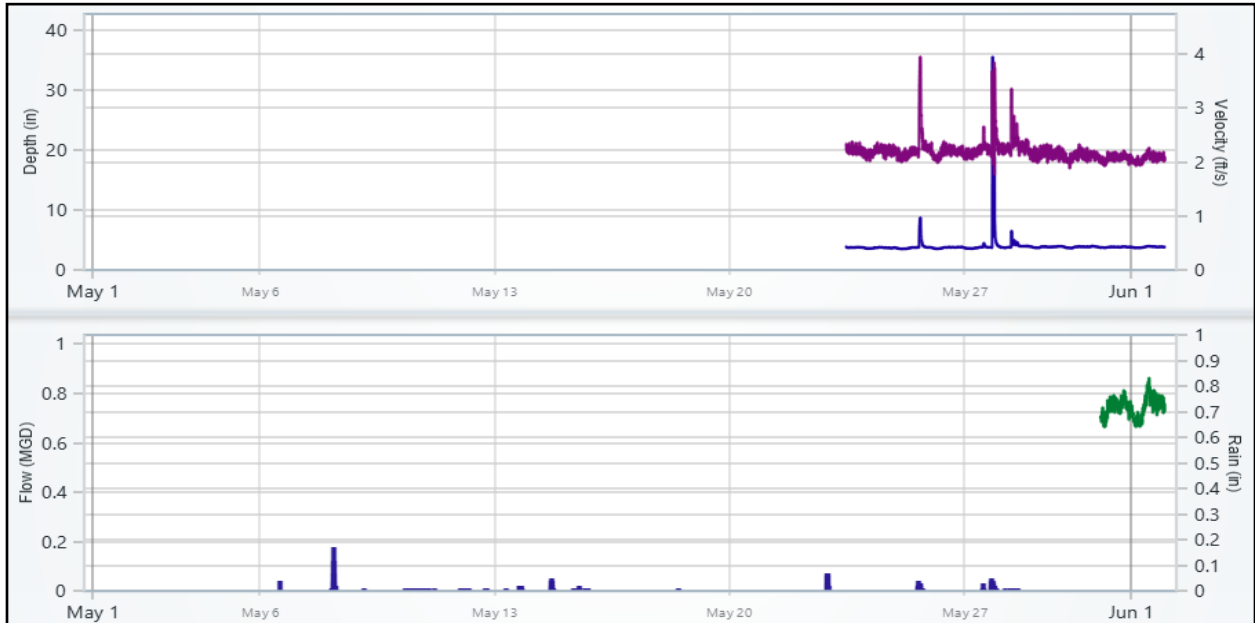


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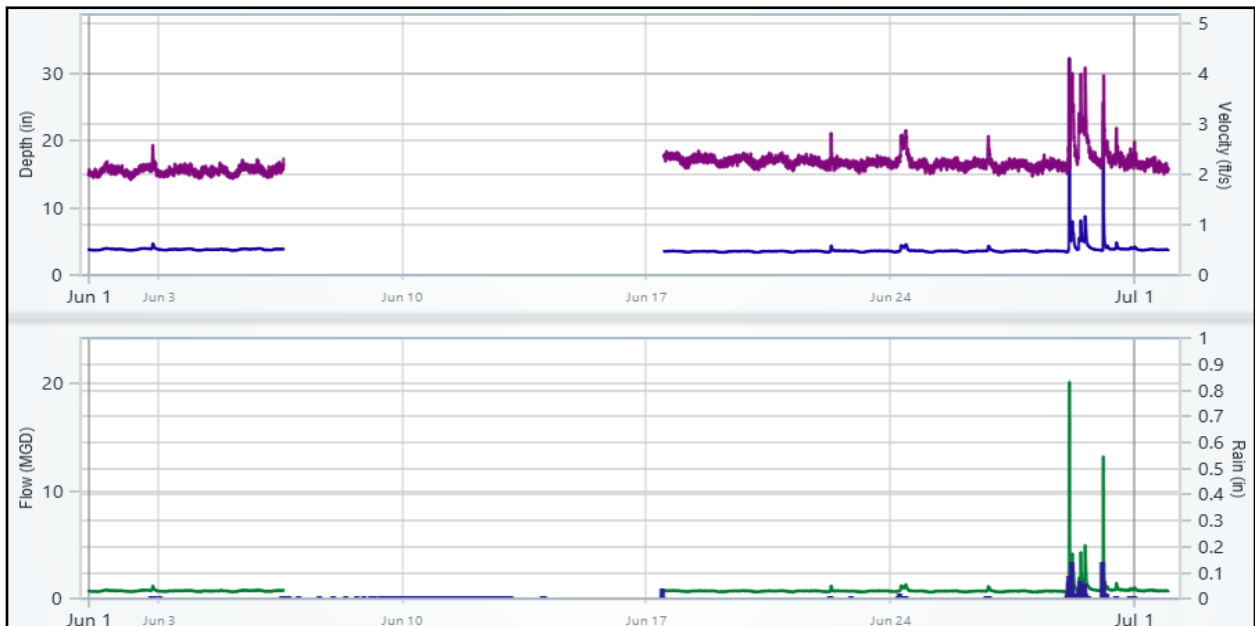


10. CSO-014_Trunk

10.1 May 2024

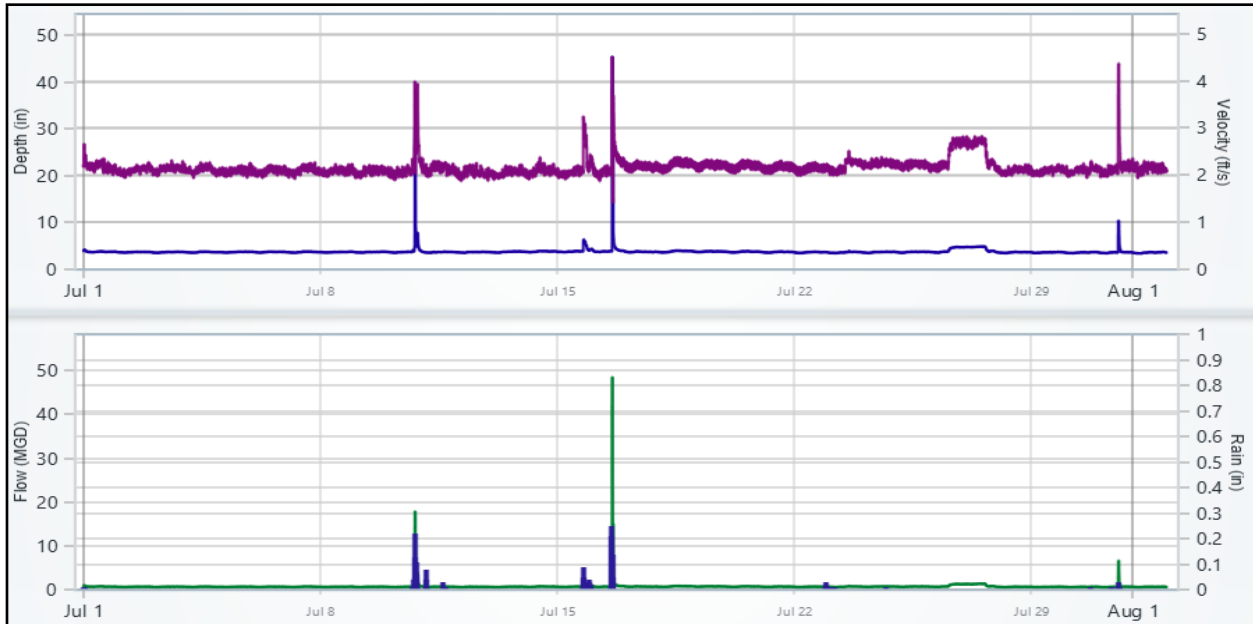


10.2 June 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

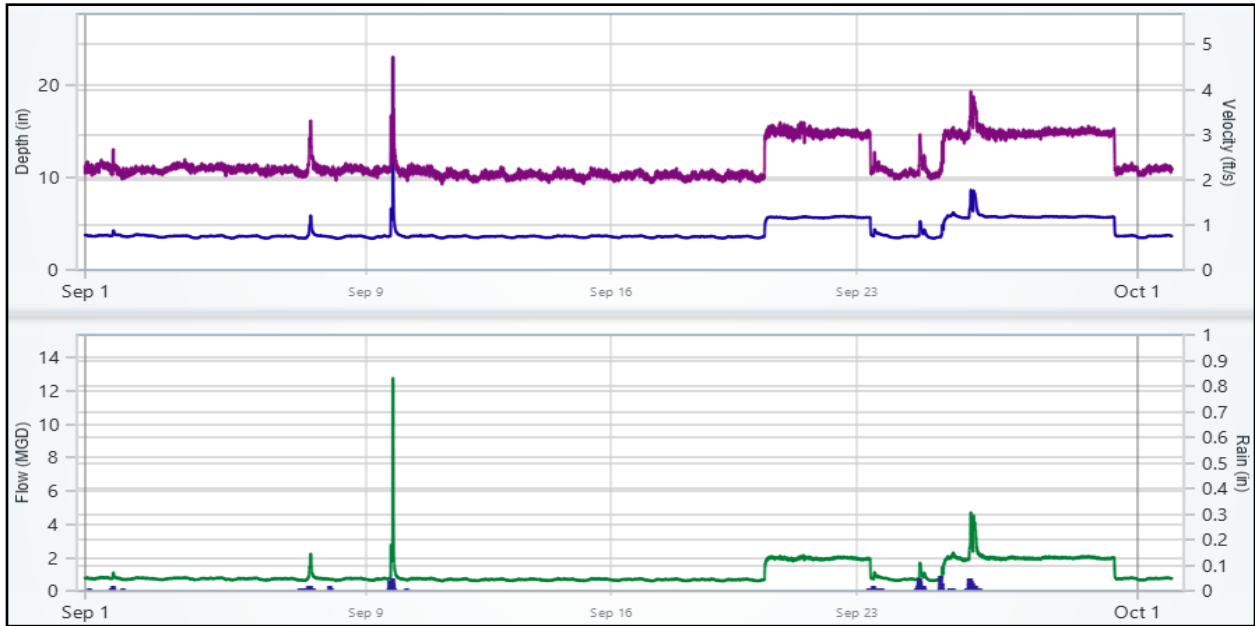
10.3 July 2024



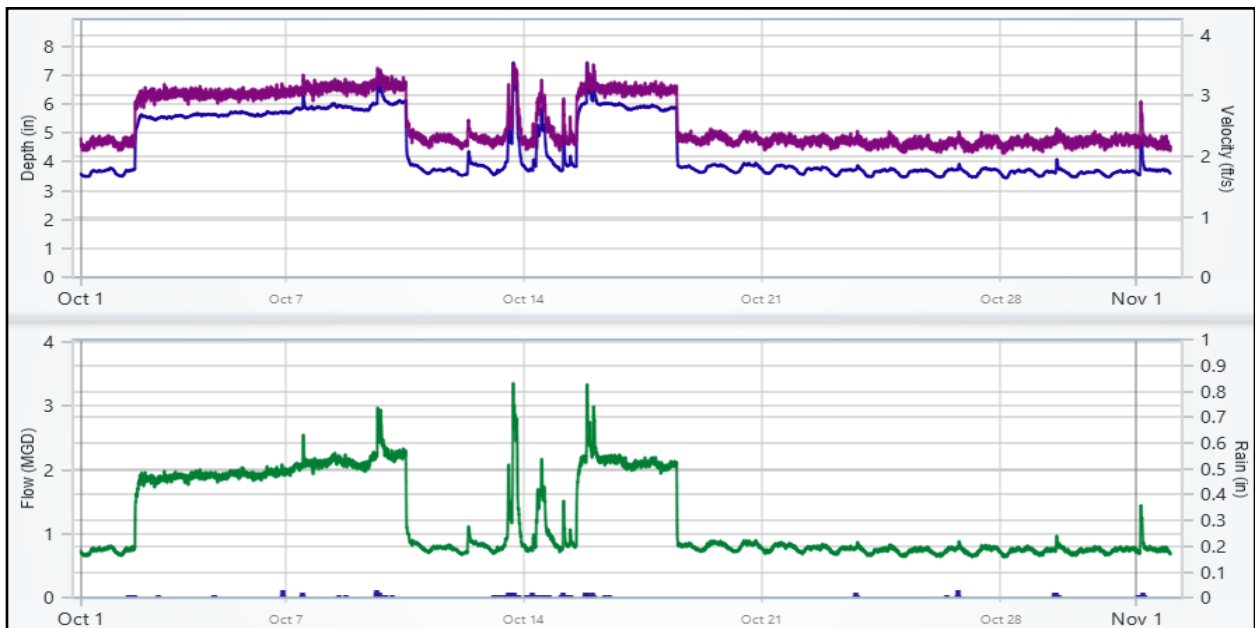
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10.5 September 2024

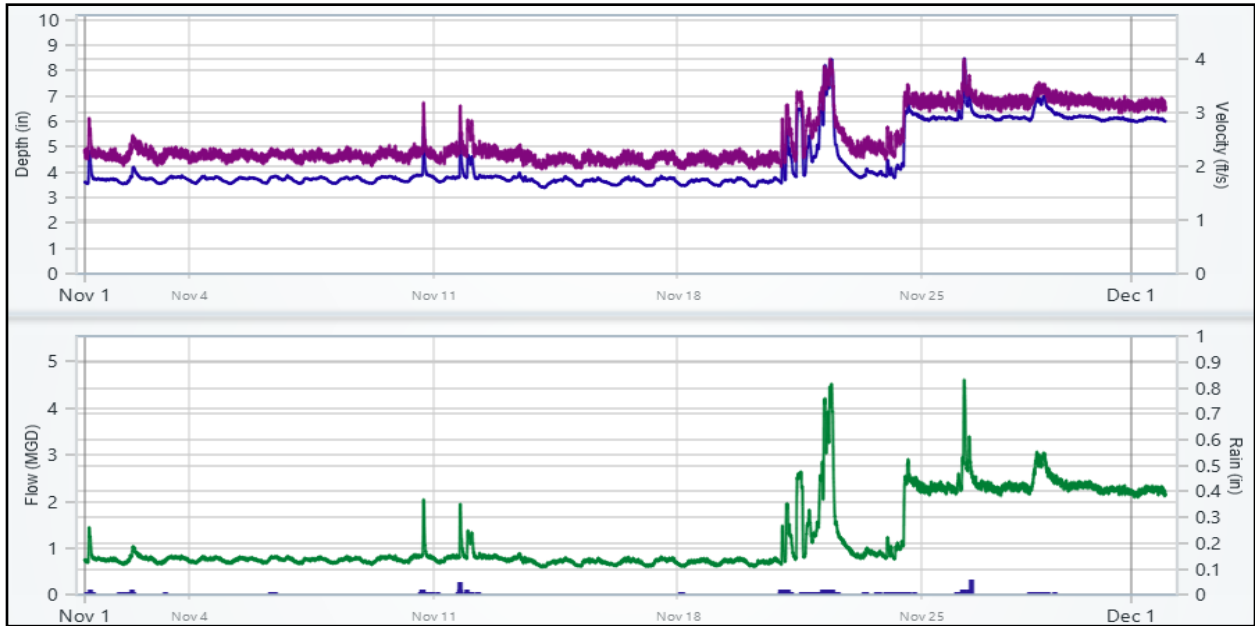


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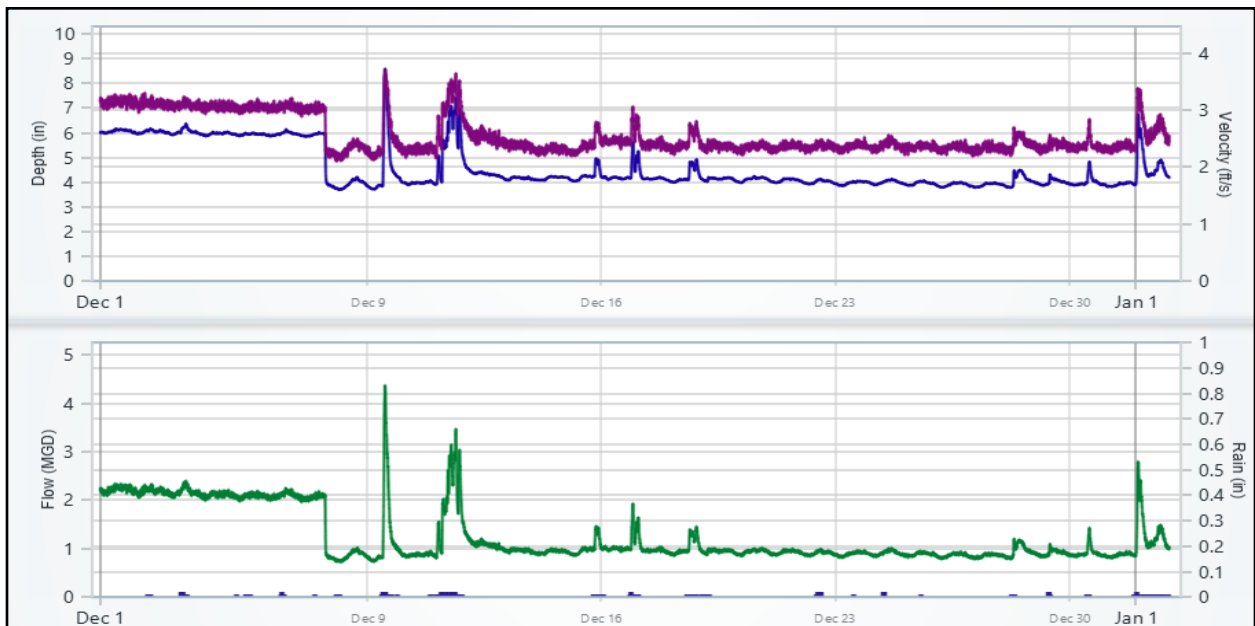


Appendix C – 2024 Harbor Brook Flow Meter Data

10.7 November 2024



10.8 December 2024



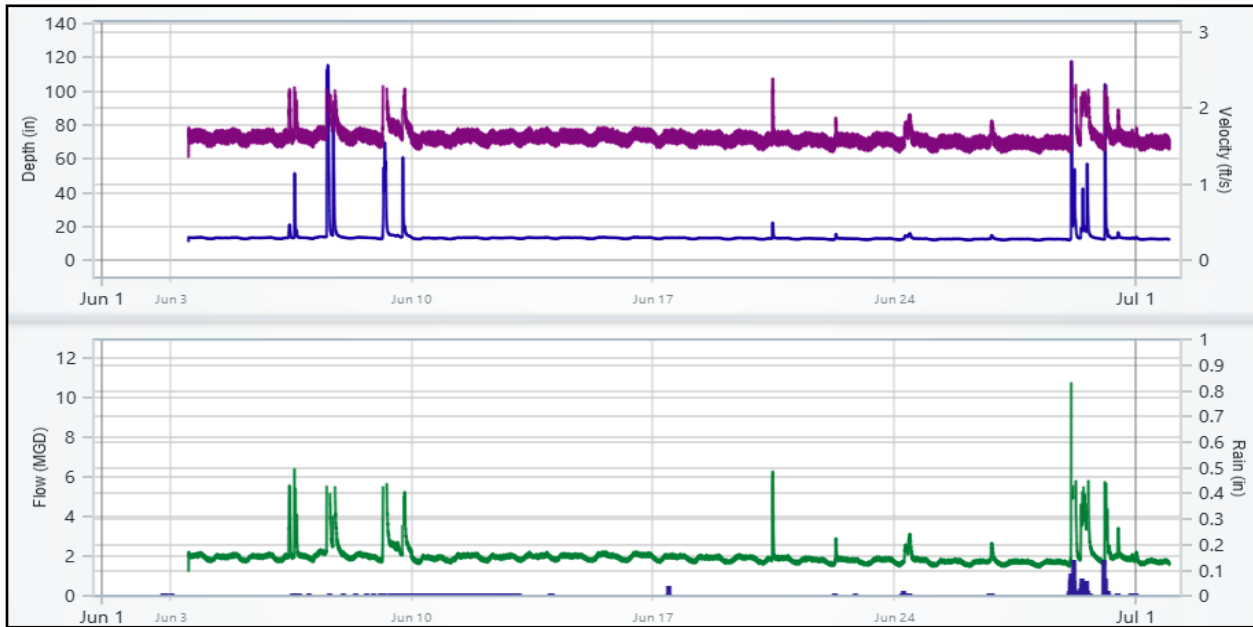
Appendix C – 2024 Harbor Brook Flow Meter Data

11. CSO-014_Interceptor

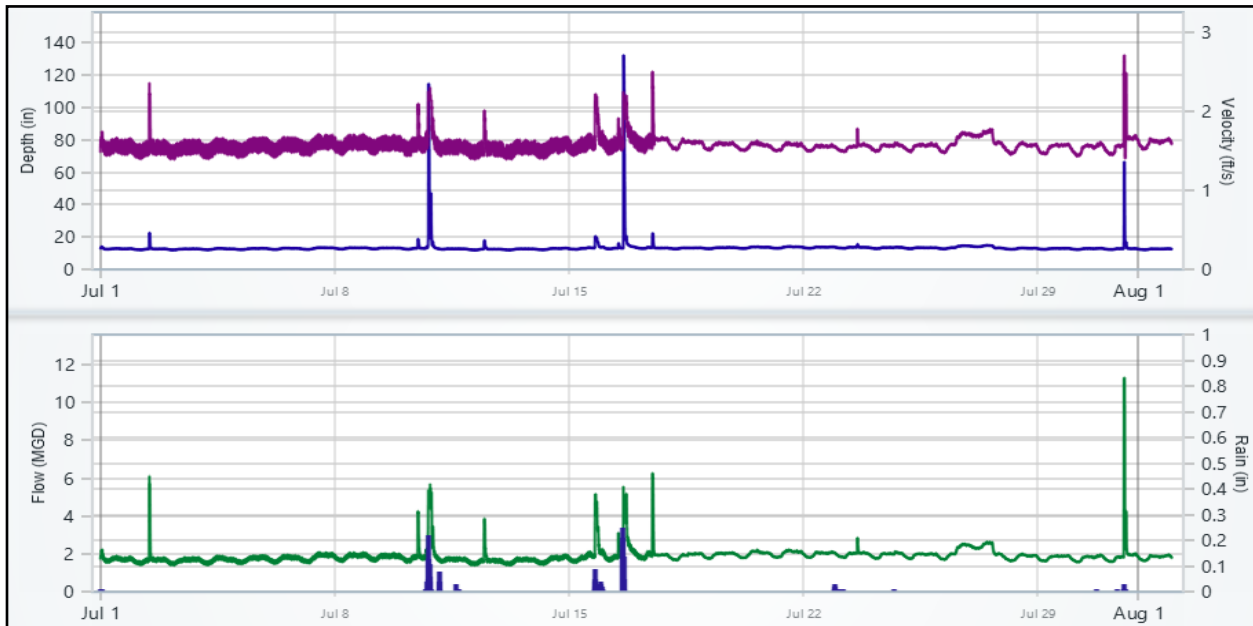
11.1 May 2024

No Data

11.2 June 2024



11.3 July 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

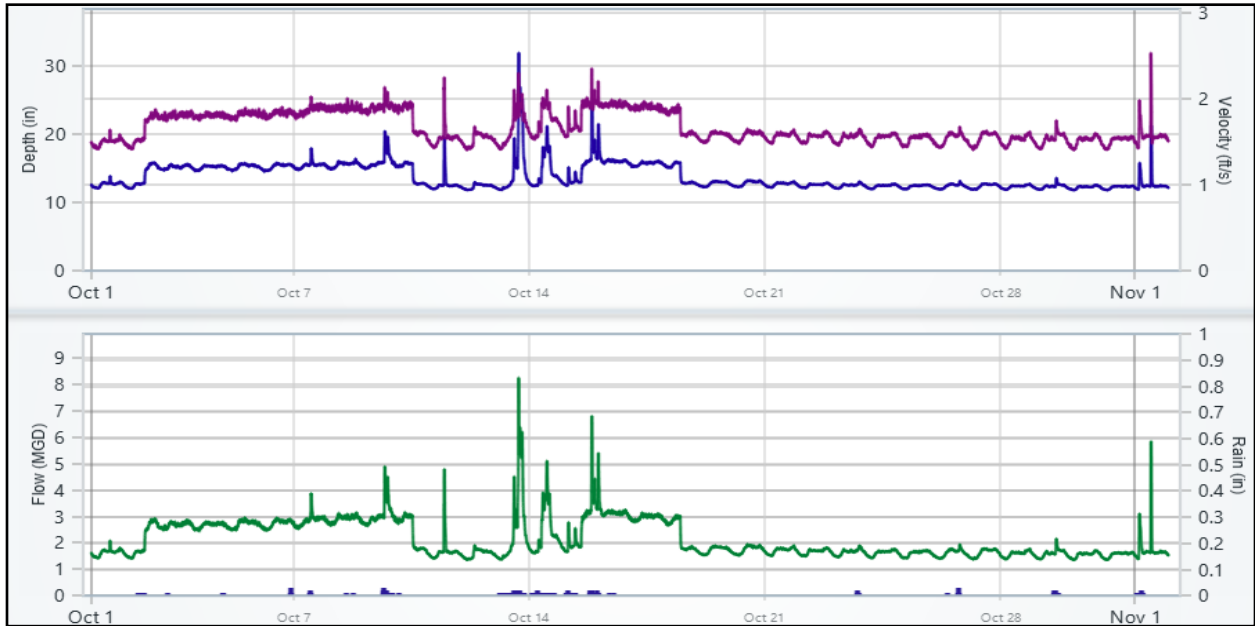
11.4 August 2024



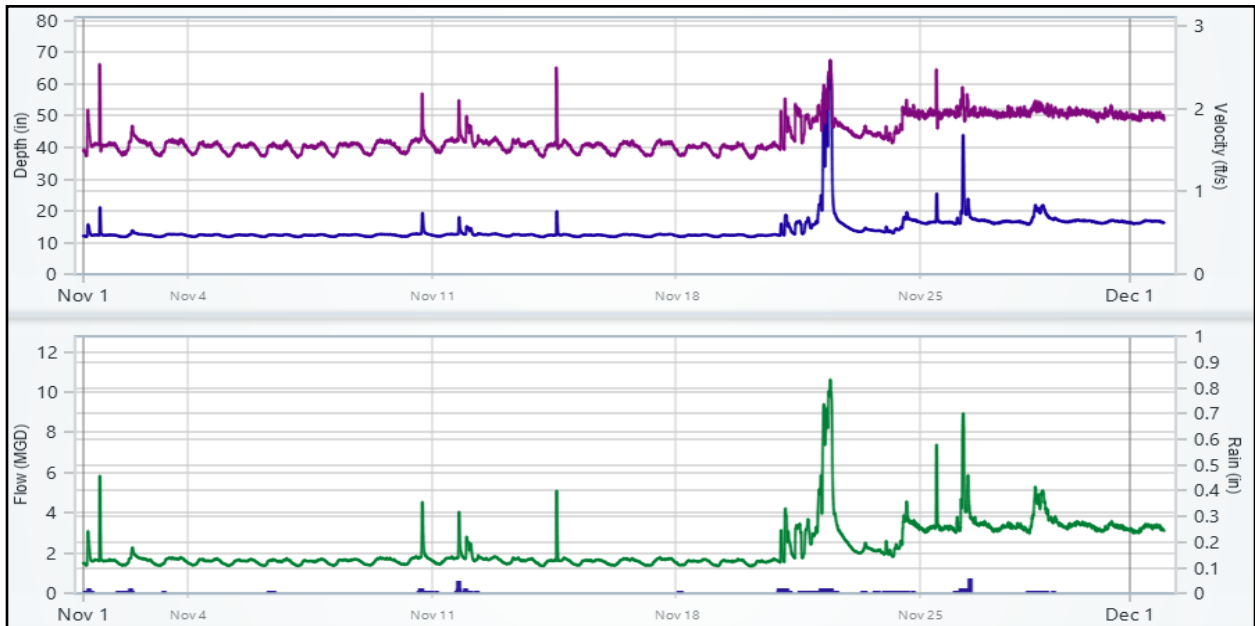
11.5 September 2024



11.6 October 2024

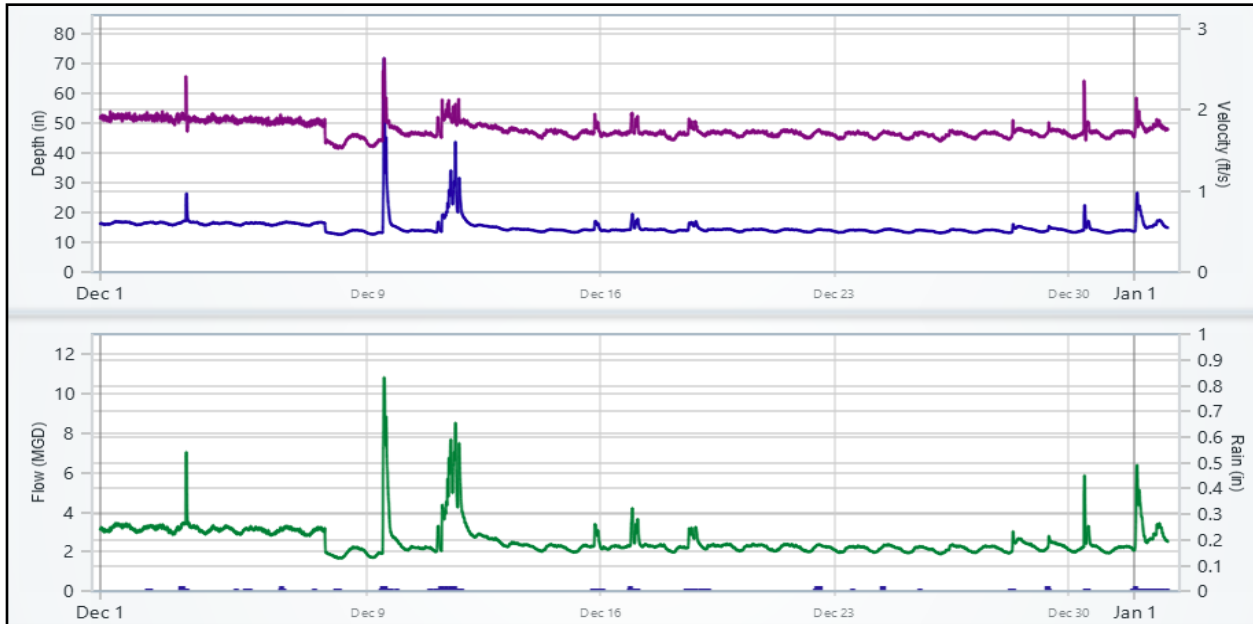


11.7 November 2024



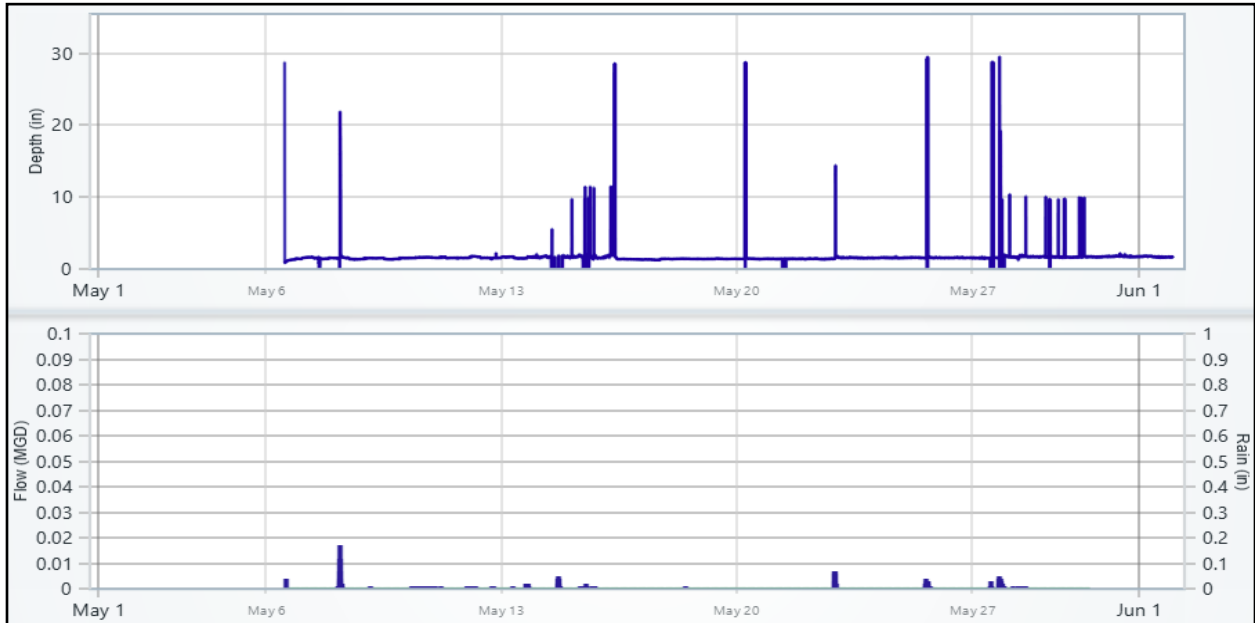
Appendix C – 2024 Harbor Brook Flow Meter Data

11.8 December 2024



12. CSO-011_OverflowUS

12.1 May 2024

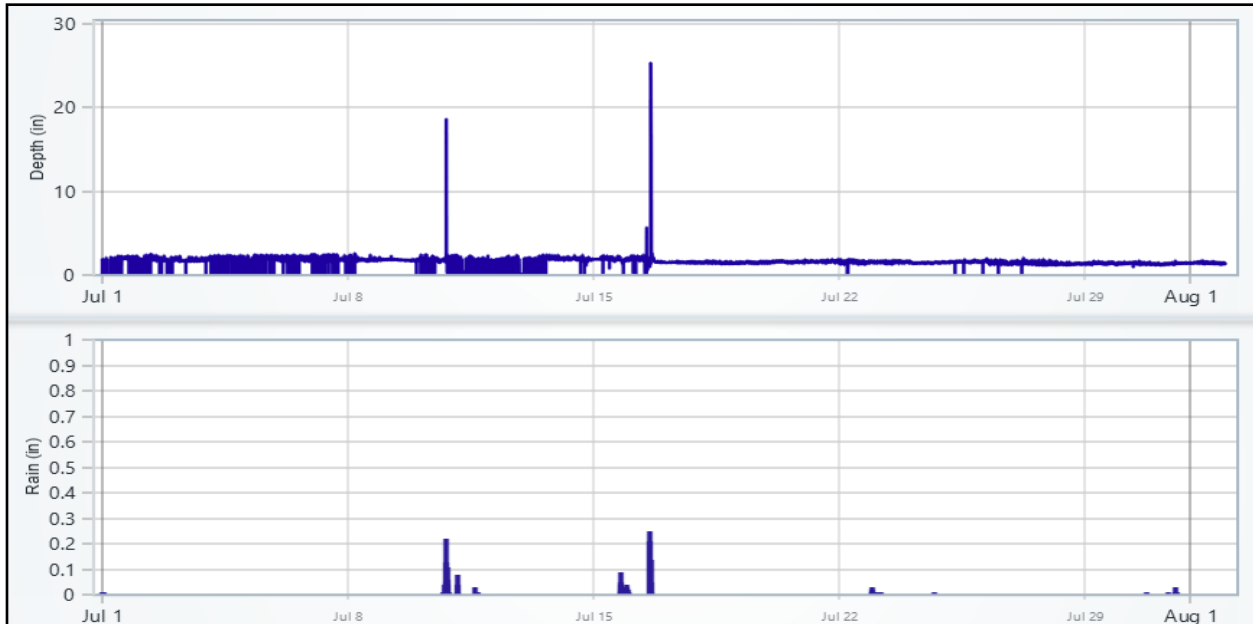


12.2 June 2024

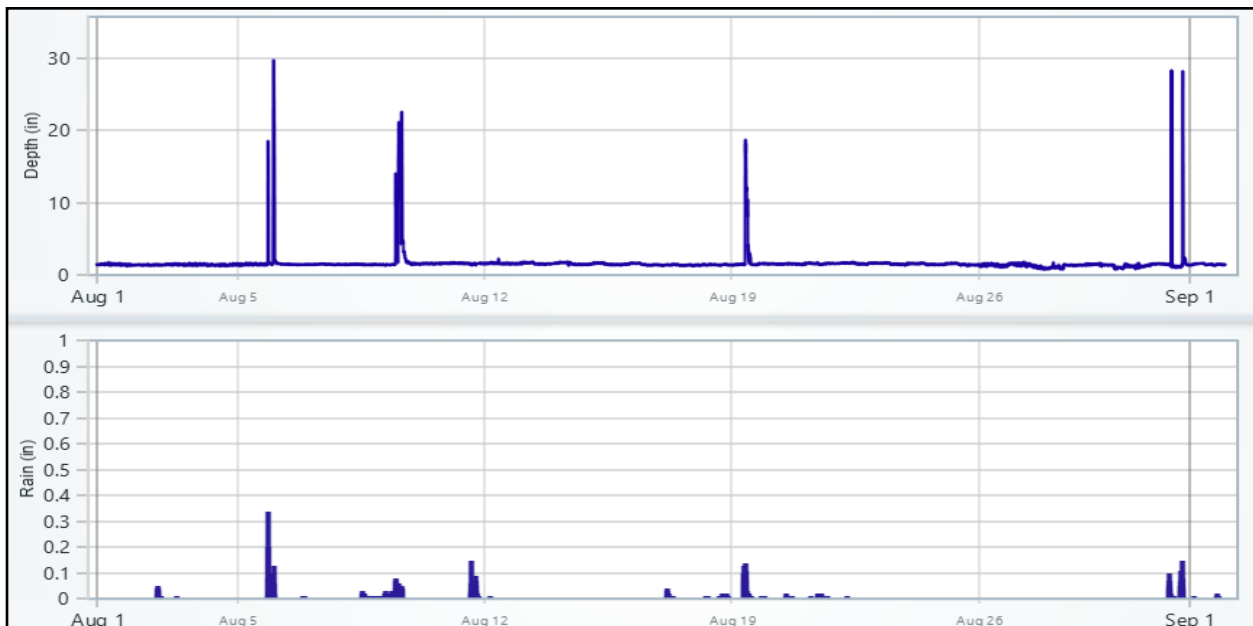


Appendix C – 2024 Harbor Brook Flow Meter Data

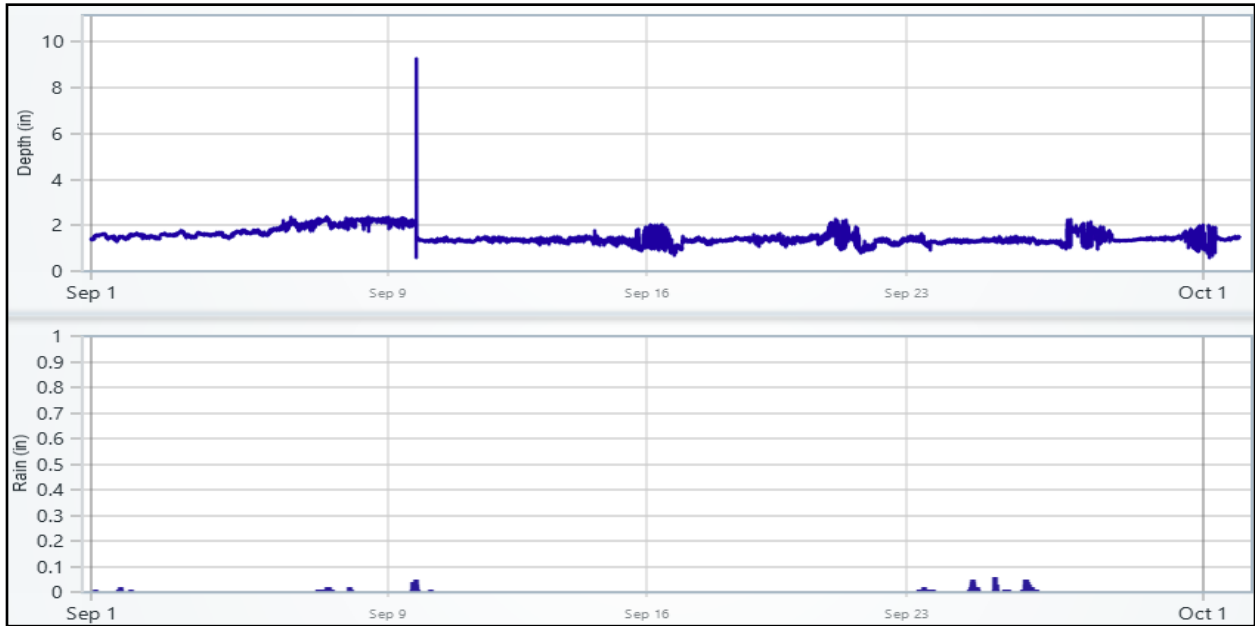
12.3 July 2024



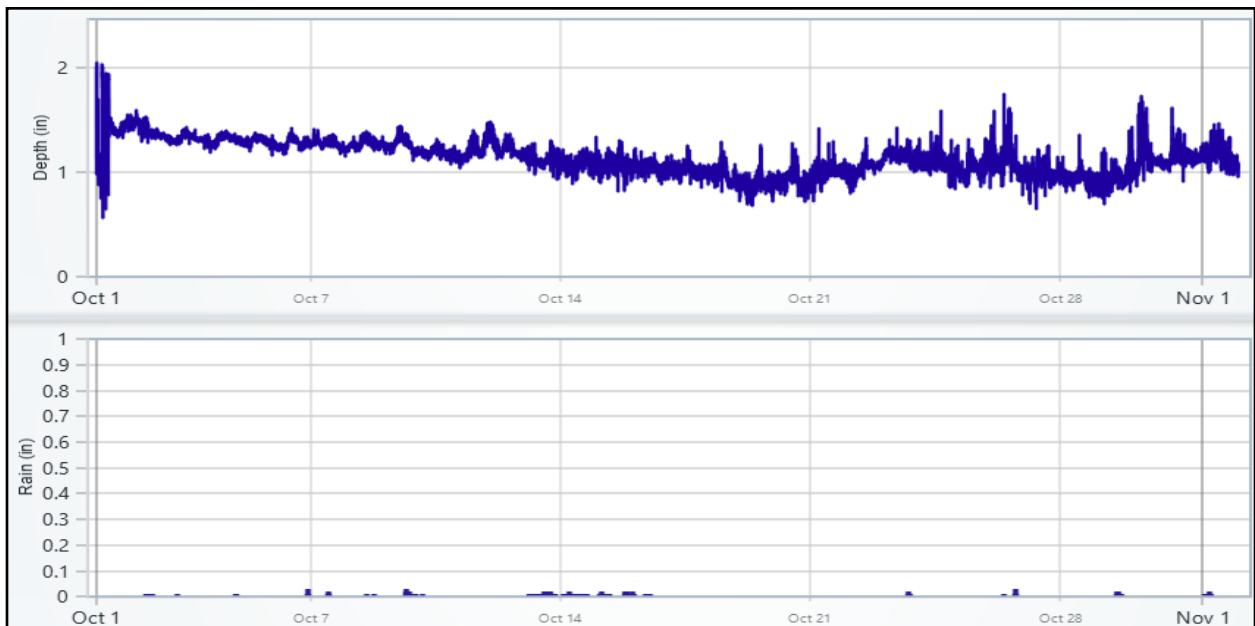
12.4 August 2024



12.5 September 2024

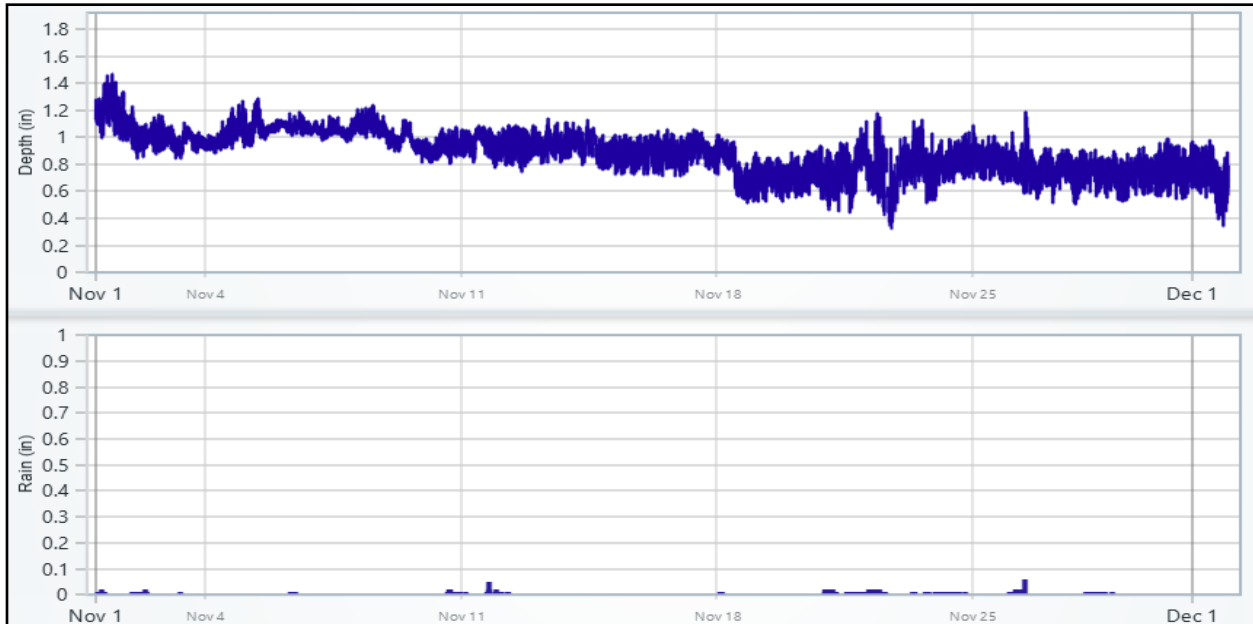


12.6 October 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

12.7 November 2024

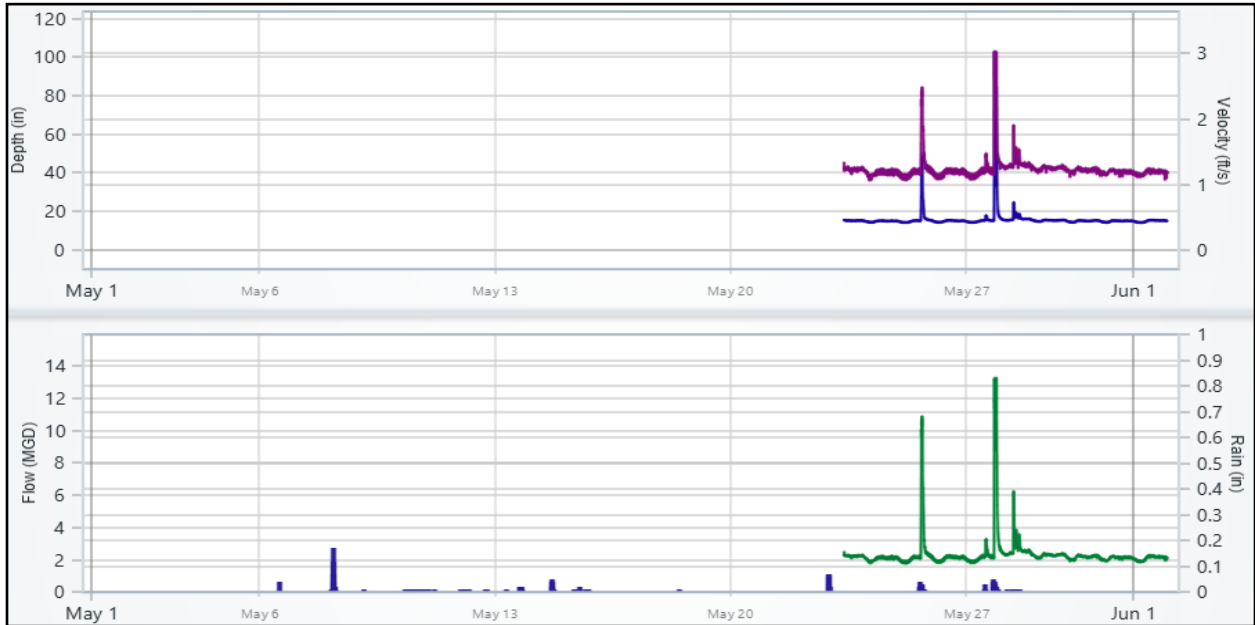


12.8 December 2024

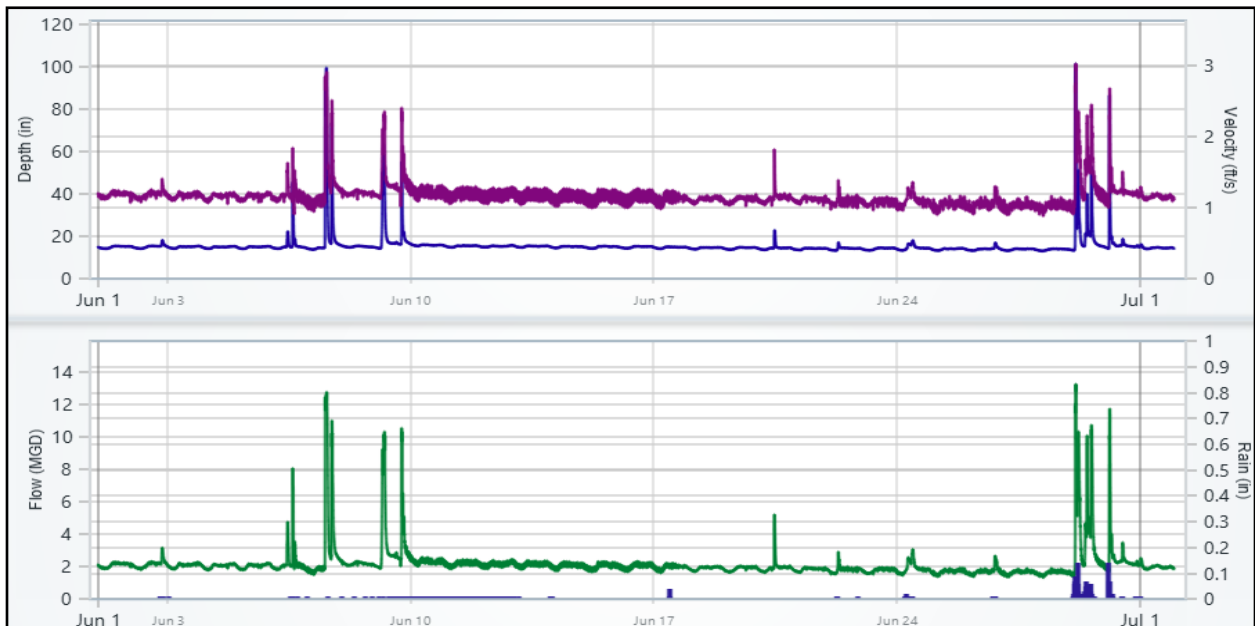


13. CSO-011_Interceptor

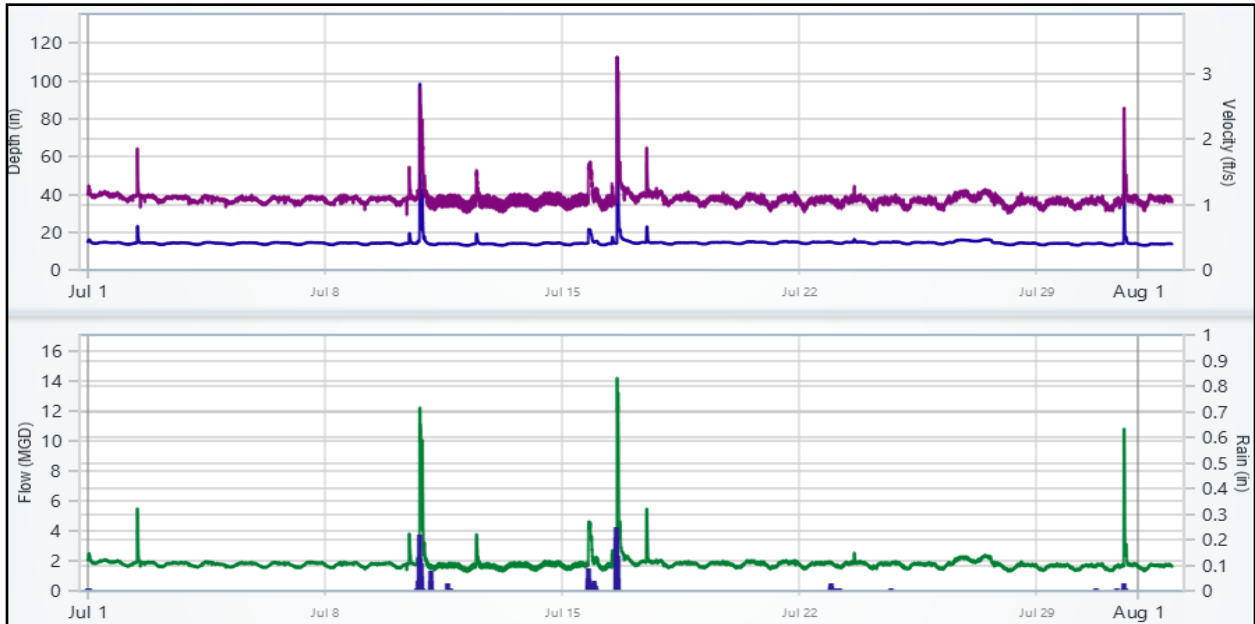
13.1 May 2024



13.2 June 2024



13.3 July 2024



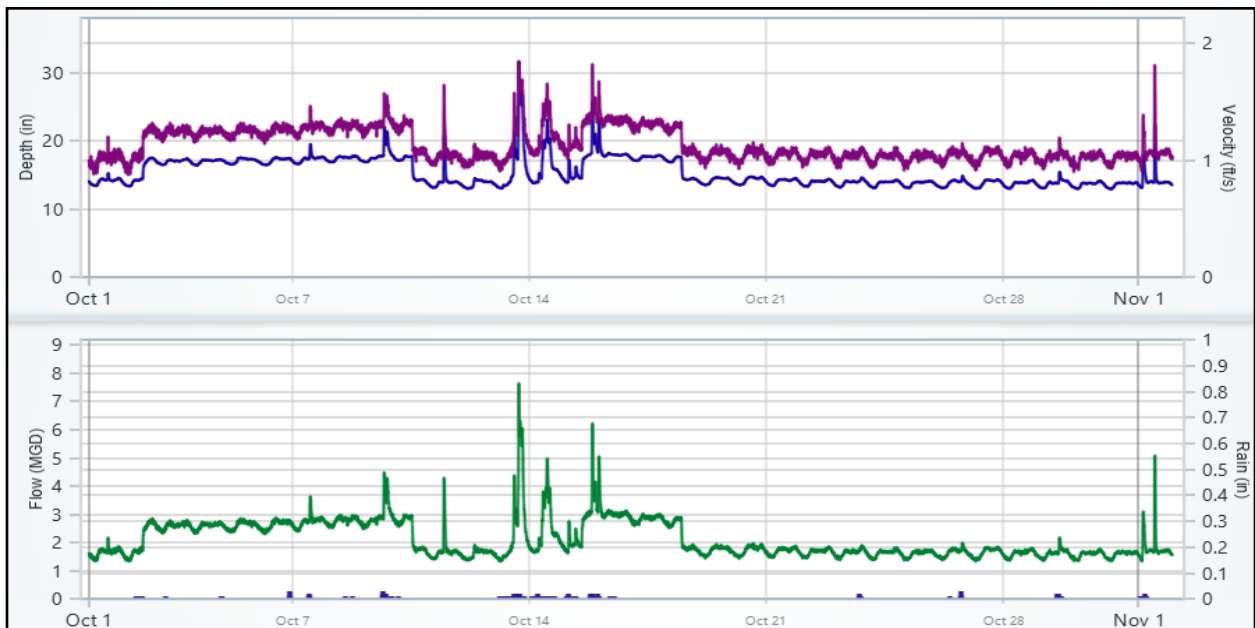
13.4 August 2024



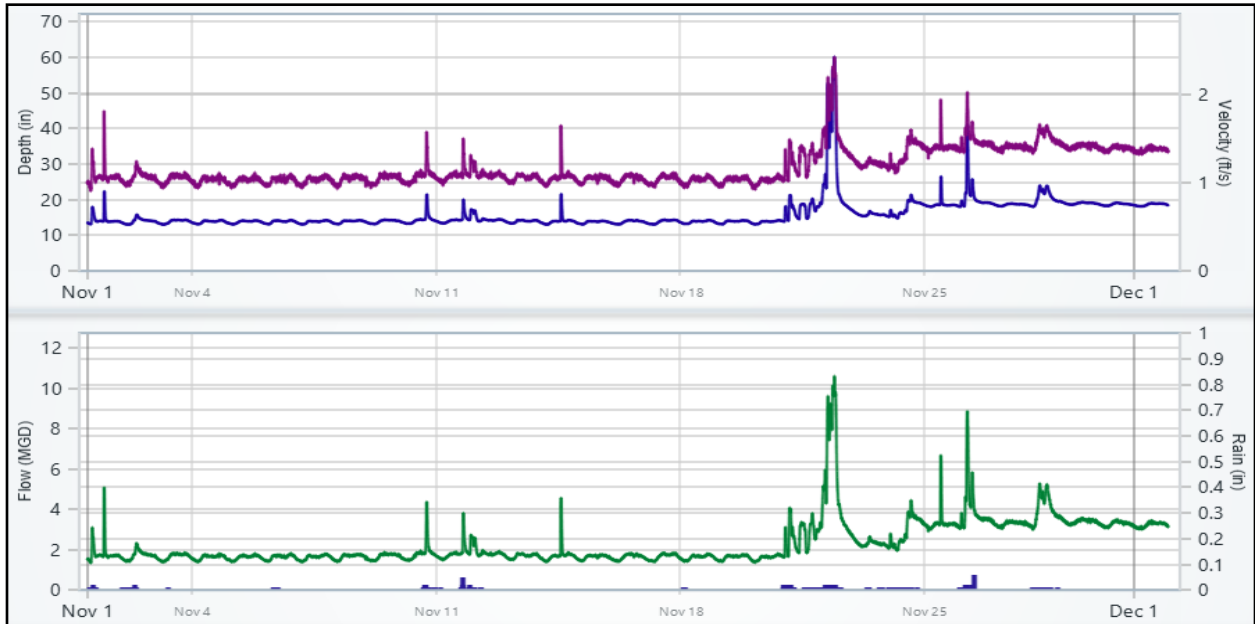
13.5 September 2024



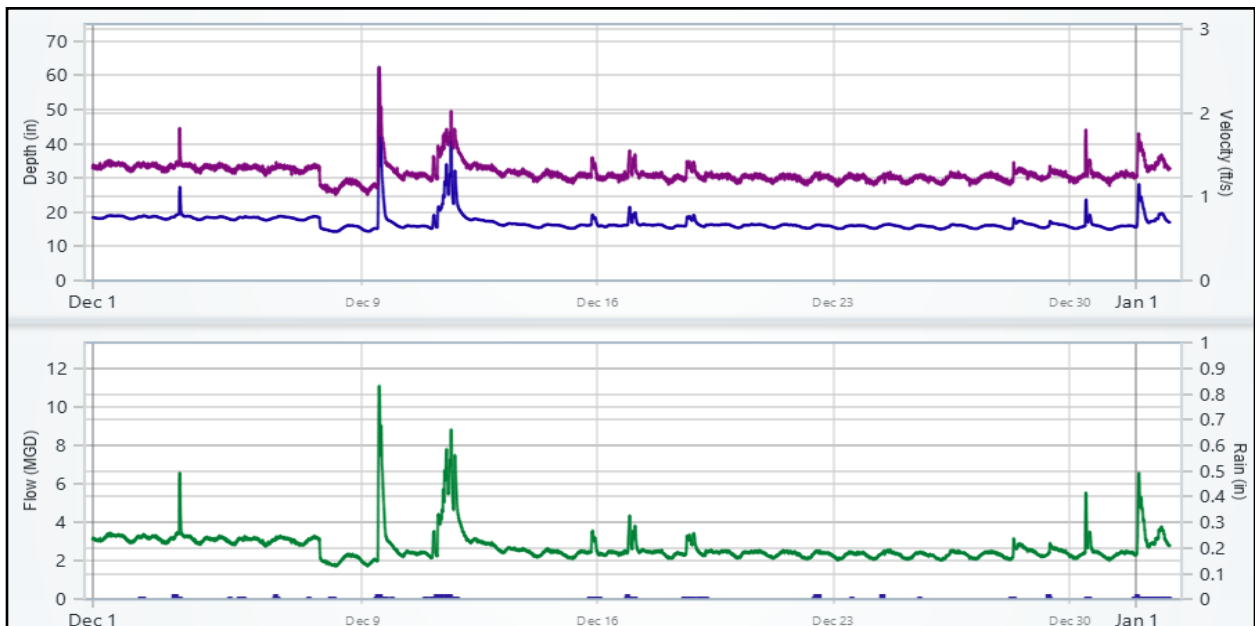
13.6 October 2024



13.7 November 2024

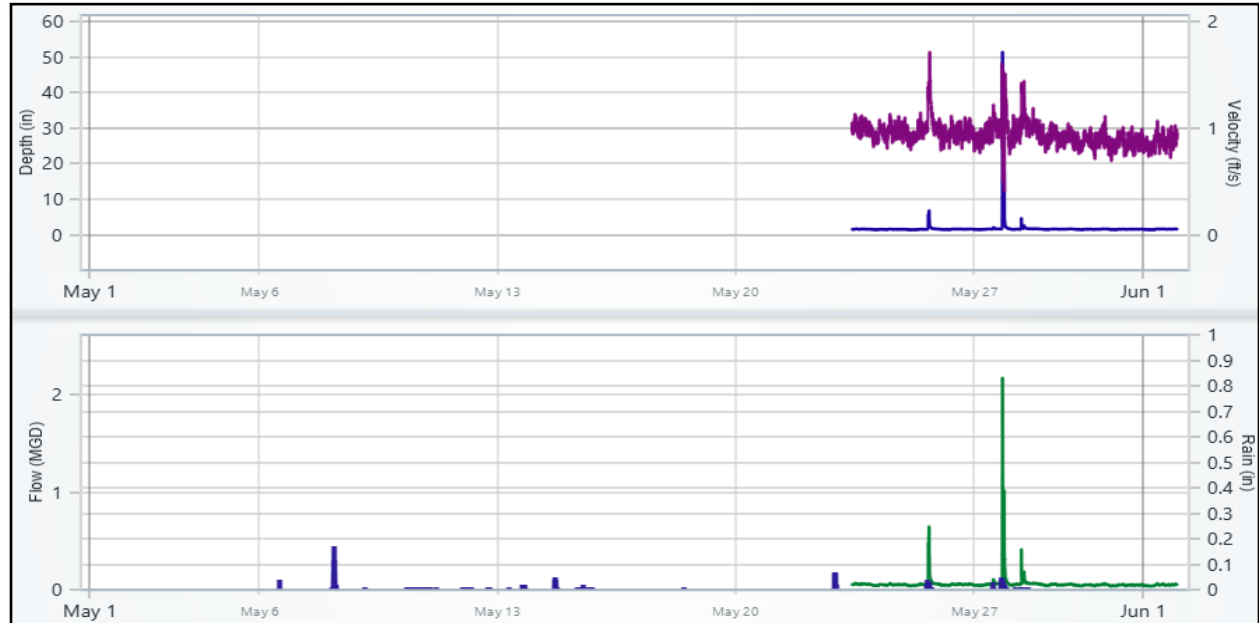


13.8 December 2024

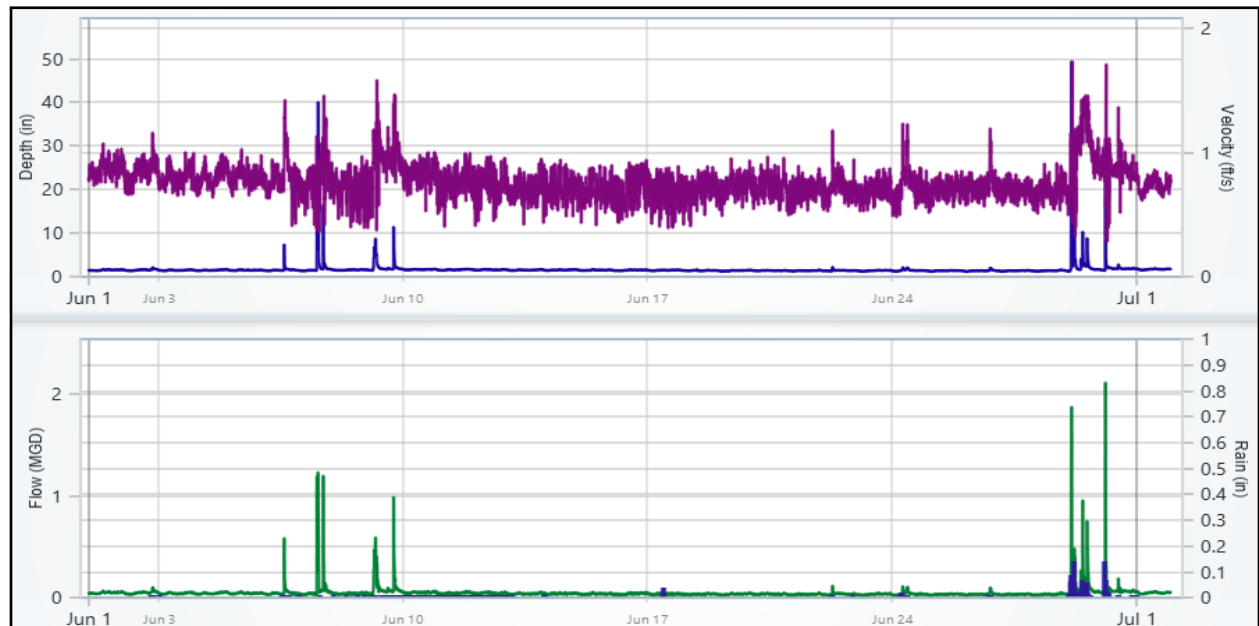


14. CSO-011_Trunk

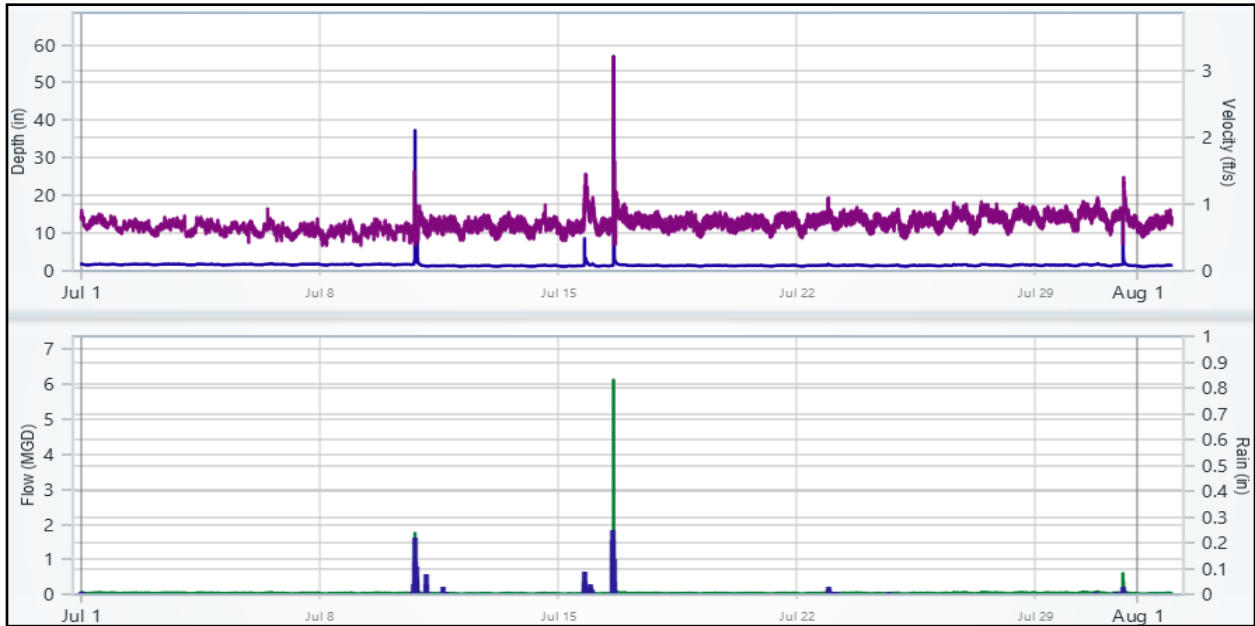
14.1 May 2024



14.2 June 2024



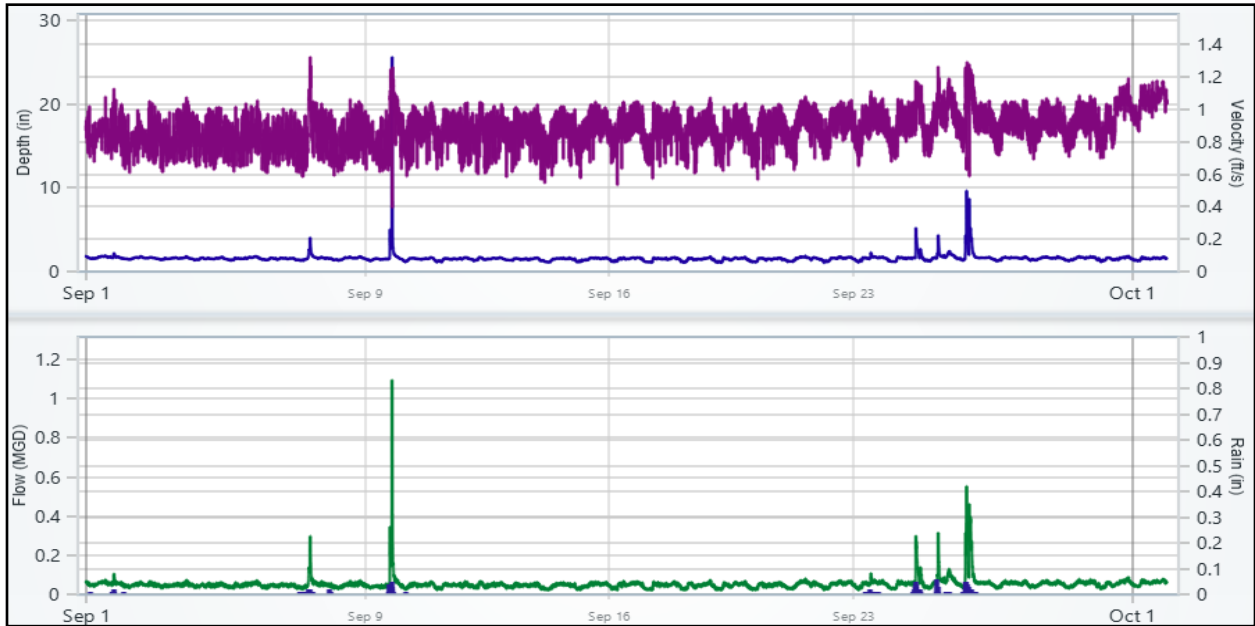
14.3 July 2024



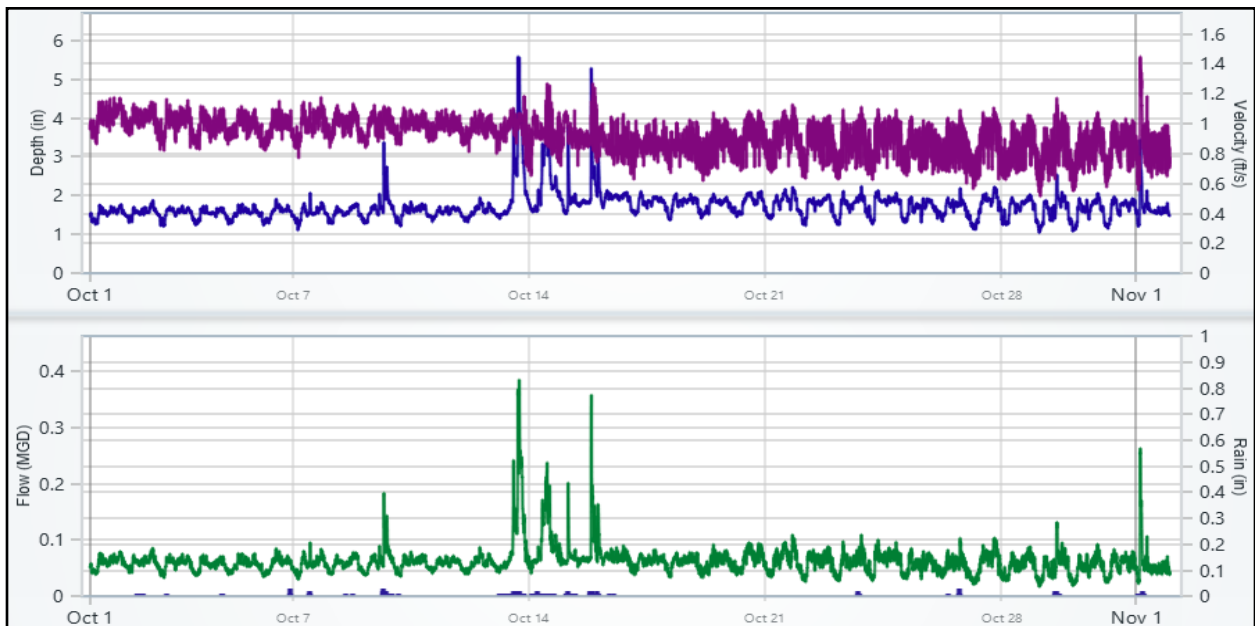
14.4 August 2024



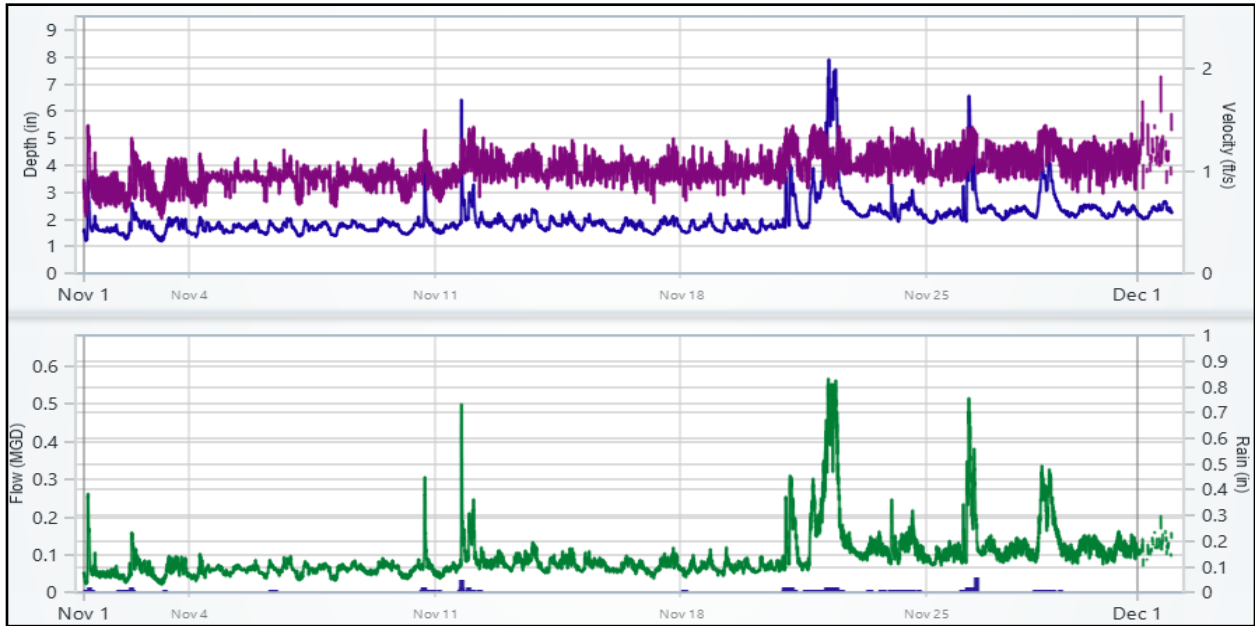
14.5 September 2024



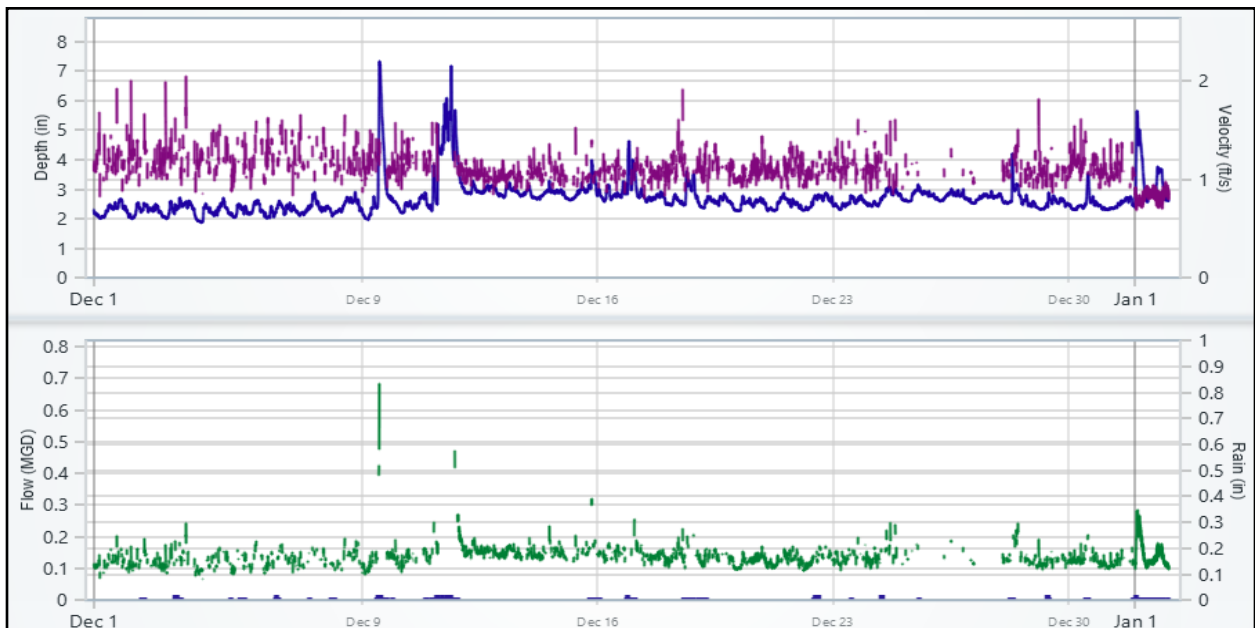
14.6 October 2024



14.7 November 2024

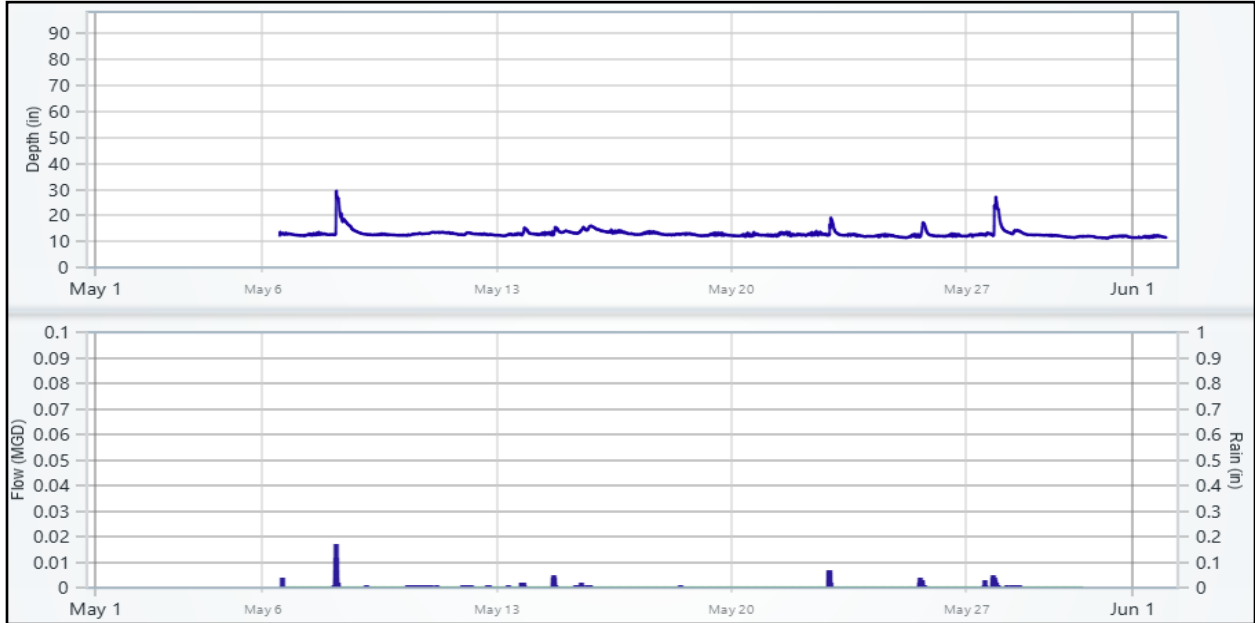


14.8 December 2024

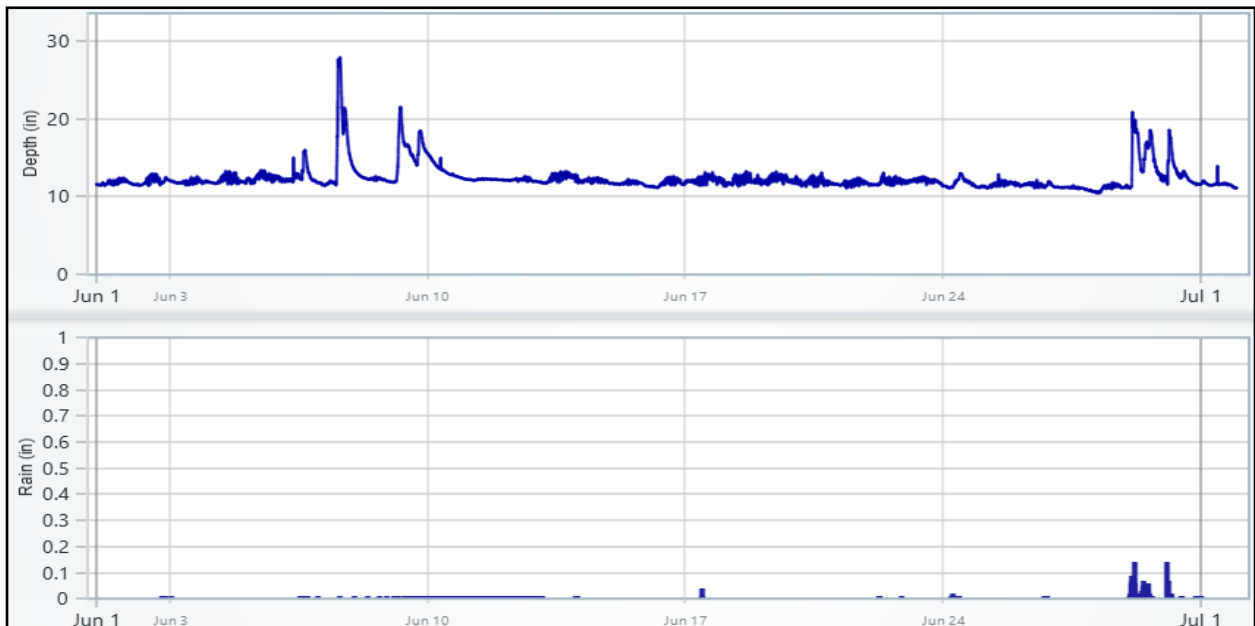


15. HarborBrook

15.1 May 2024

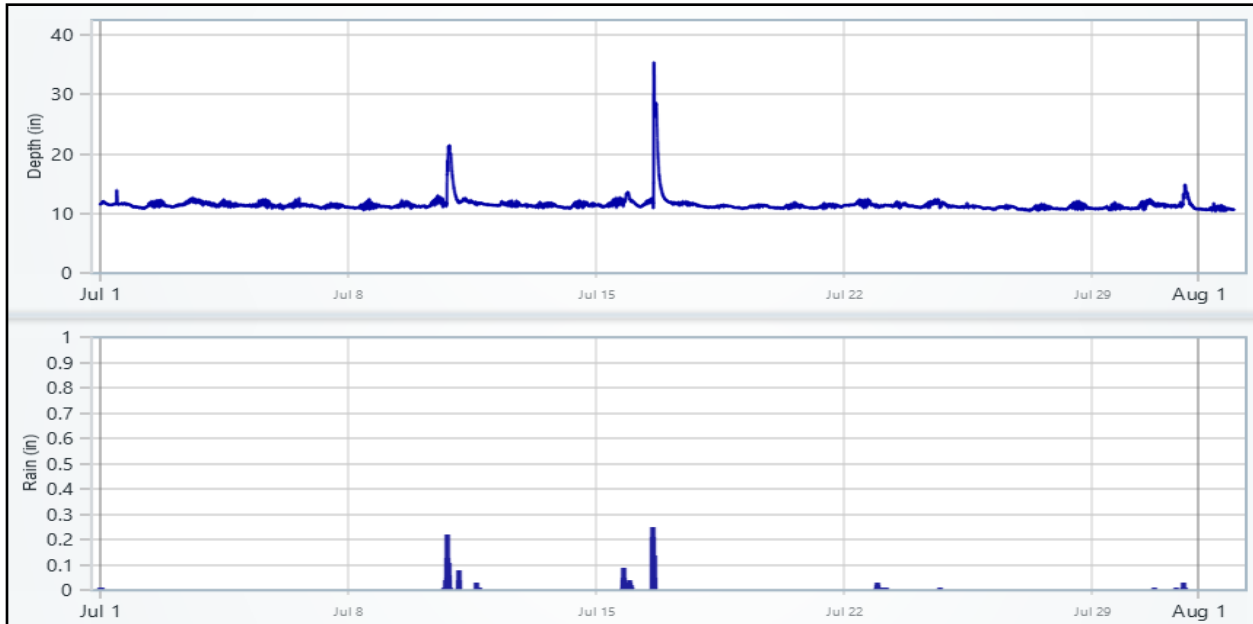


15.2 June 2024

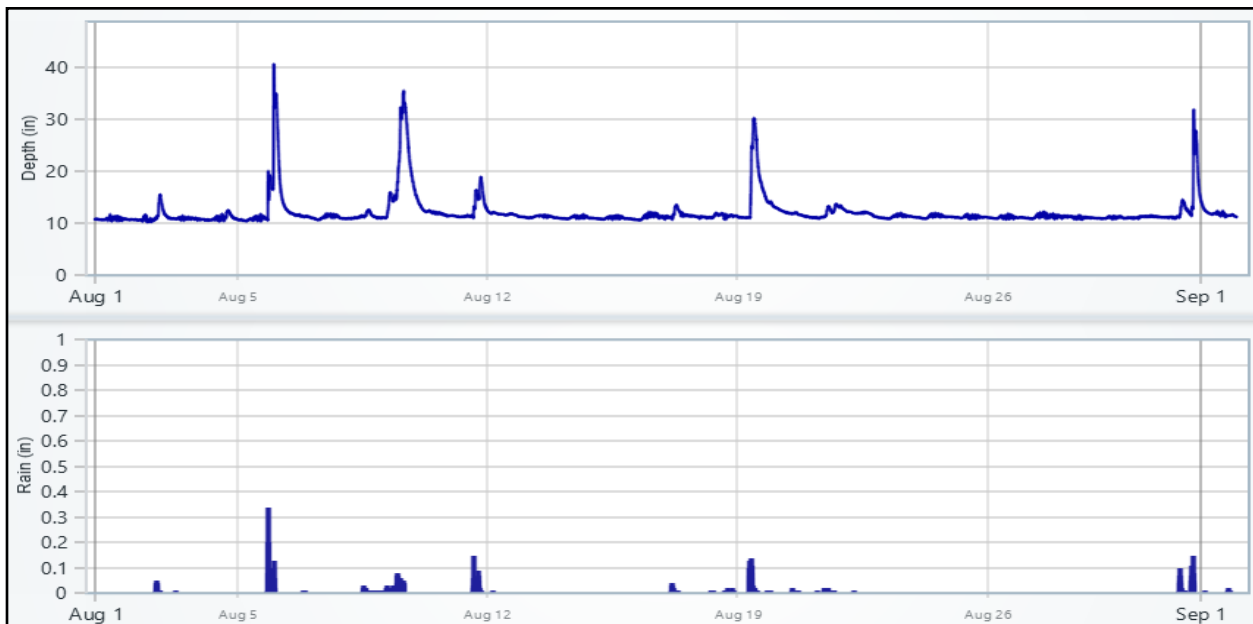


Appendix C – 2024 Harbor Brook Flow Meter Data

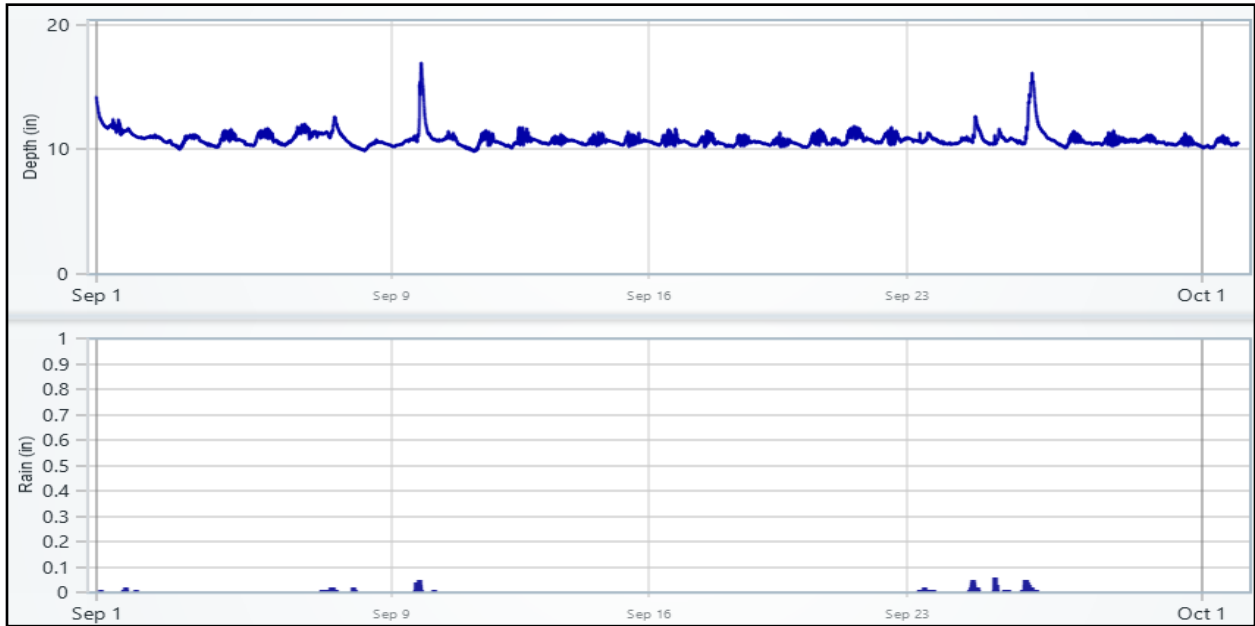
15.3 July 2024



15.4 August 2024



15.5 September 2024

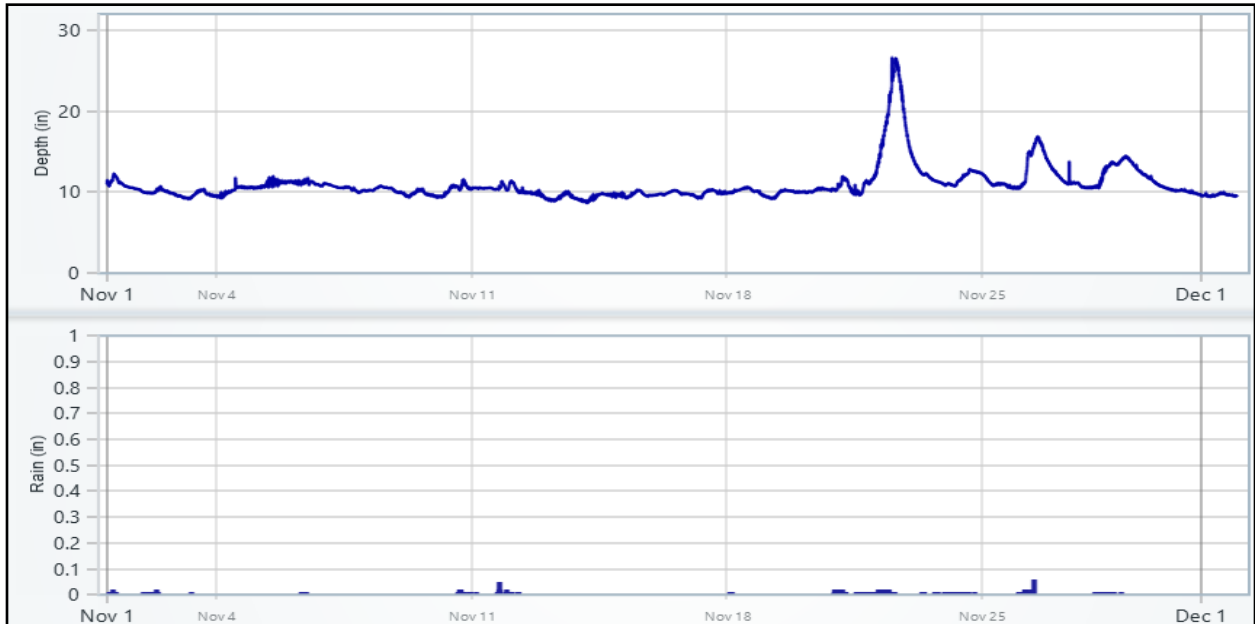


15.6 October 2024

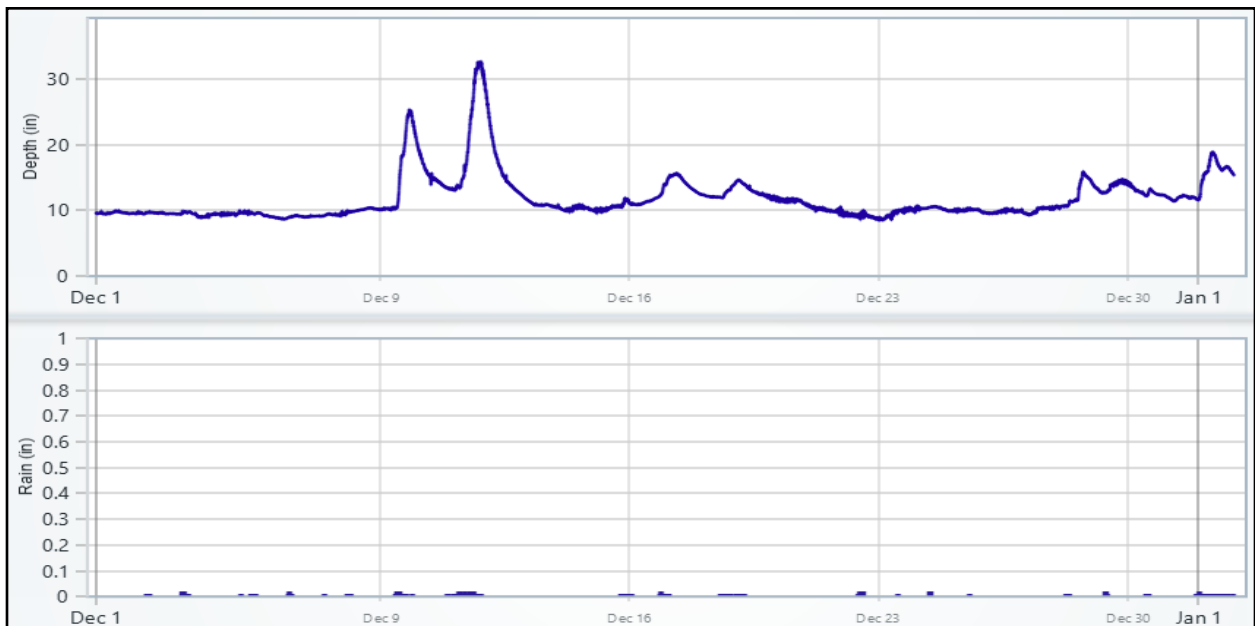


Appendix C – 2024 Harbor Brook Flow Meter Data

15.7 November 2024



15.8 December 2024



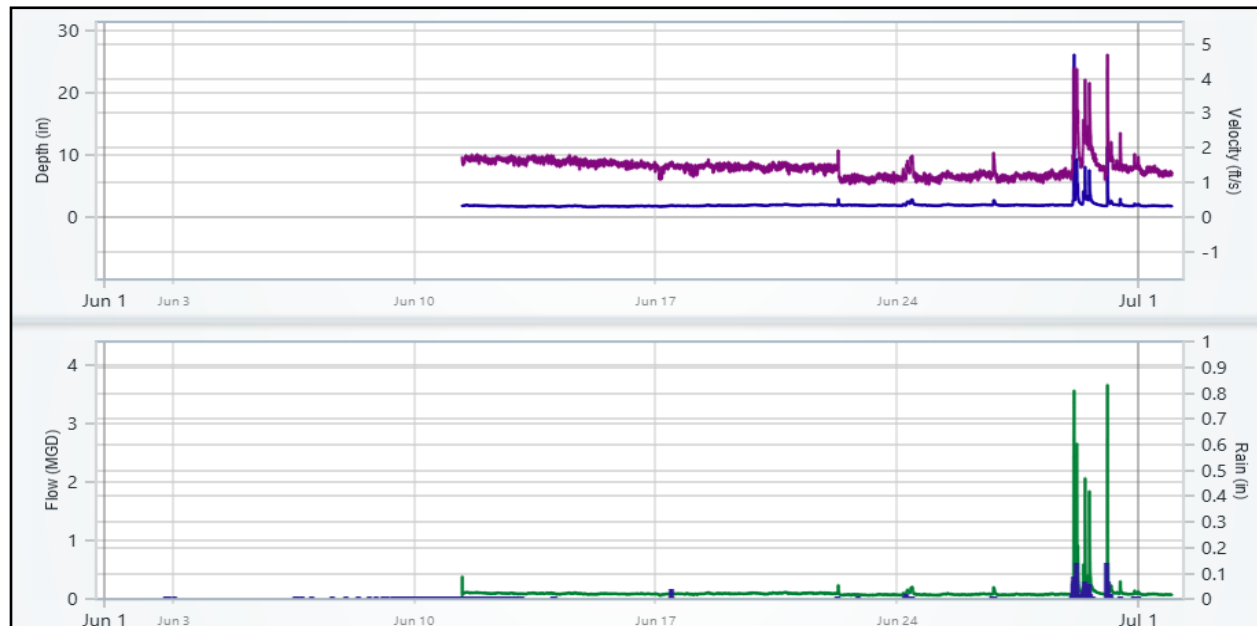
Appendix C – 2024 Harbor Brook Flow Meter Data

16. CSO-010_TrunkA

16.1 May 2024

No Data

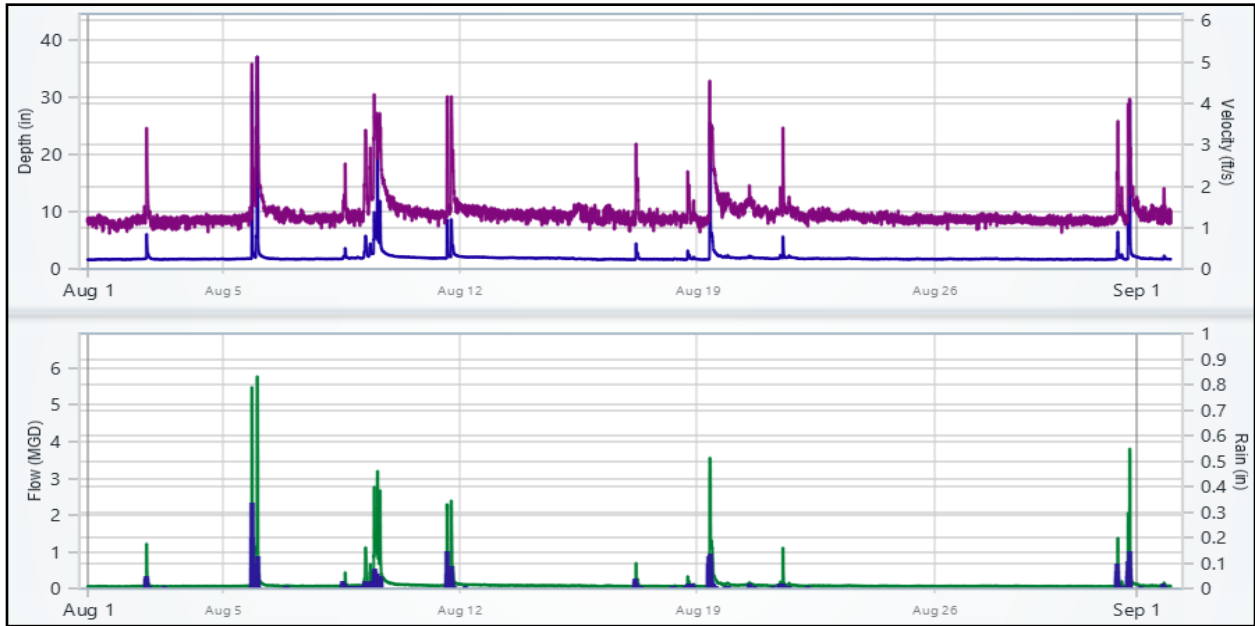
16.2 June 2024



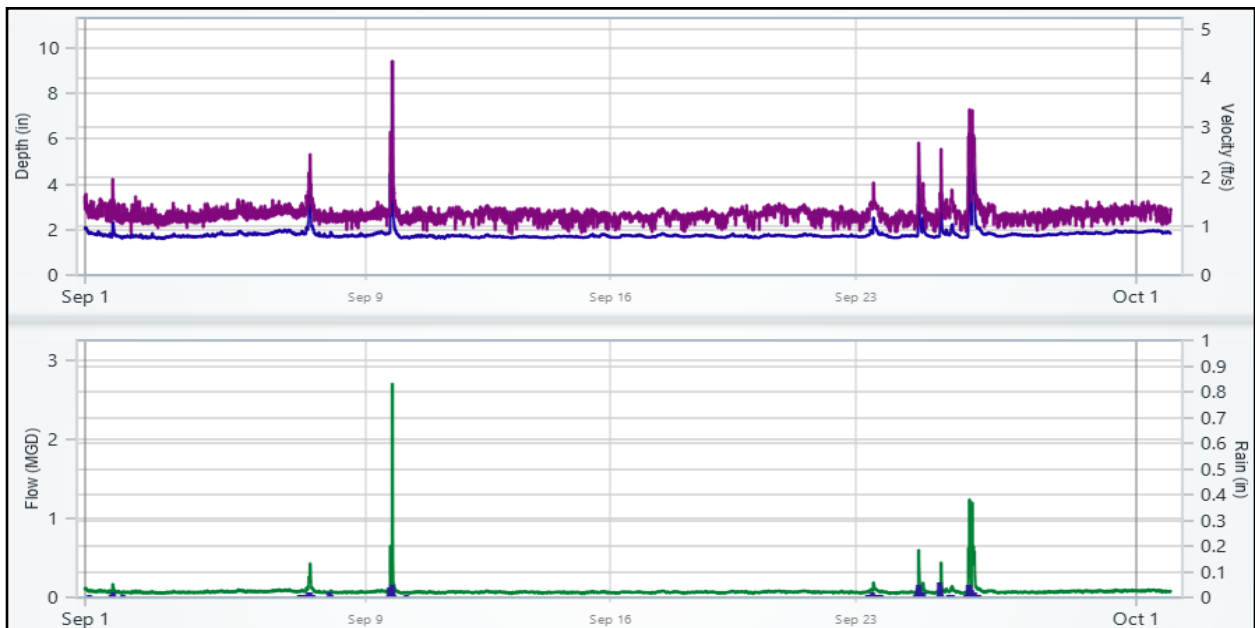
16.3 July 2024



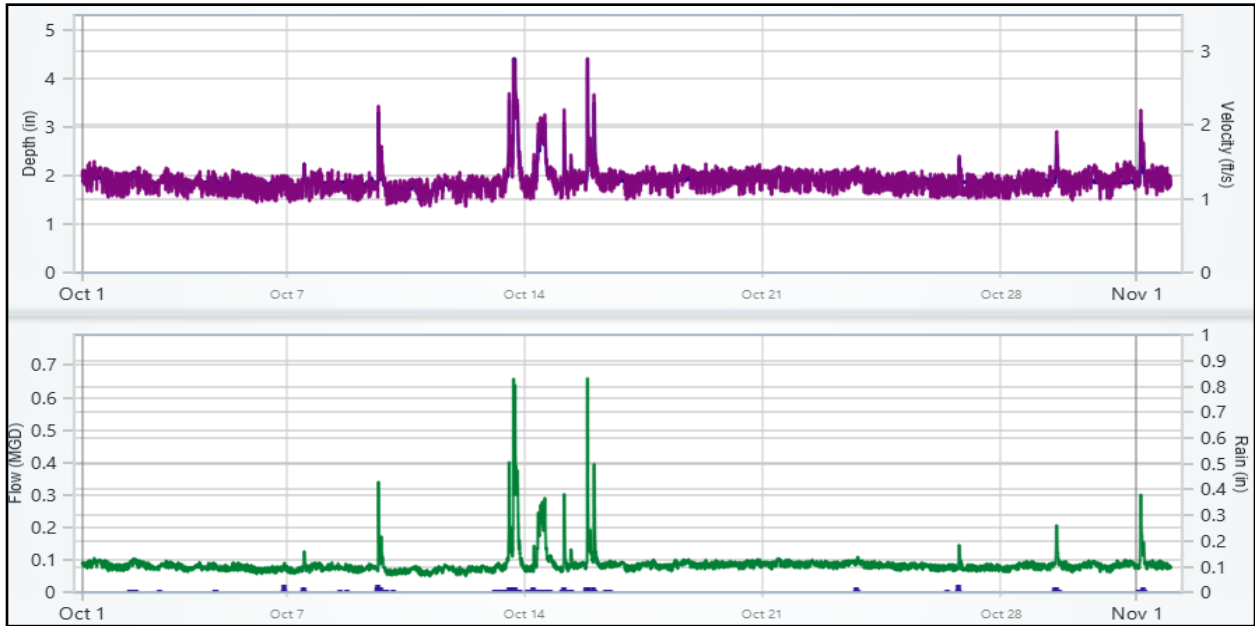
16.4 August 2024



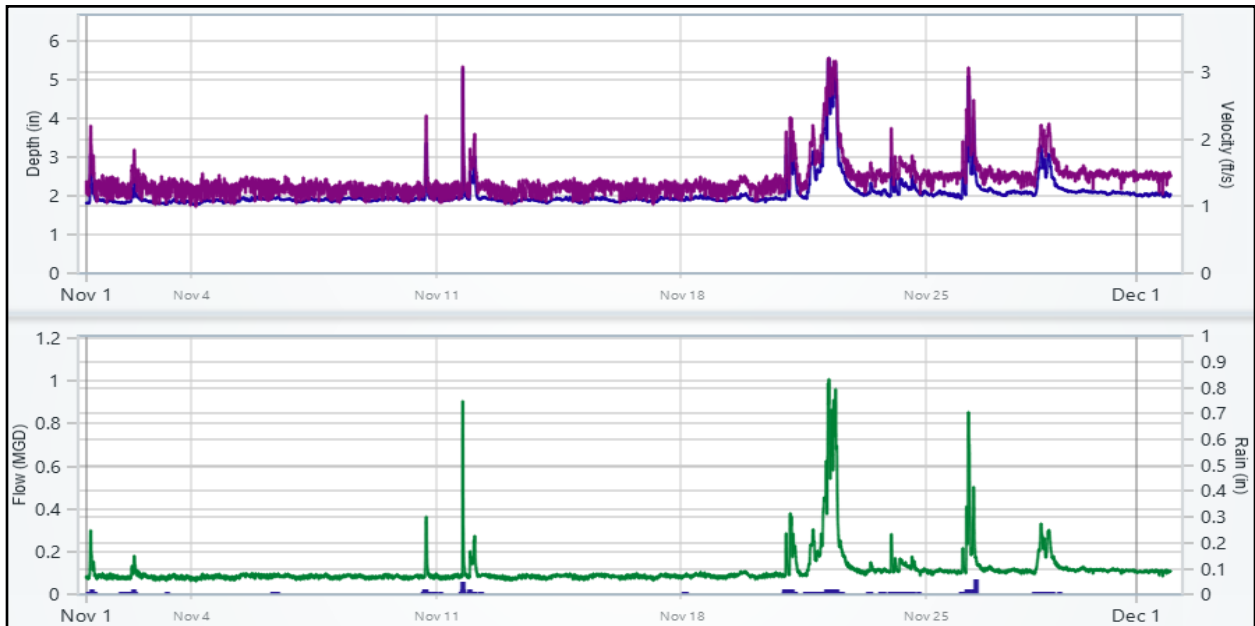
16.5 September 2024



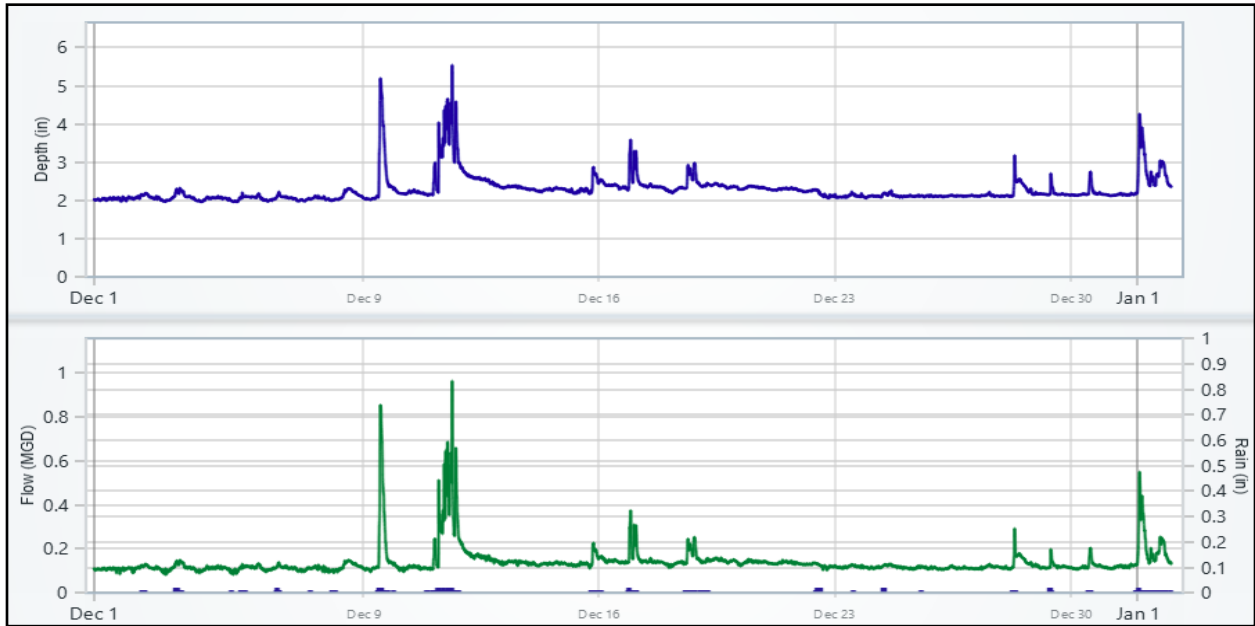
16.6 October 2024



16.7 November 2024



16.8 December 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

17. CSO-010_TrunkB

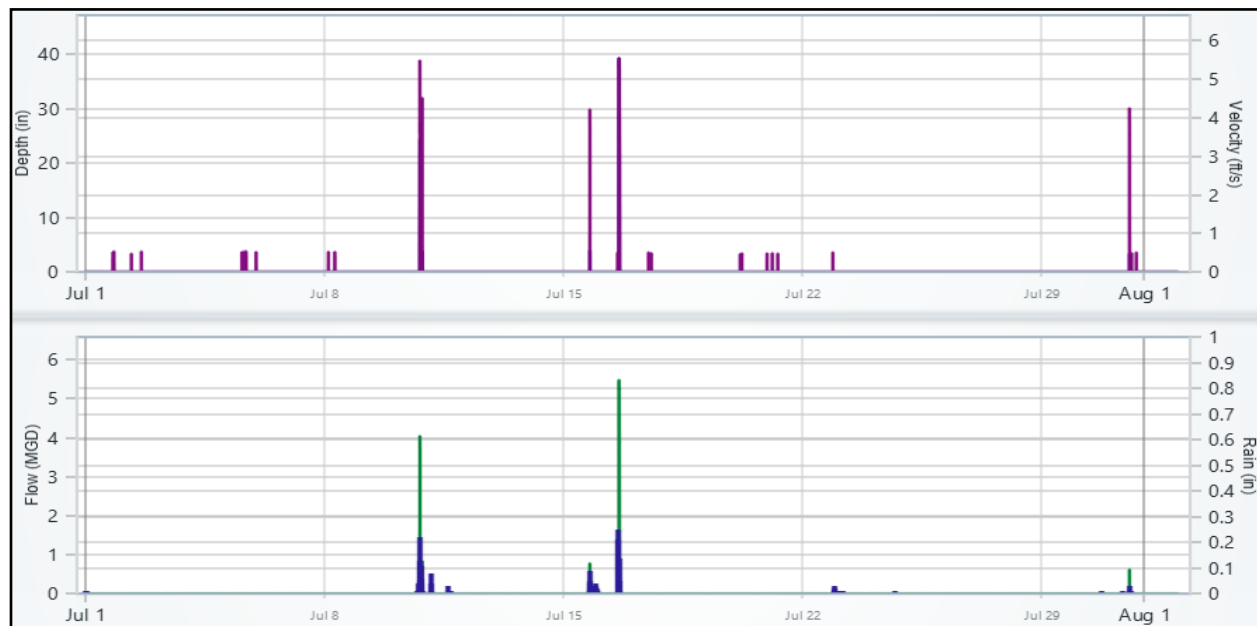
17.1 May 2024

No Data

17.2 June 2024

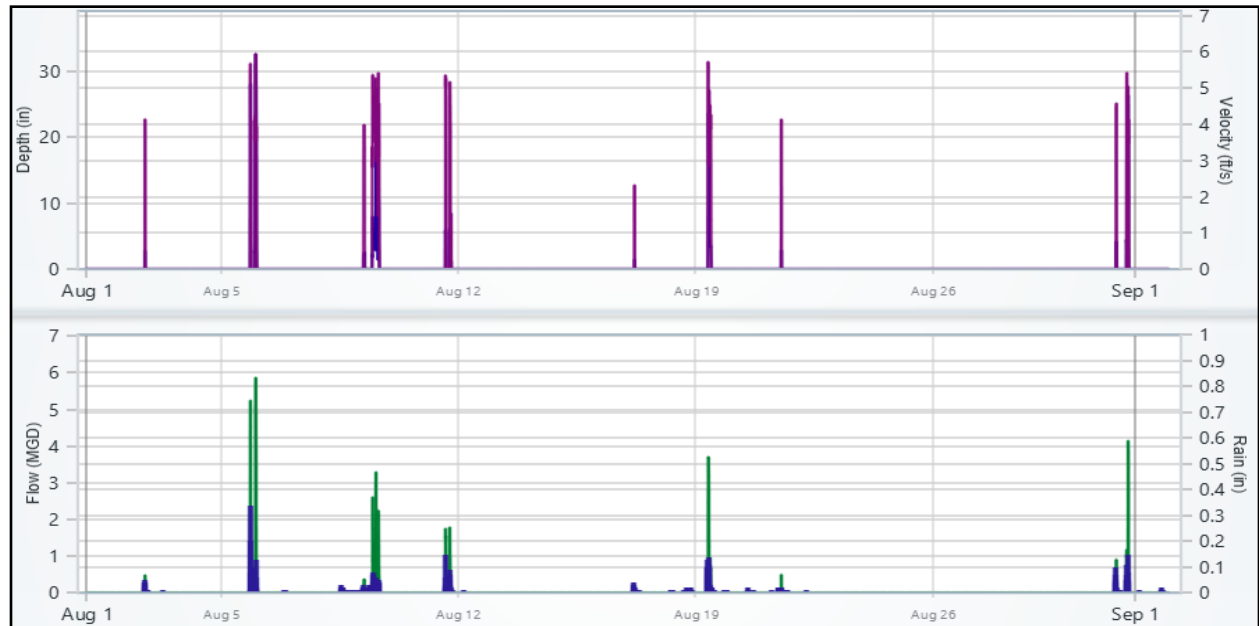


17.3 July 2024

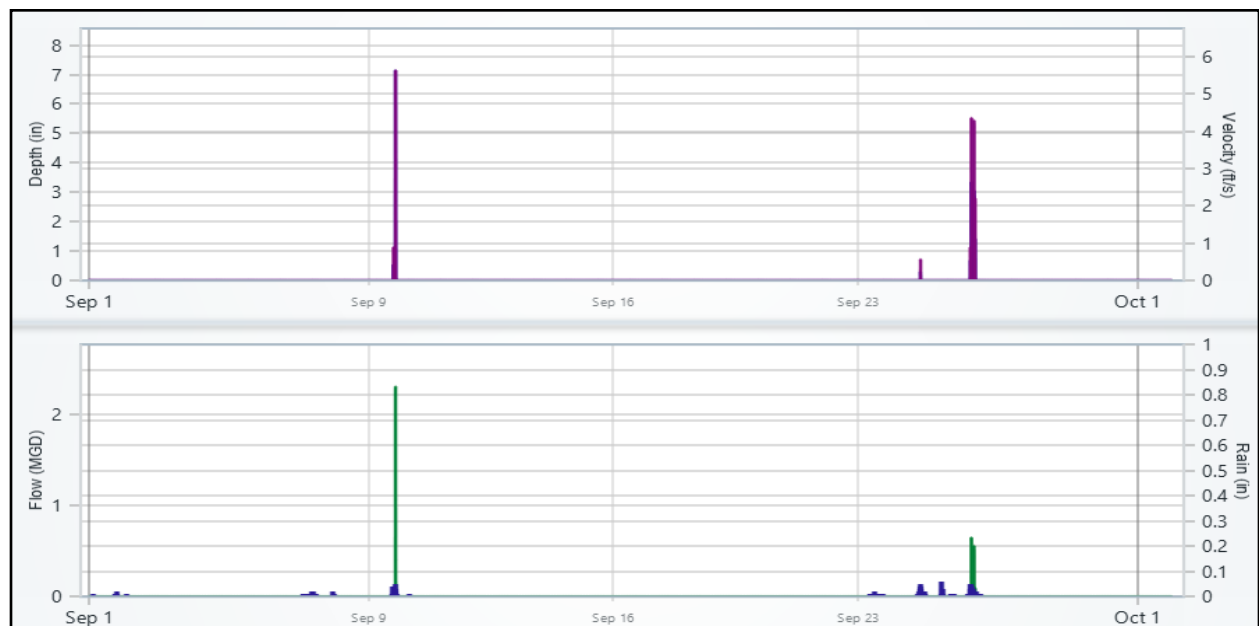


Appendix C – 2024 Harbor Brook Flow Meter Data

17.4 August 2024

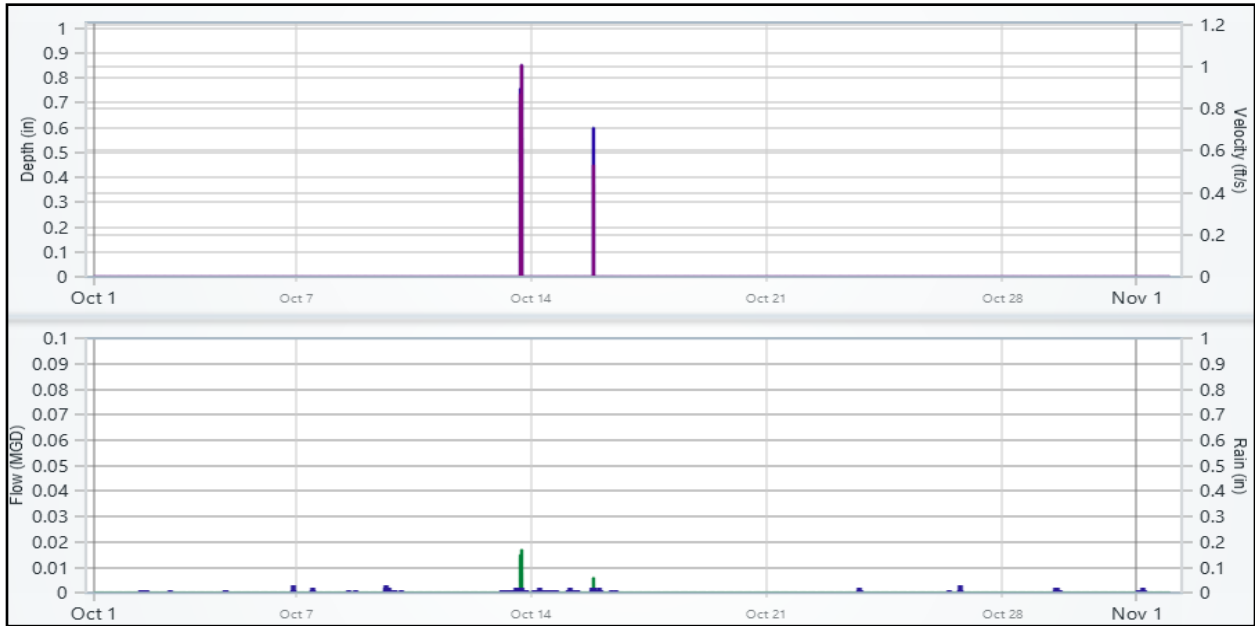


17.5 September 2024

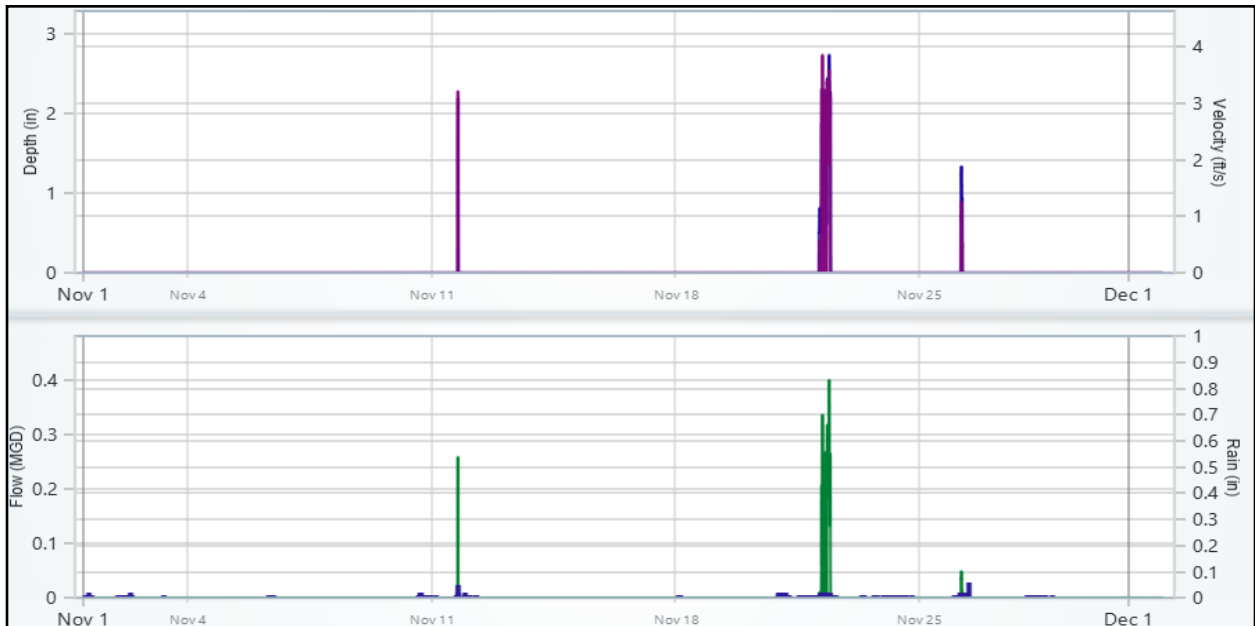


Appendix C – 2024 Harbor Brook Flow Meter Data

17.6 October 2024

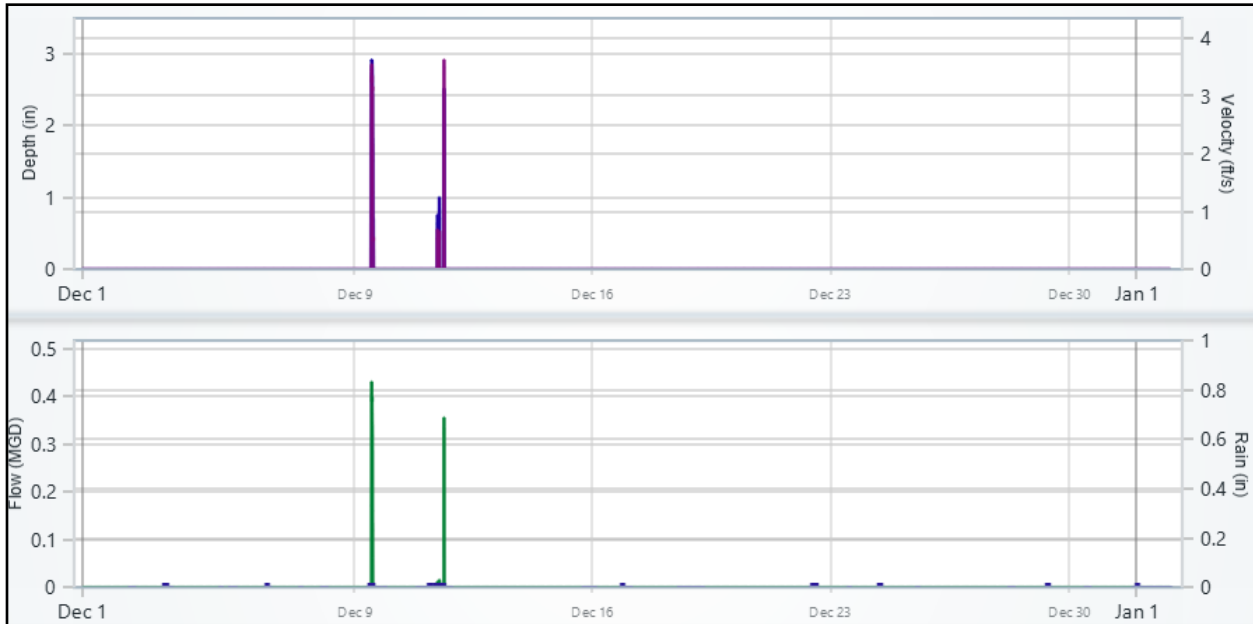


17.7 November 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

17.8 December 2024



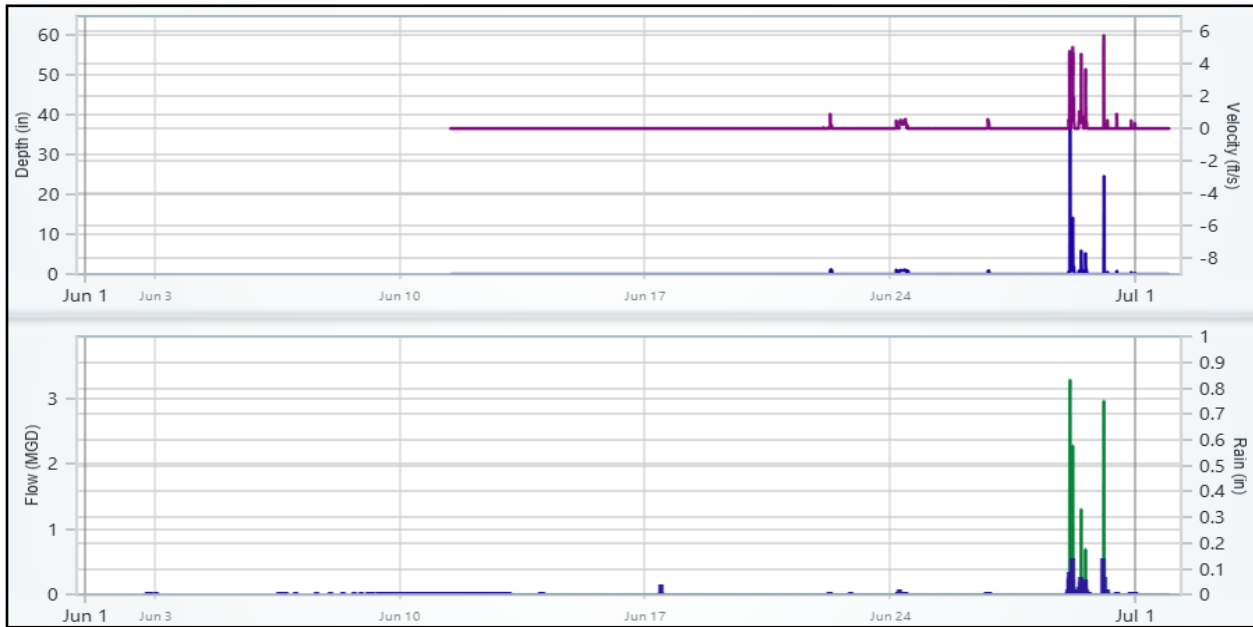
Appendix C – 2024 Harbor Brook Flow Meter Data

18. CSO-010_UnderflowA

18.1 May 2024

No Data

18.2 June 2024

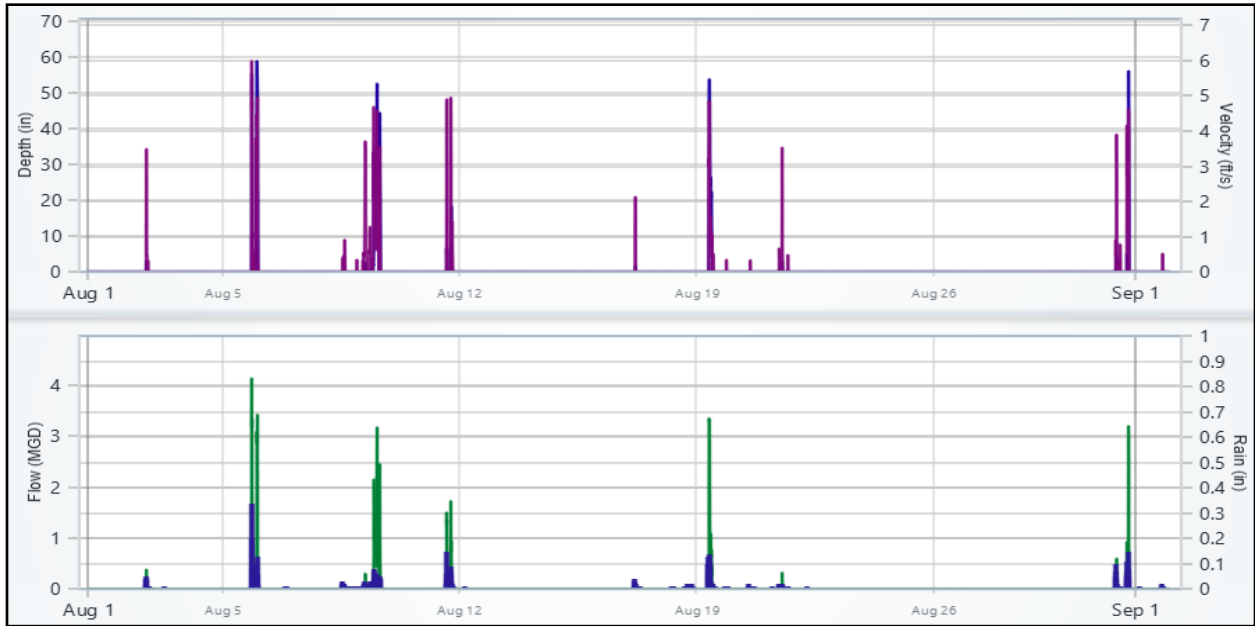


18.3 July 2024

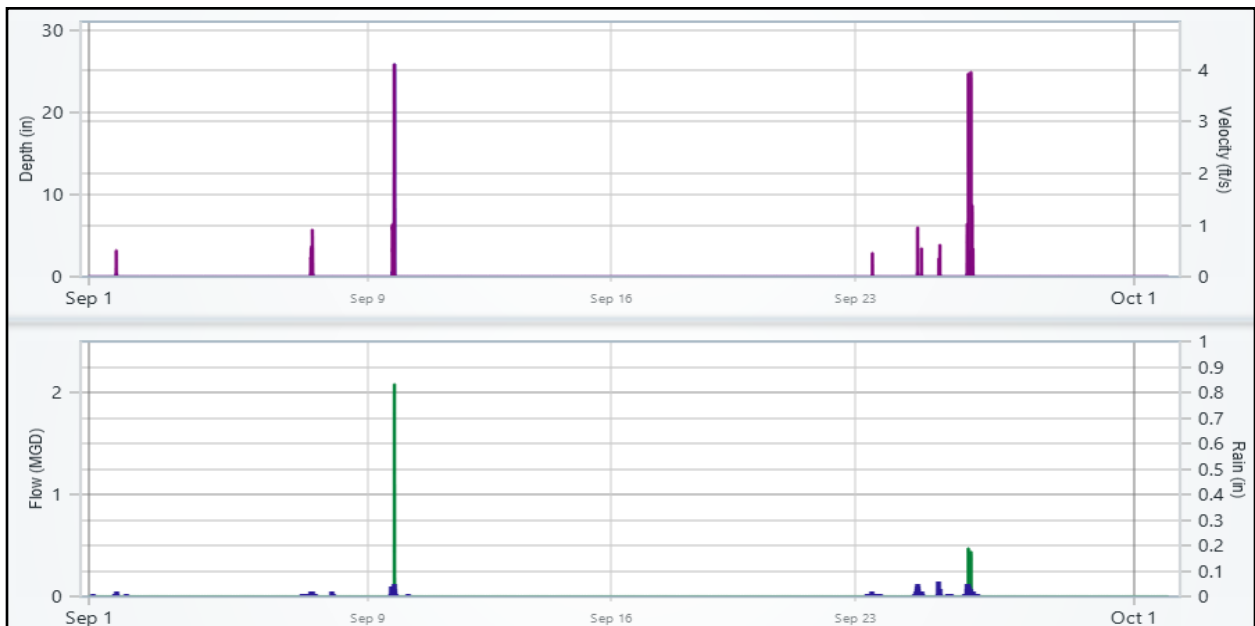


Appendix C – 2024 Harbor Brook Flow Meter Data

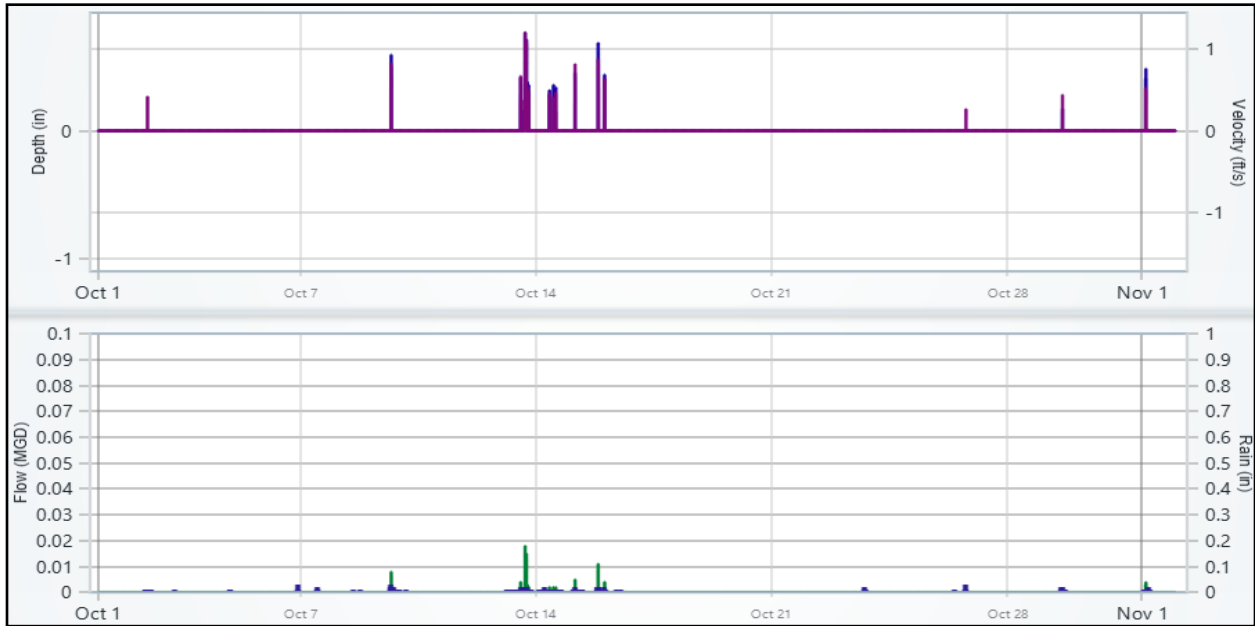
18.4 August 2024



18.5 September 2024



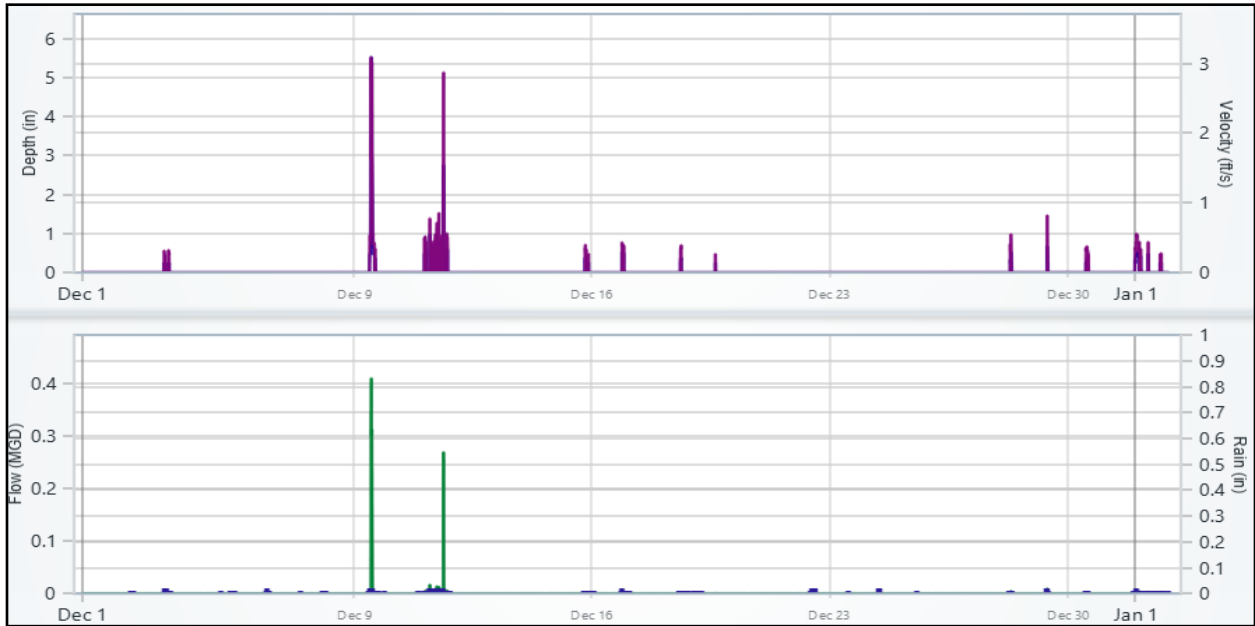
18.6 October 2024



18.7 November 2024



18.8 December 2024



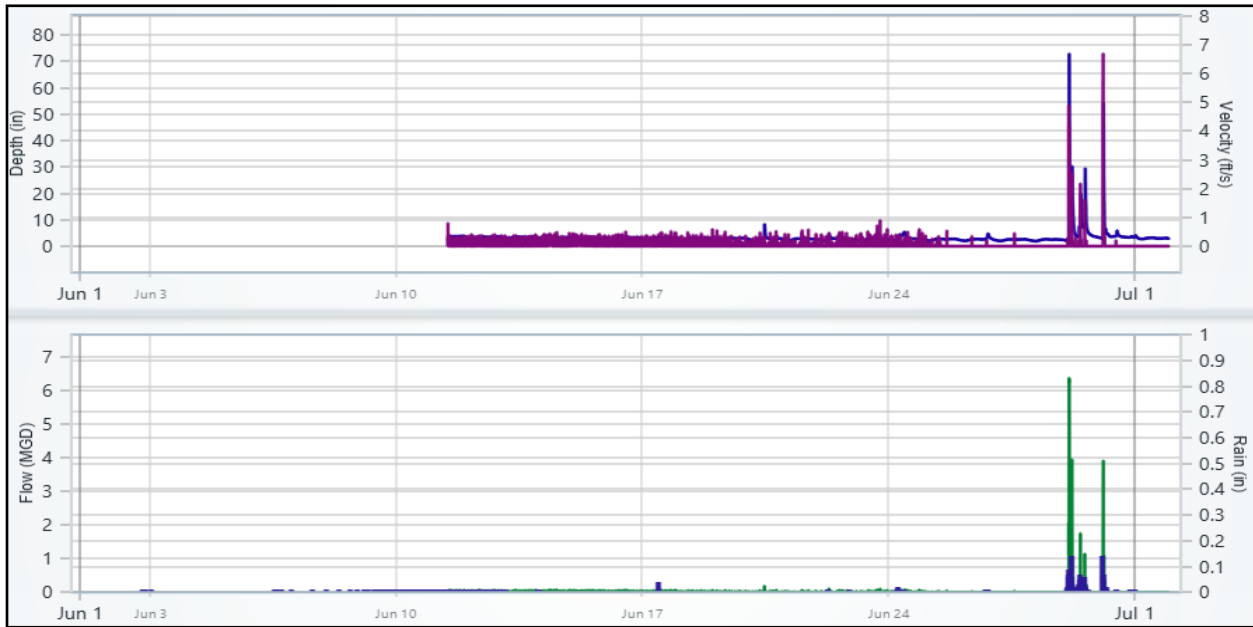
Appendix C – 2024 Harbor Brook Flow Meter Data

19. CSO-010_UnderflowB

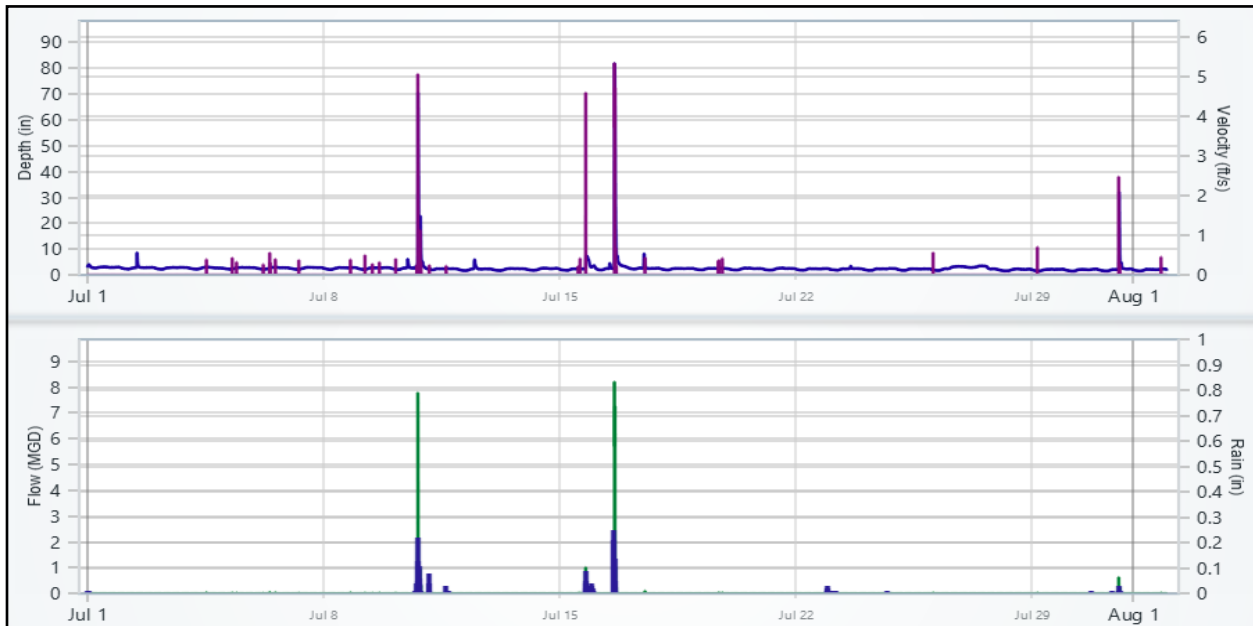
19.1 May 2024

No Data

19.2 June 2024

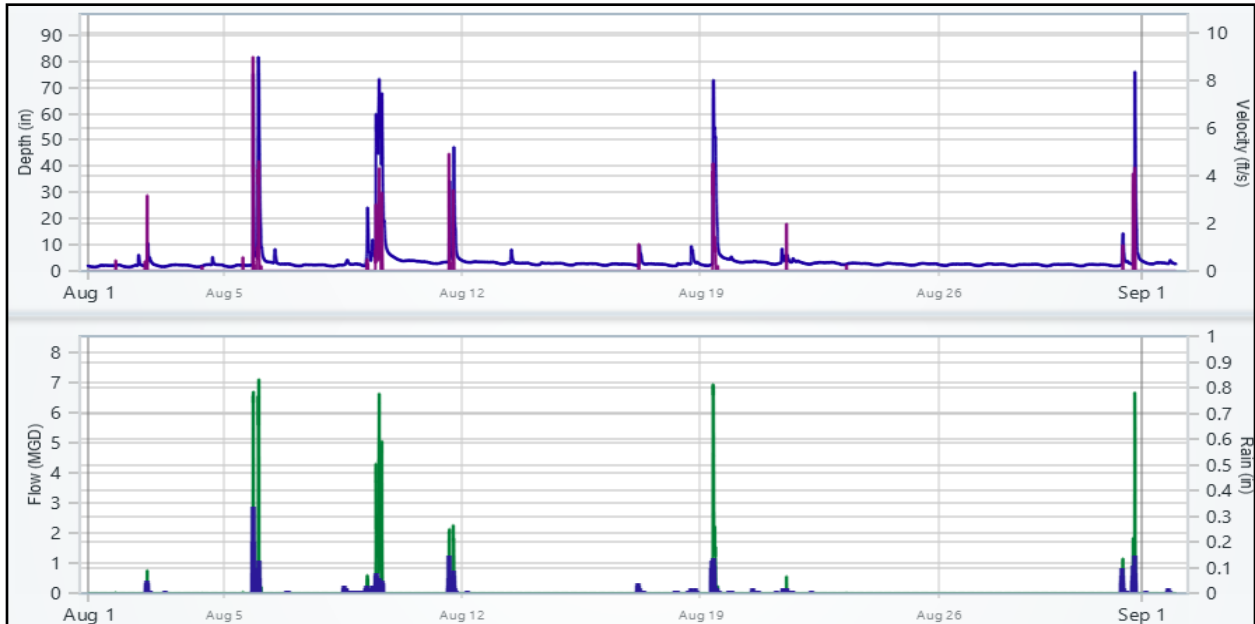


19.3 July 2024

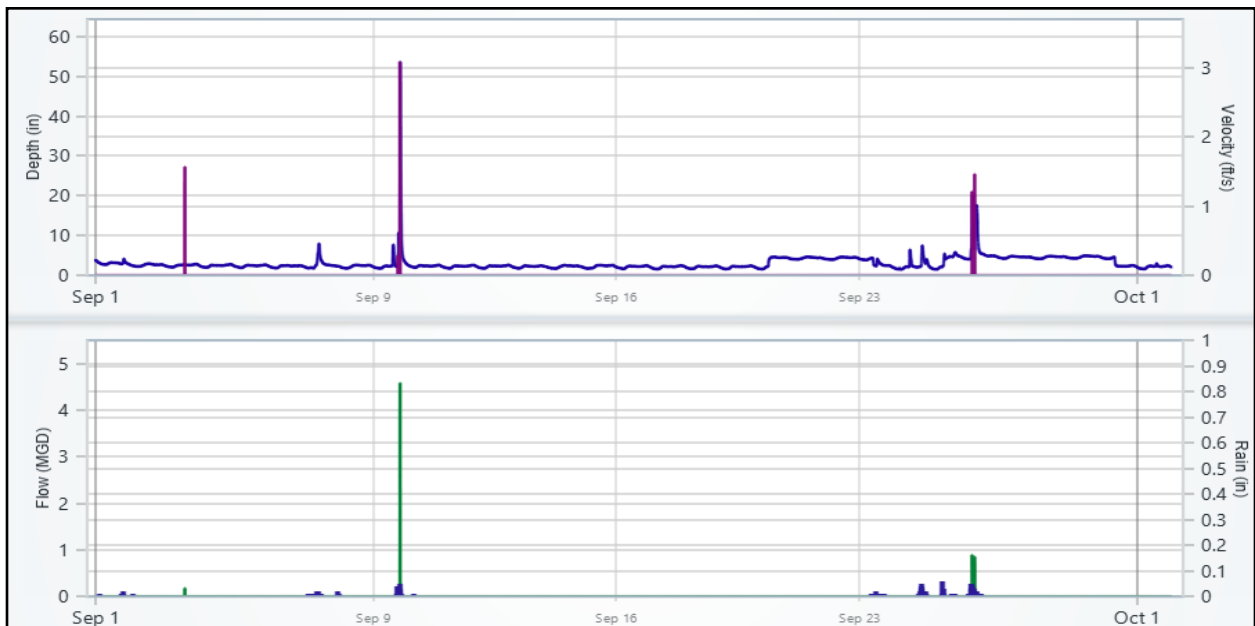


Appendix C – 2024 Harbor Brook Flow Meter Data

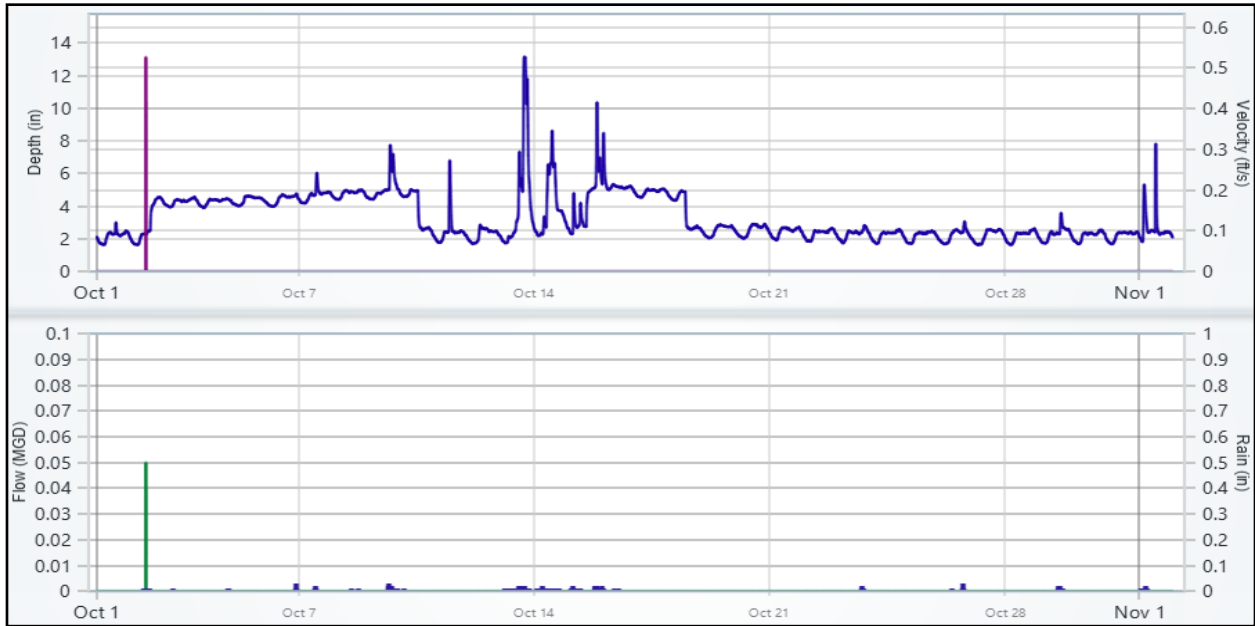
19.4 August 2024



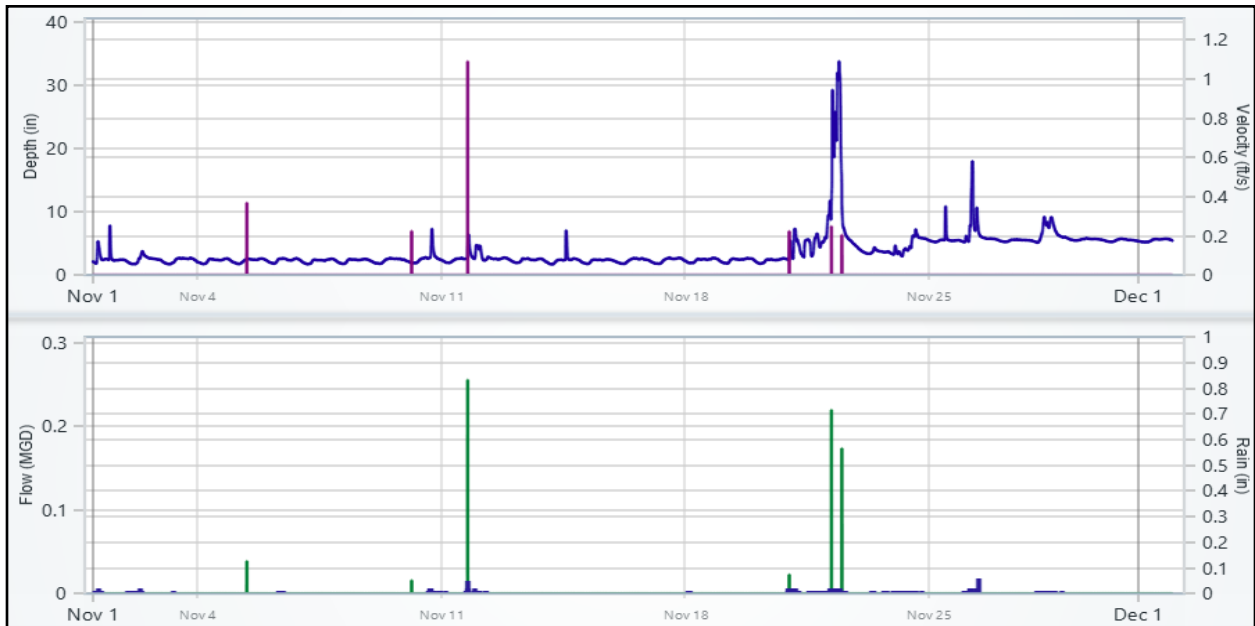
19.5 September 2024



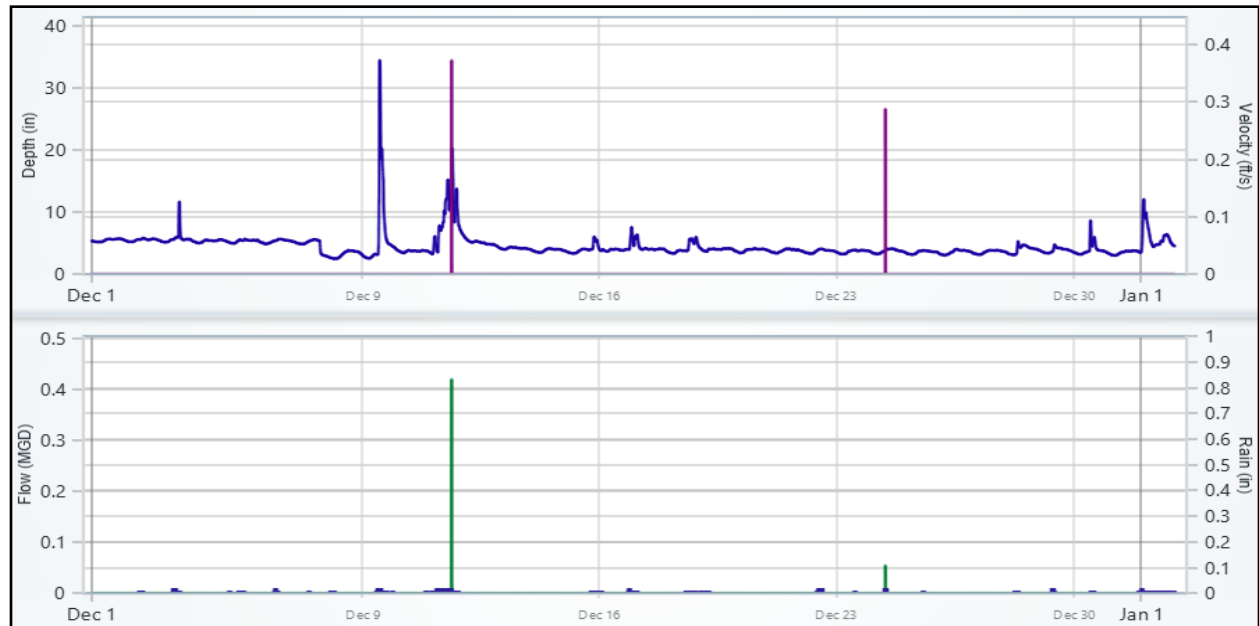
19.6 October 2024



19.7 November 2024

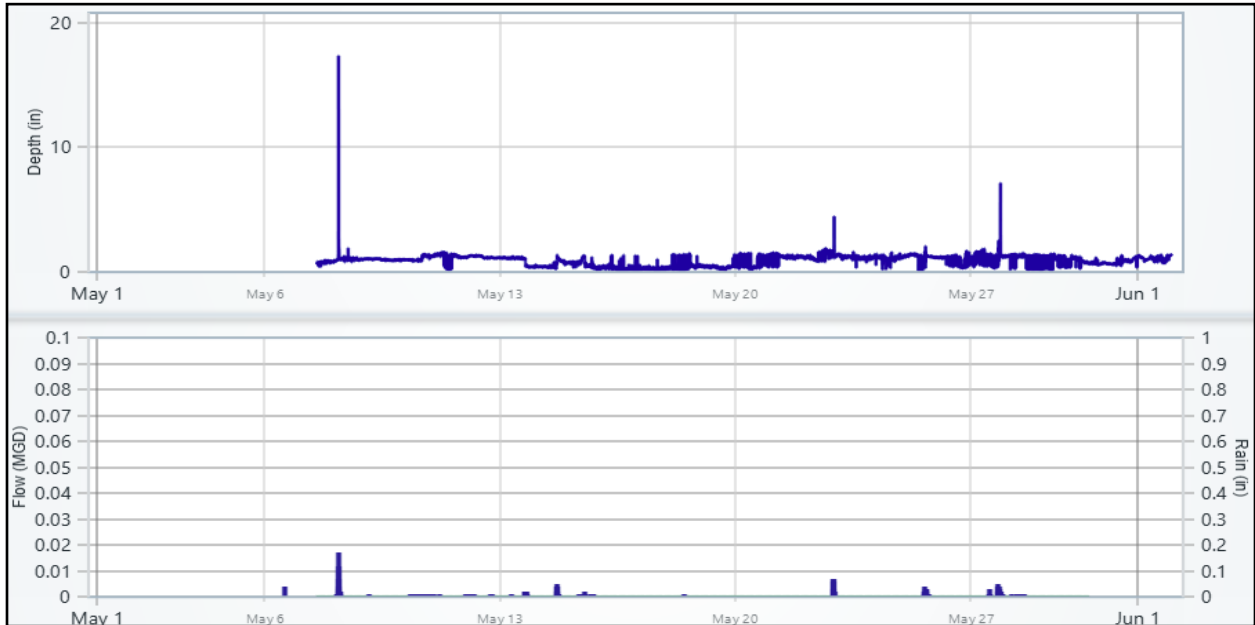


19.8 December 2024



20. CSO-009_OverflowDS

20.1 May 2024

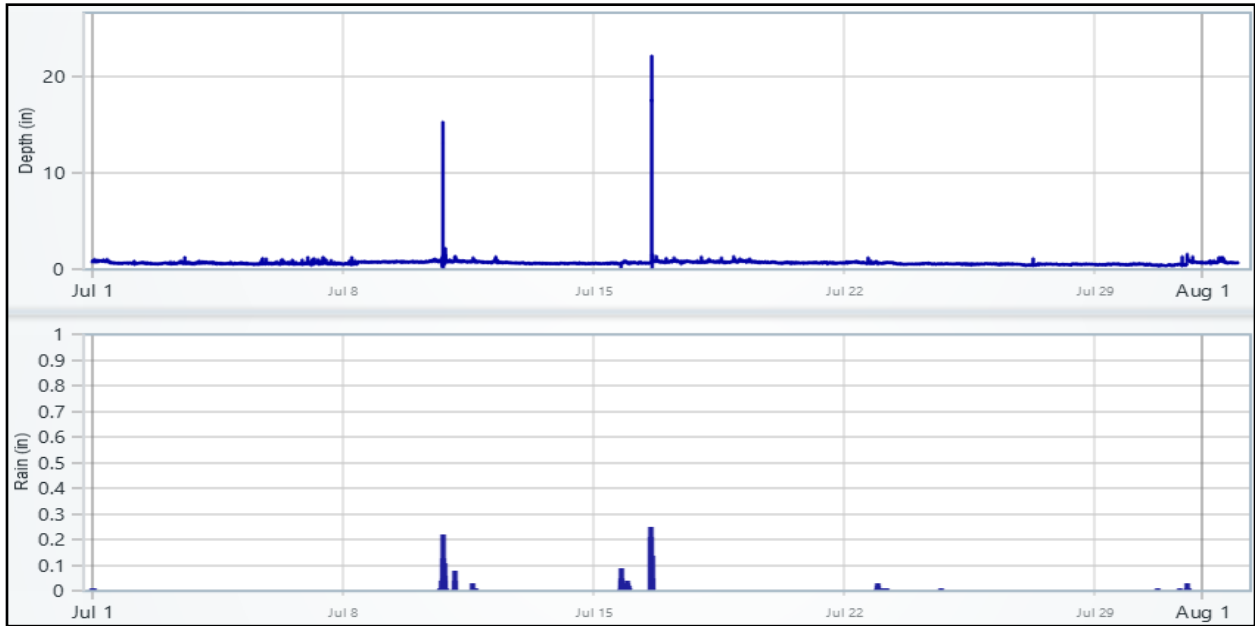


20.2 June 2024

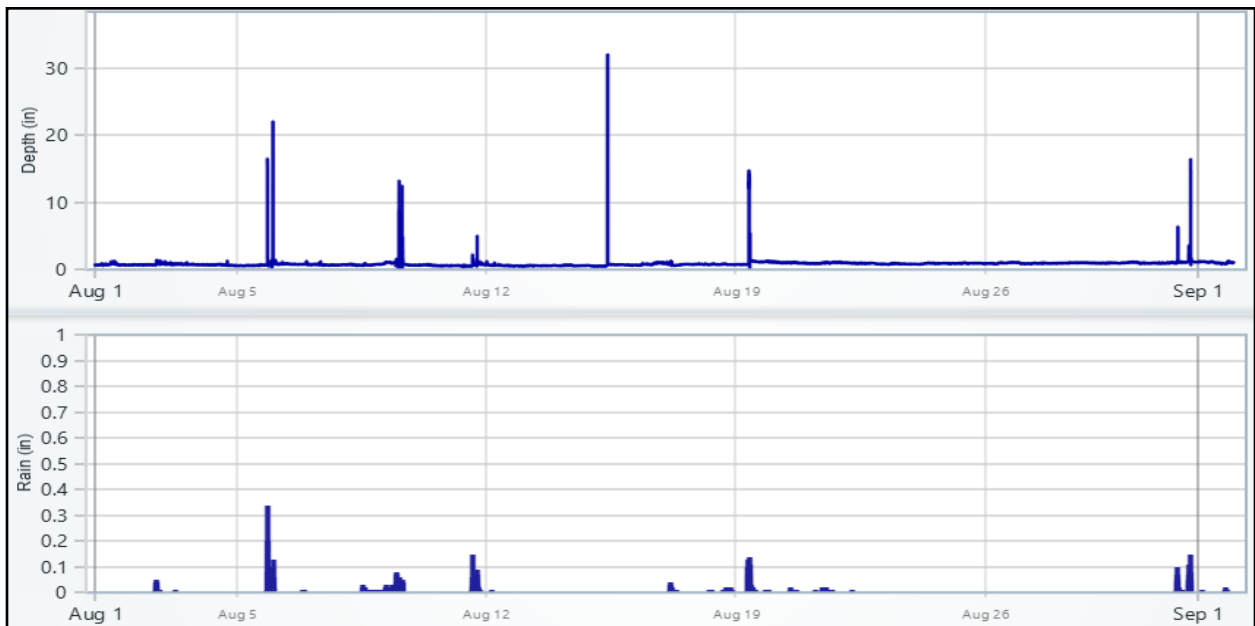


Appendix C – 2024 Harbor Brook Flow Meter Data

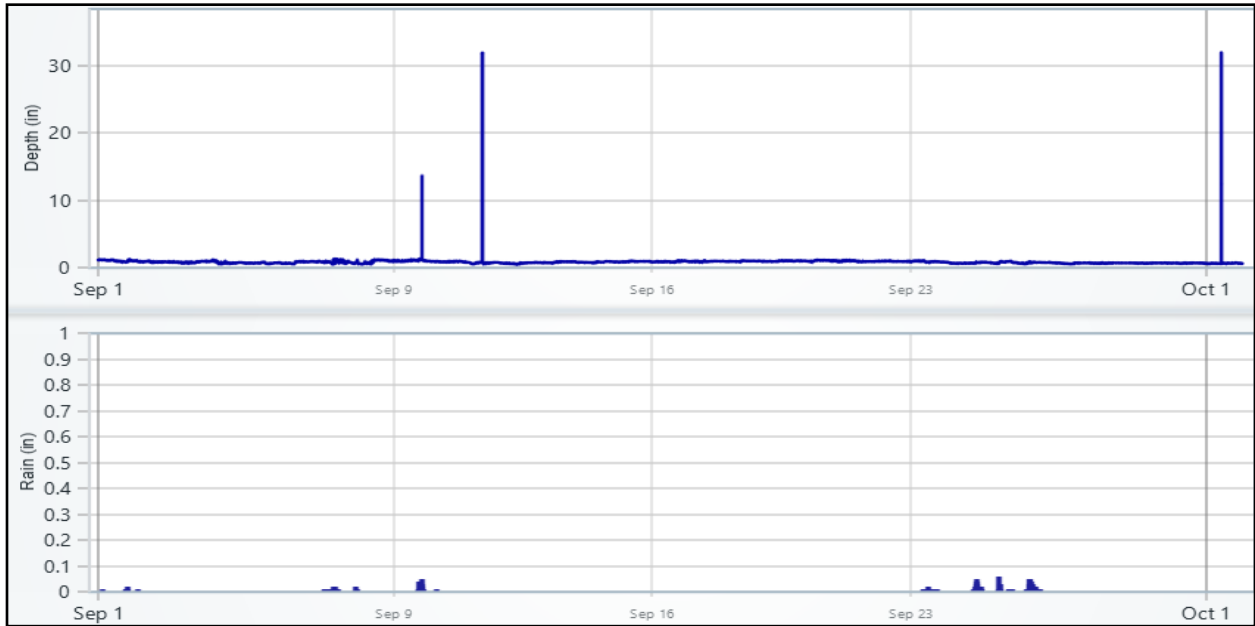
20.3 July 2024



20.4 August 2024



20.5 September 2024

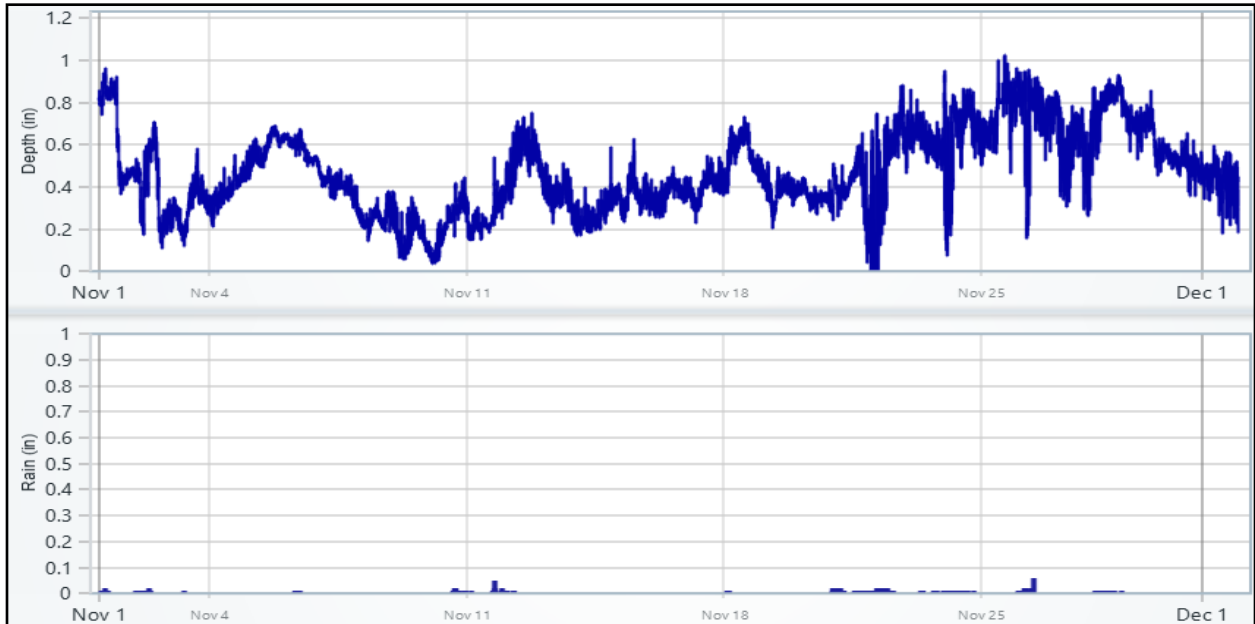


20.6 October 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

20.7 November 2024



20.8 December 2024



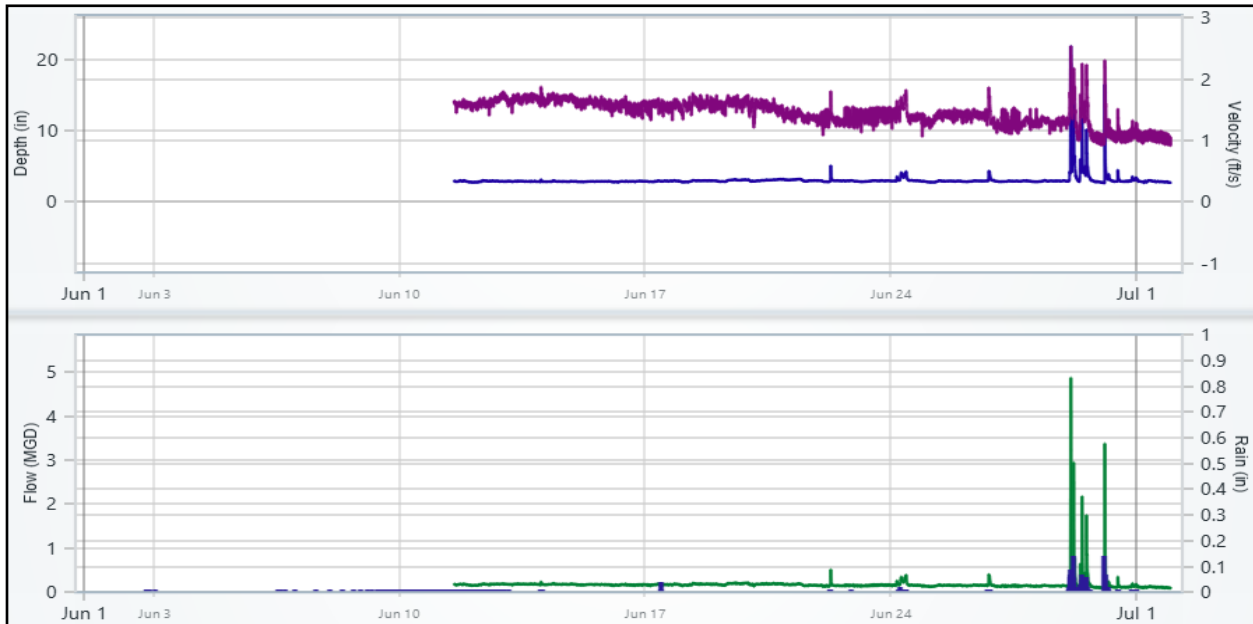
Appendix C – 2024 Harbor Brook Flow Meter Data

21. CSO-009_Trunk

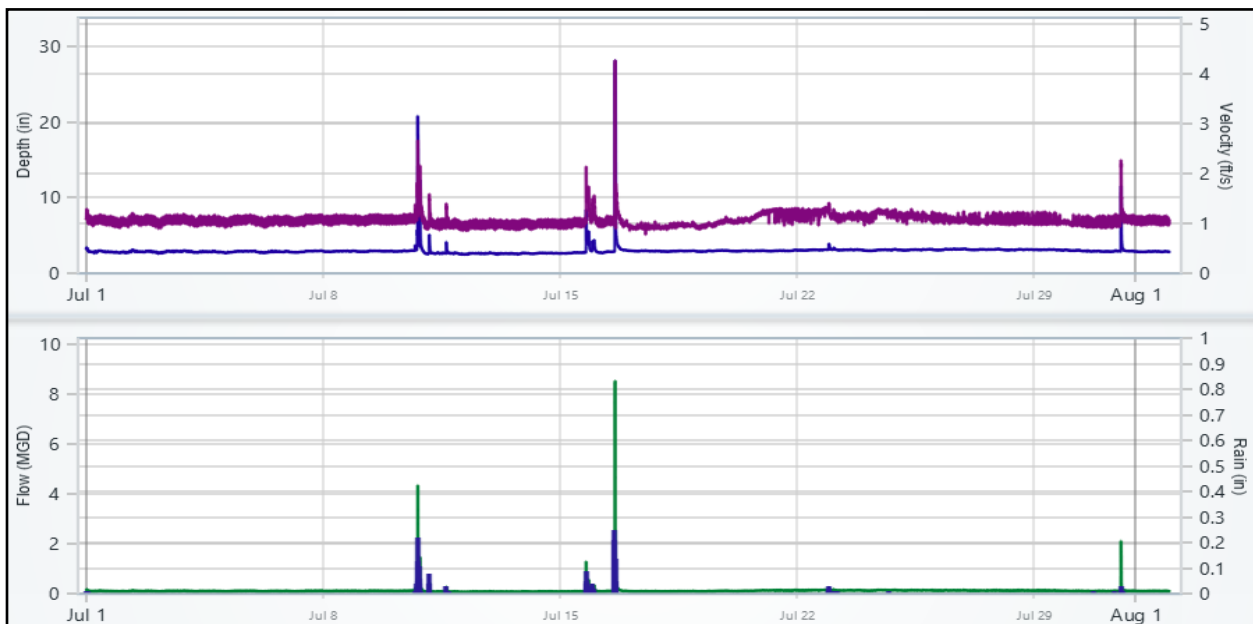
21.1 May 2024

No Data

21.2 June 2024

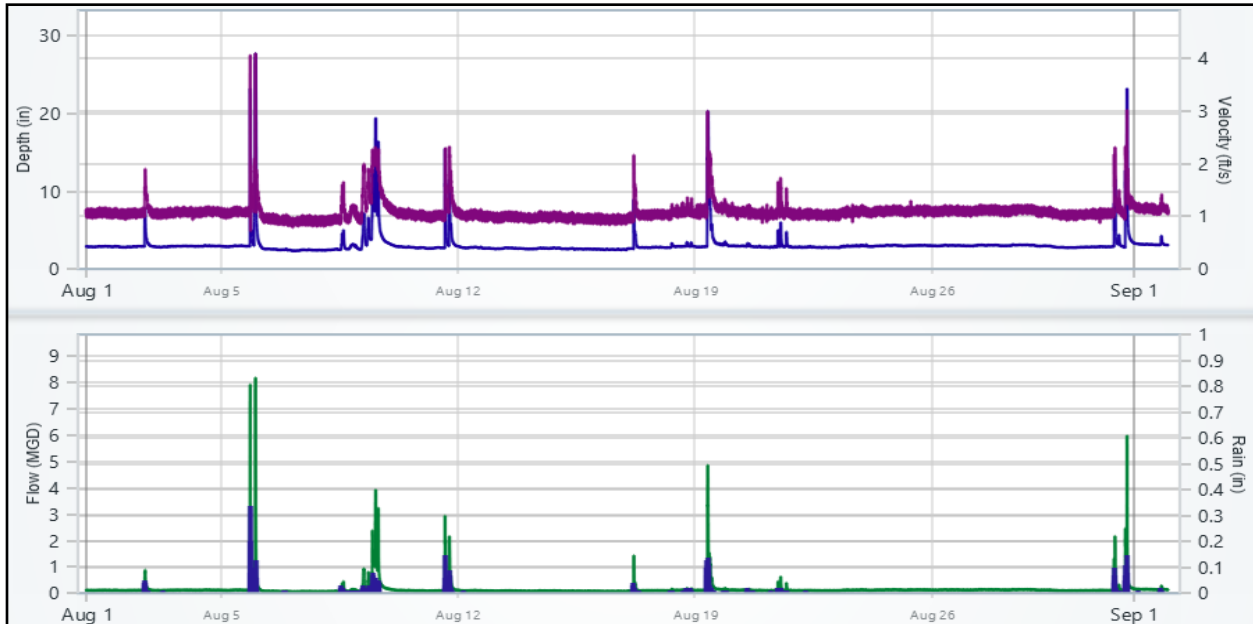


21.3 July 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

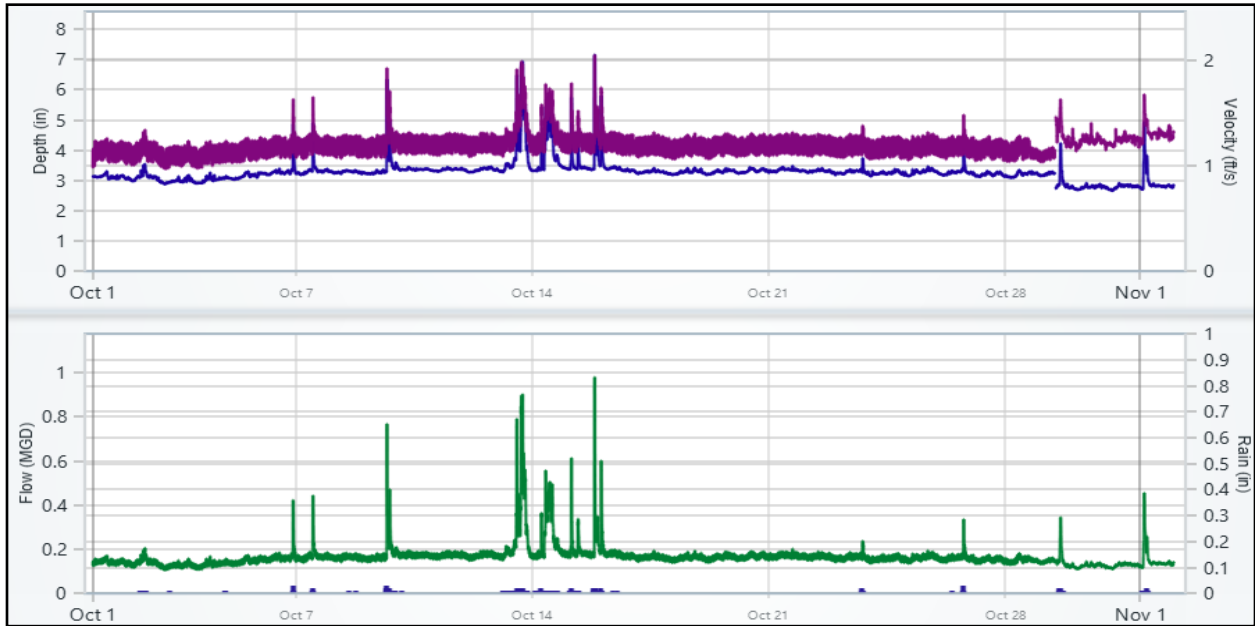
21.4 August 2024



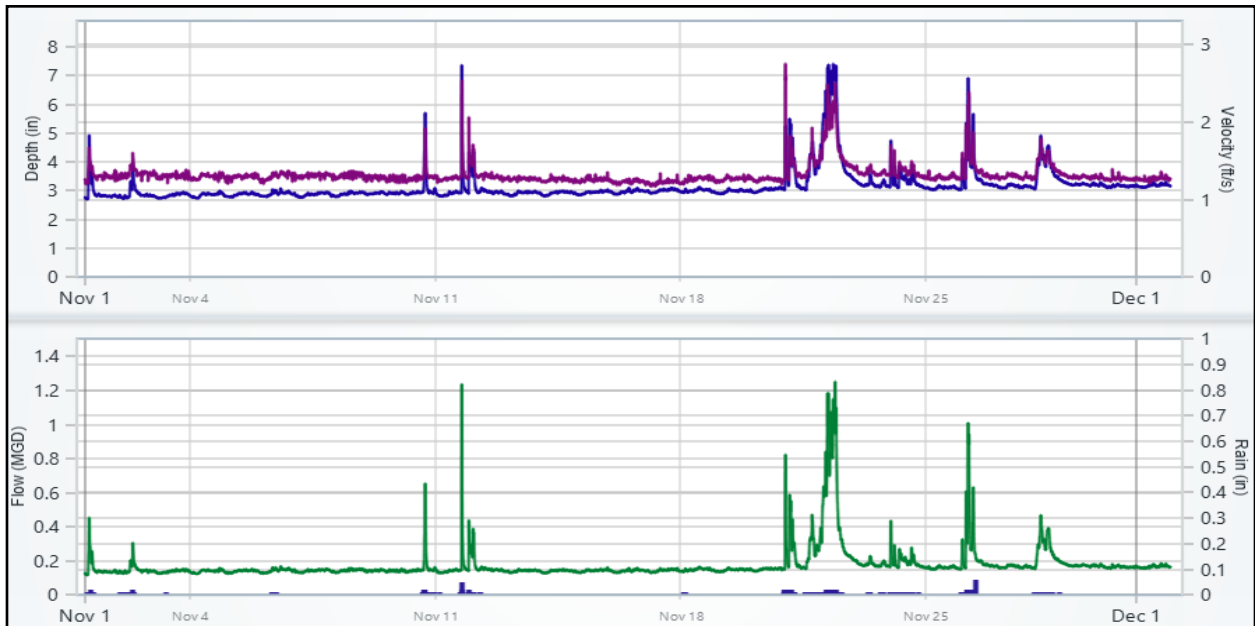
21.5 September 2024



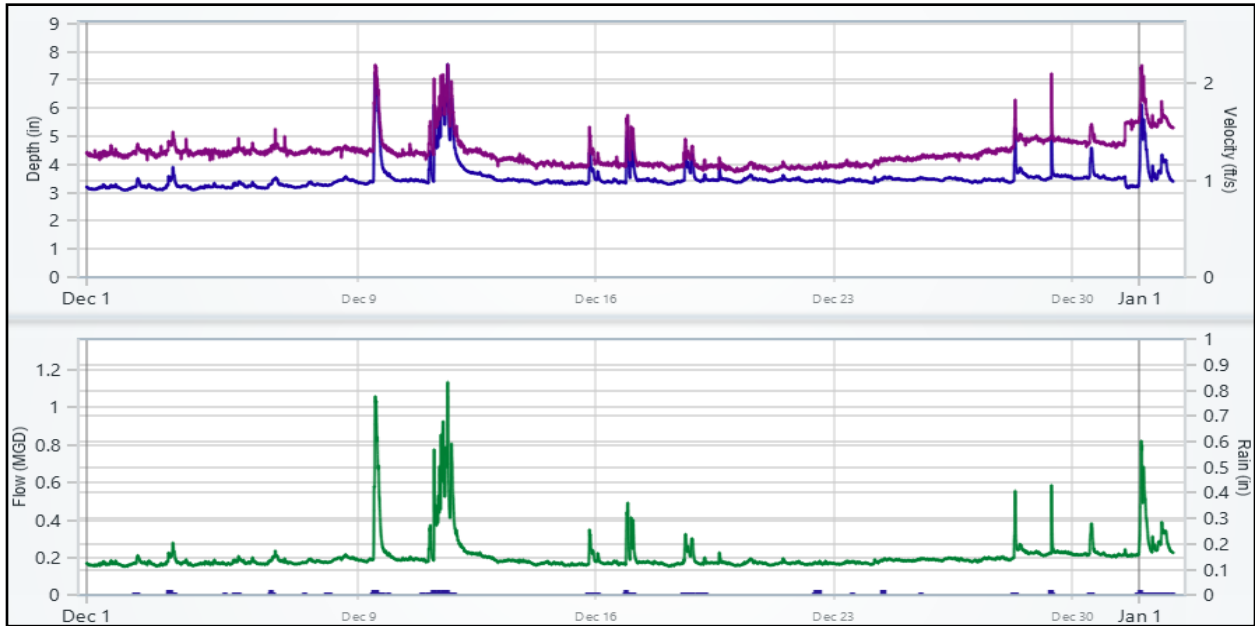
21.6 October 2024



21.7 November 2024



21.8 December 2024

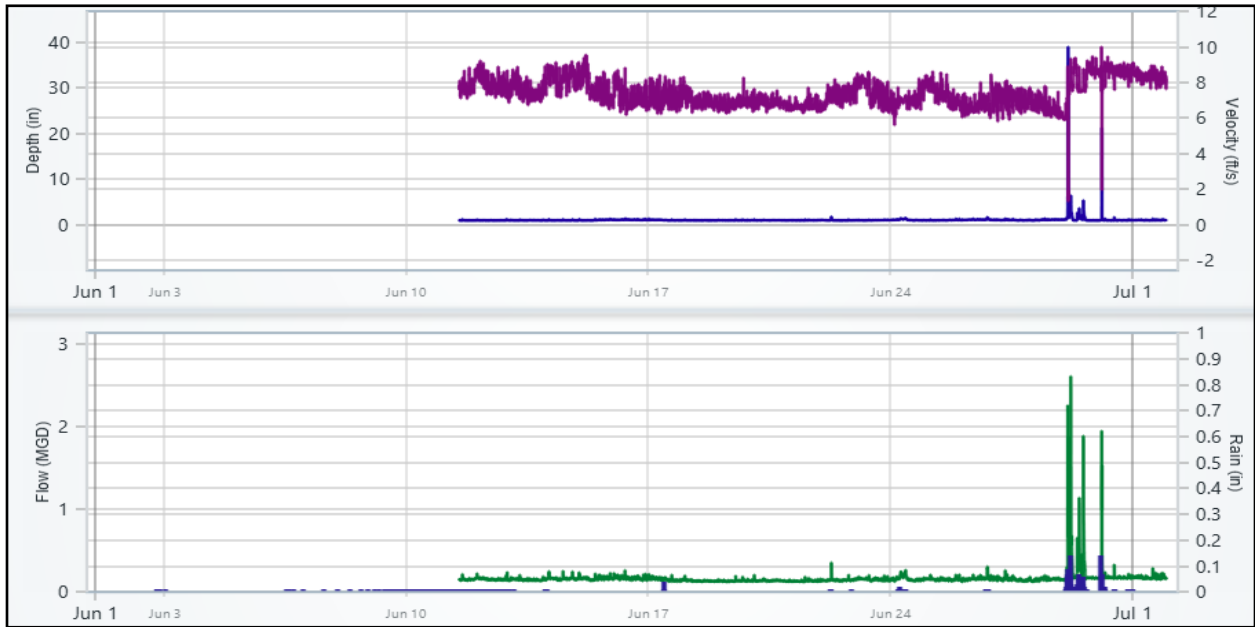


22. CSO-009_Underflow

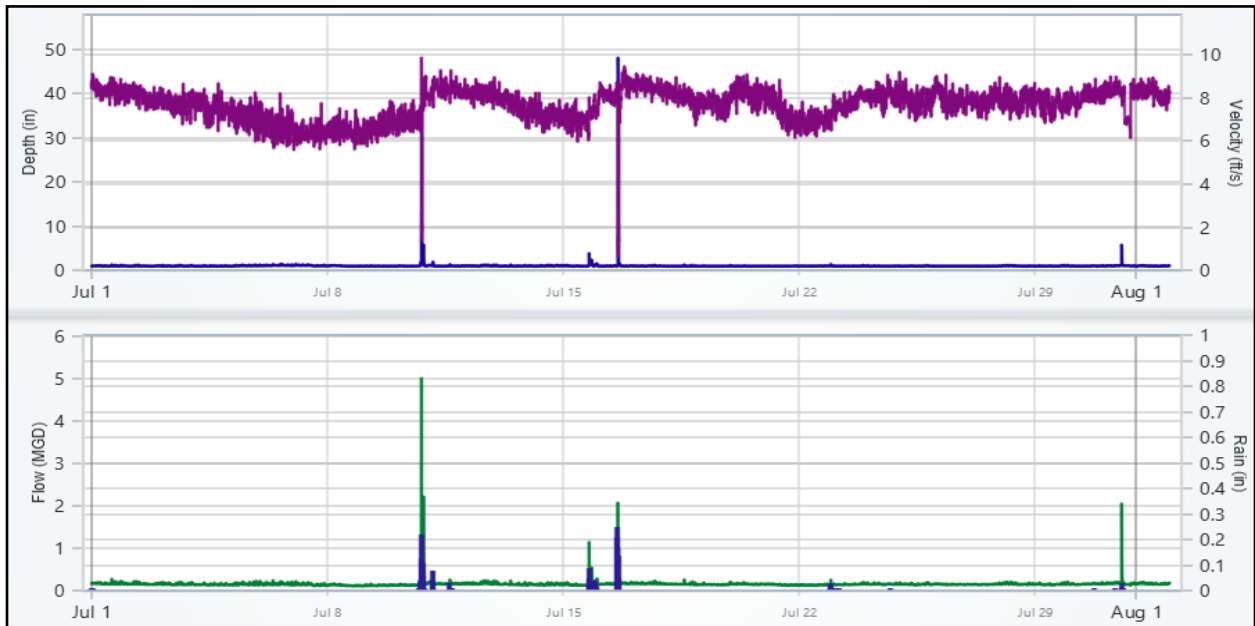
22.1 May 2024

No Data

22.2 June 2024



22.3 July 2024



22.4 August 2024



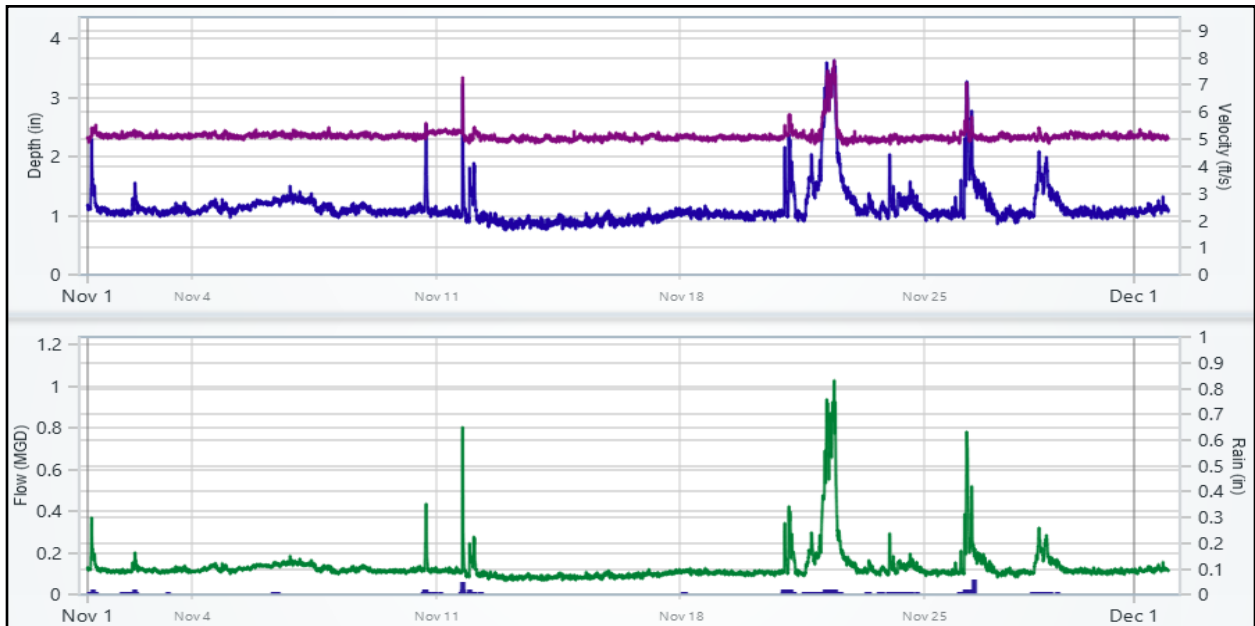
22.5 September 2024



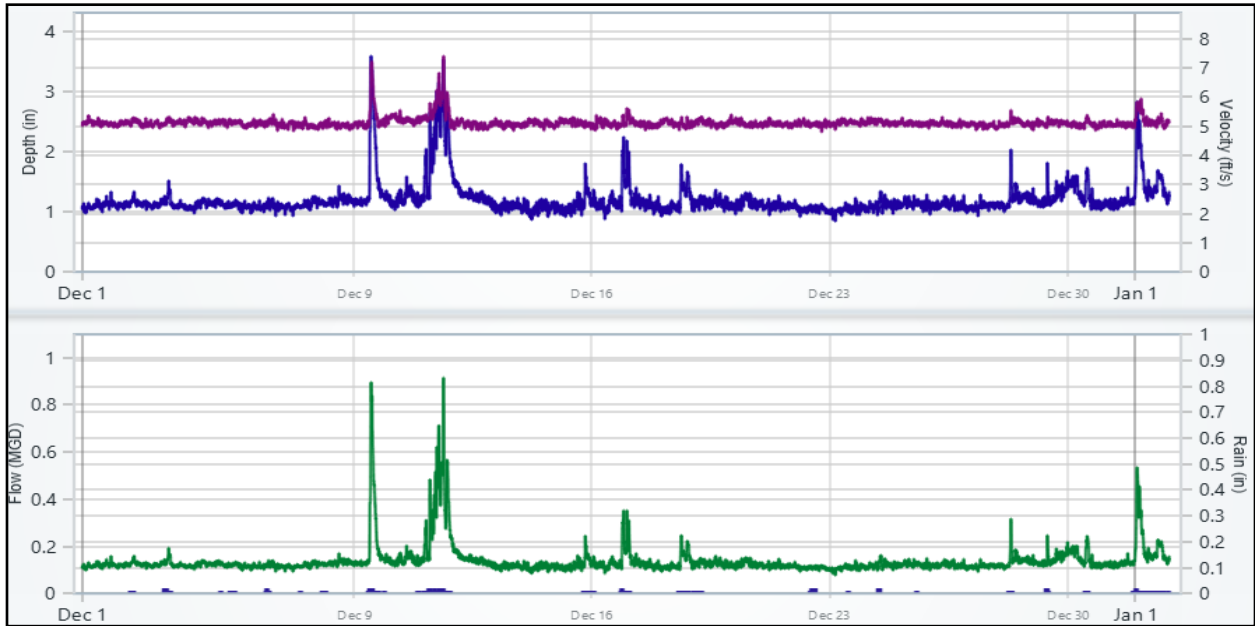
22.6 October 2024



22.7 November 2024

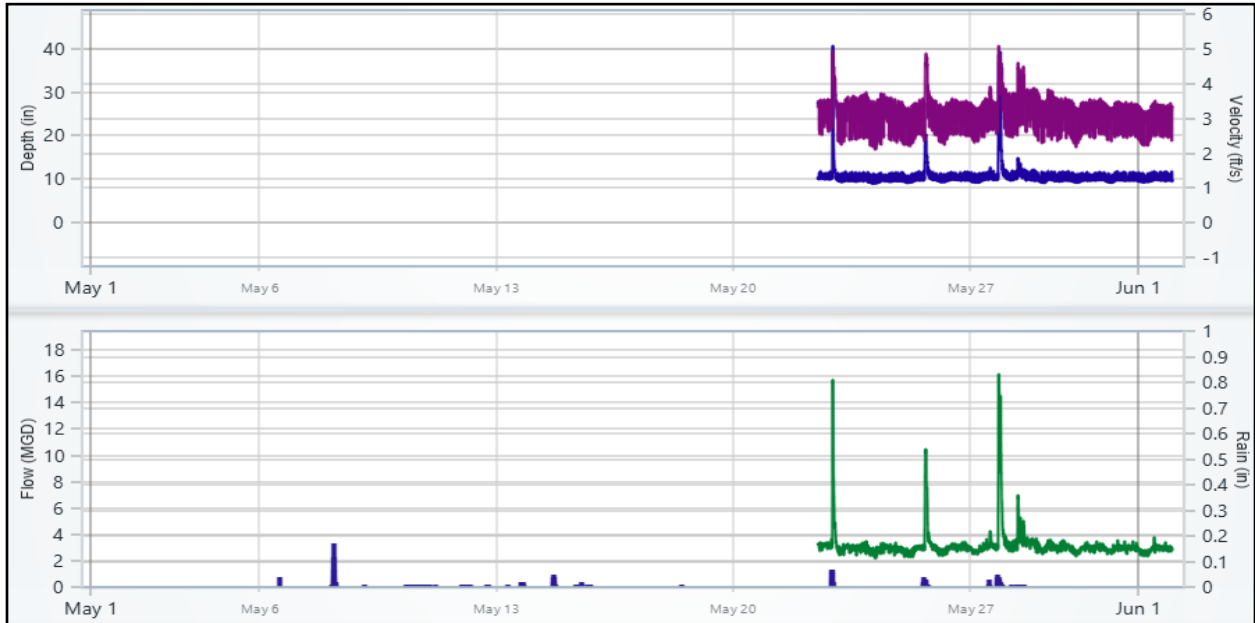


22.8 December 2024

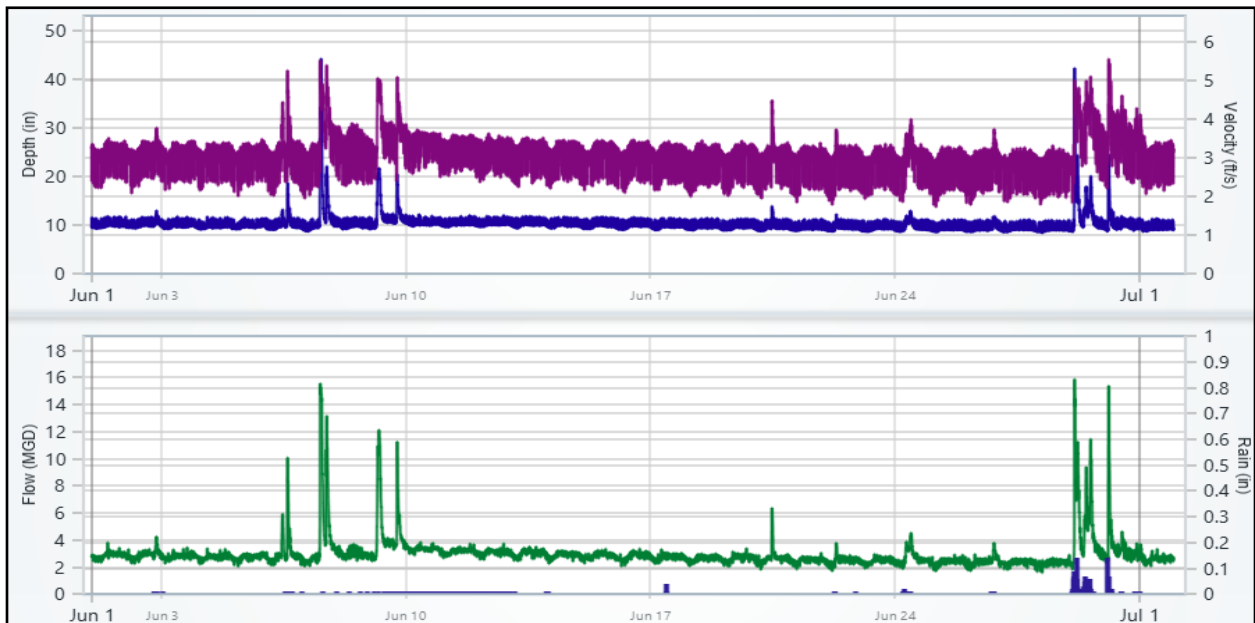


23. CSO-007_IntercepUS

23.1 May 2024

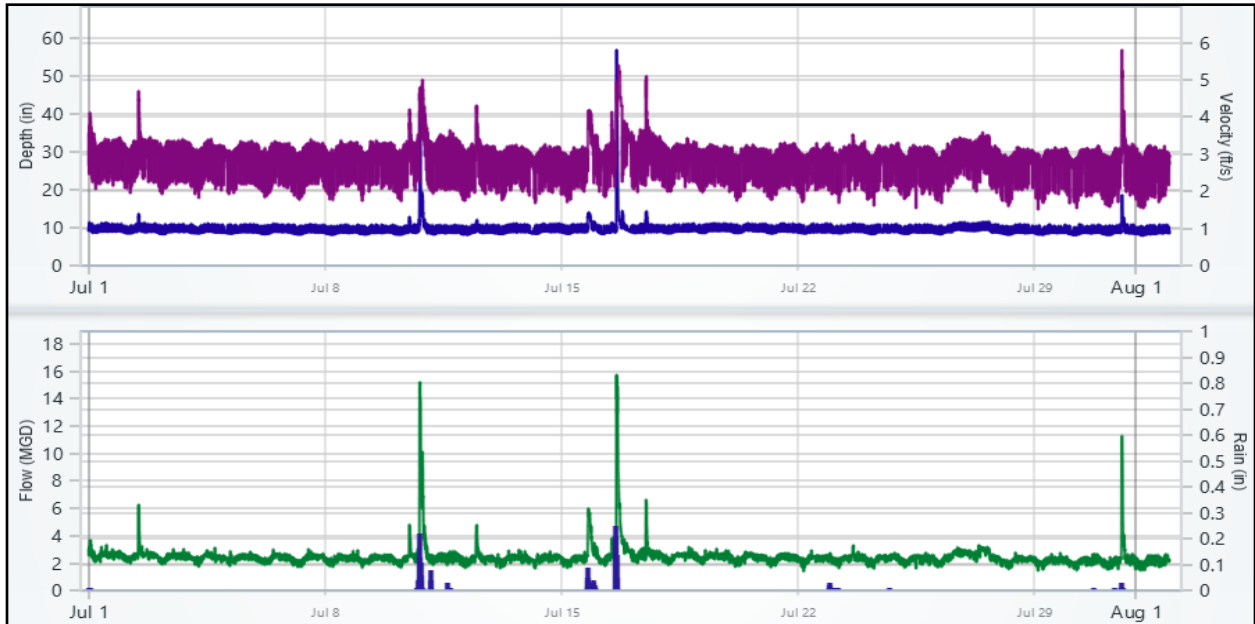


23.2 June 2024

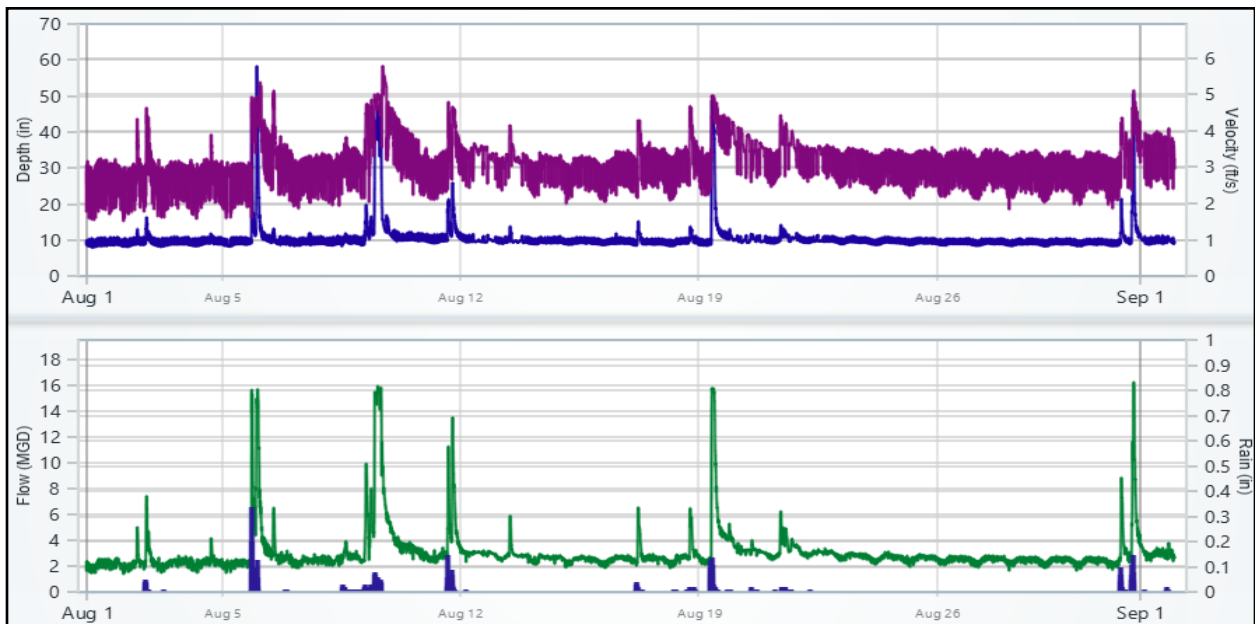


Appendix C – 2024 Harbor Brook Flow Meter Data

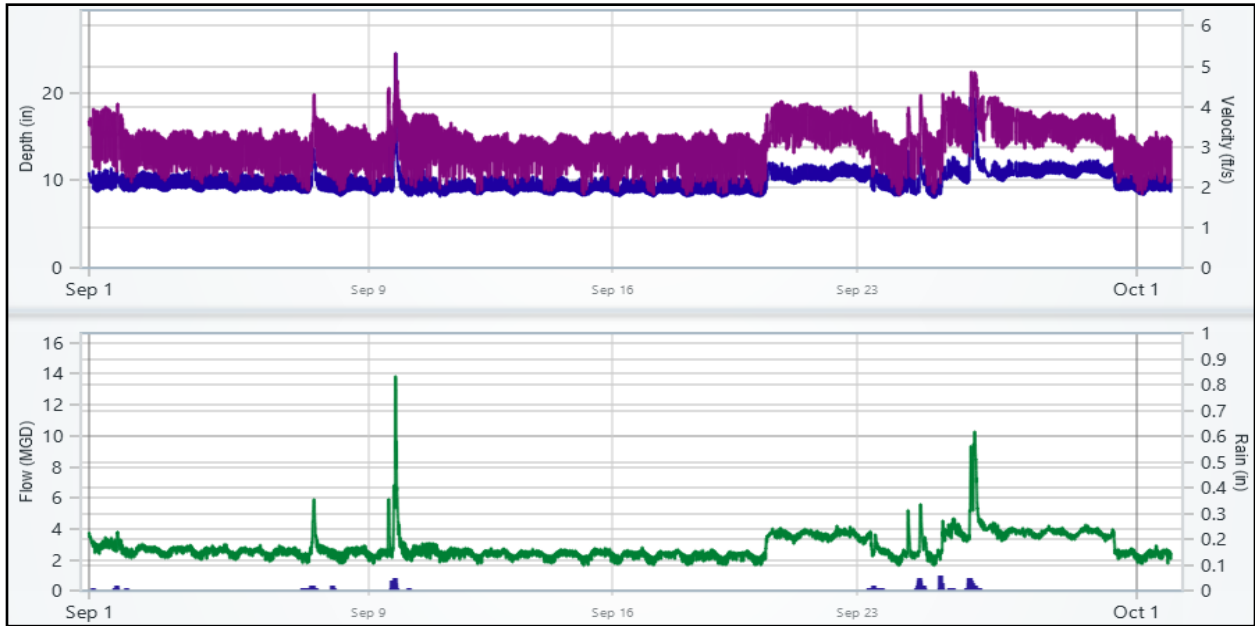
23.3 July 2024



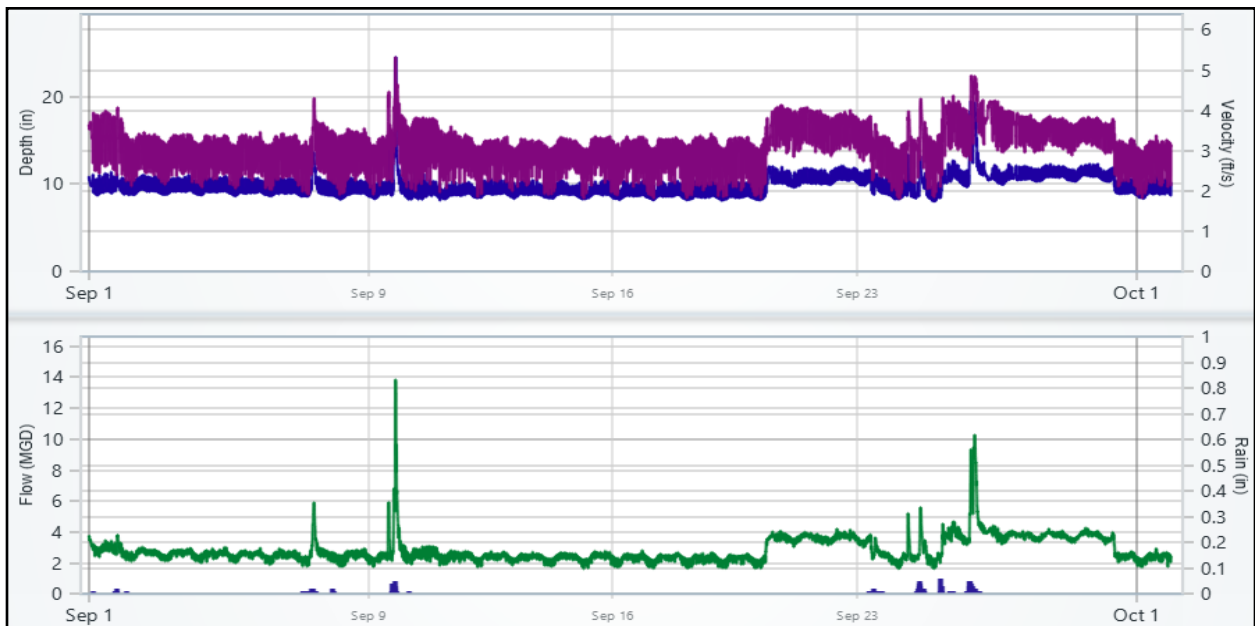
23.4 August 2024



23.5 September 2024

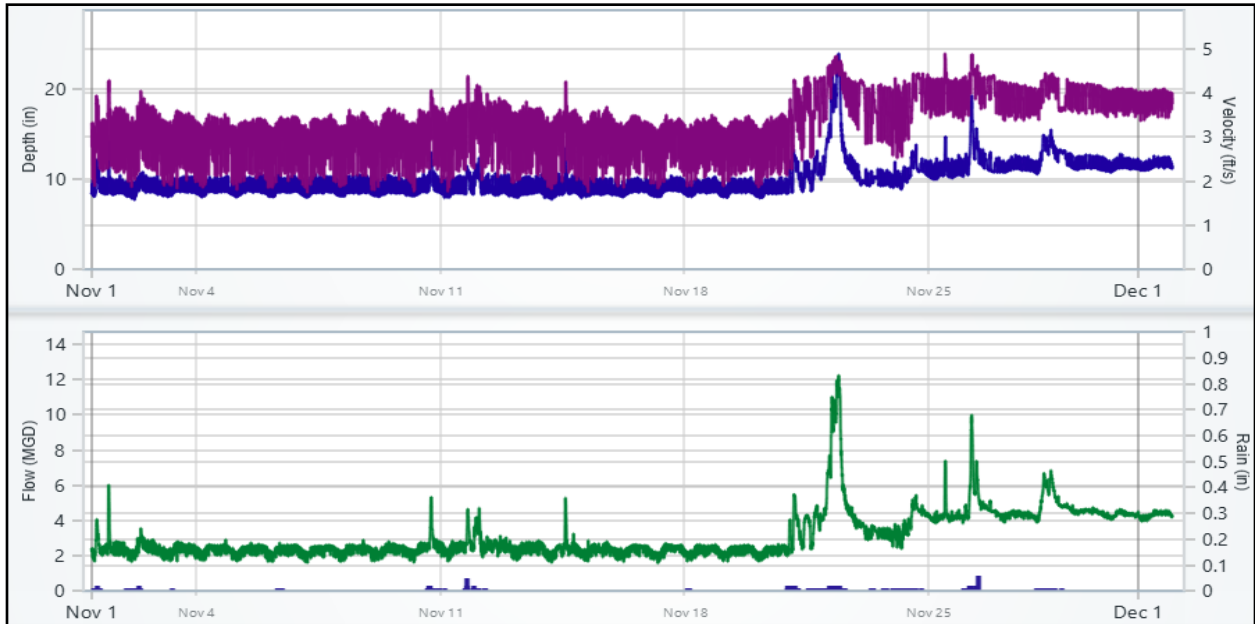


23.6 October 2024

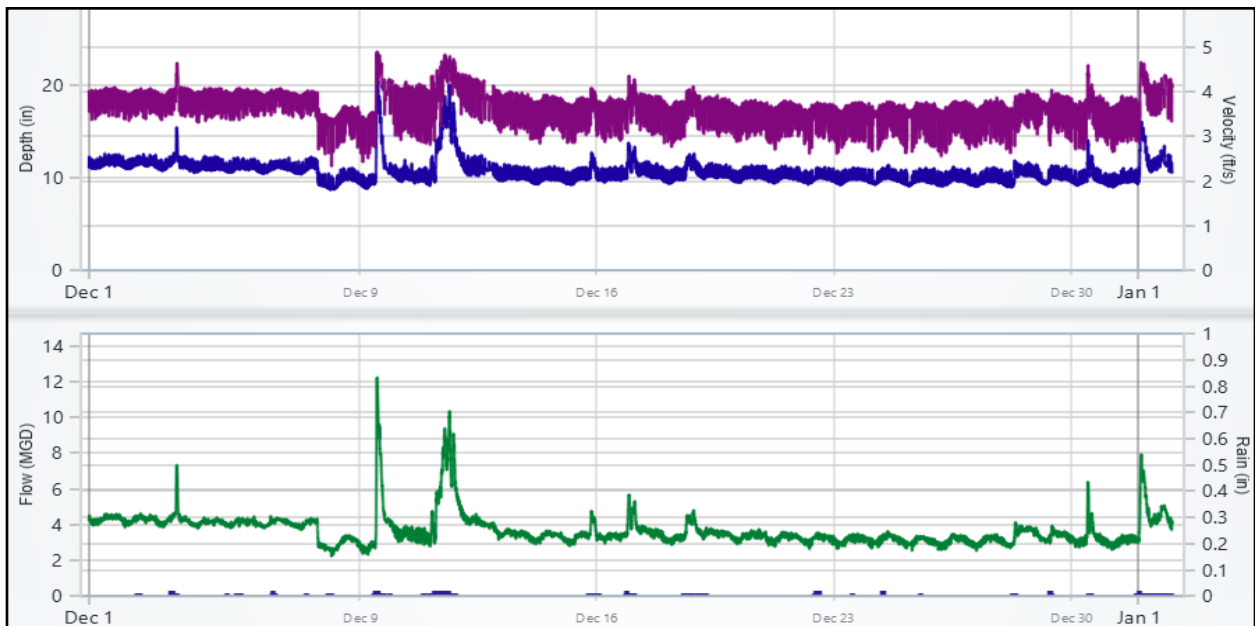


Appendix C – 2024 Harbor Brook Flow Meter Data

23.7 November 2024

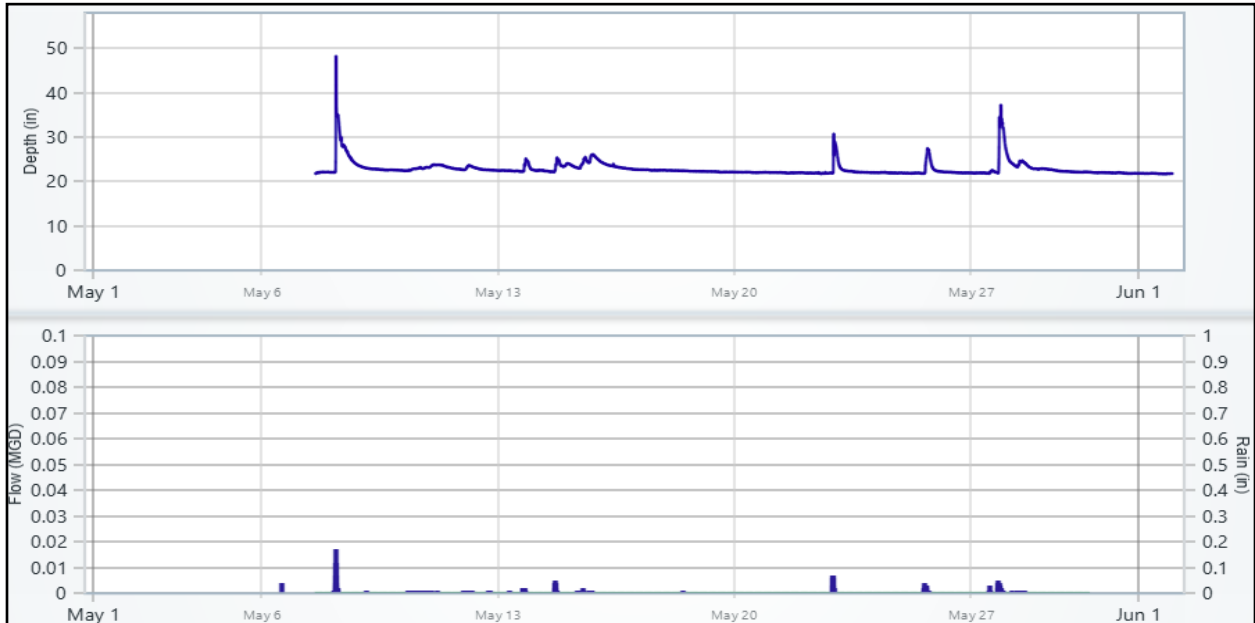


23.8 December 2024

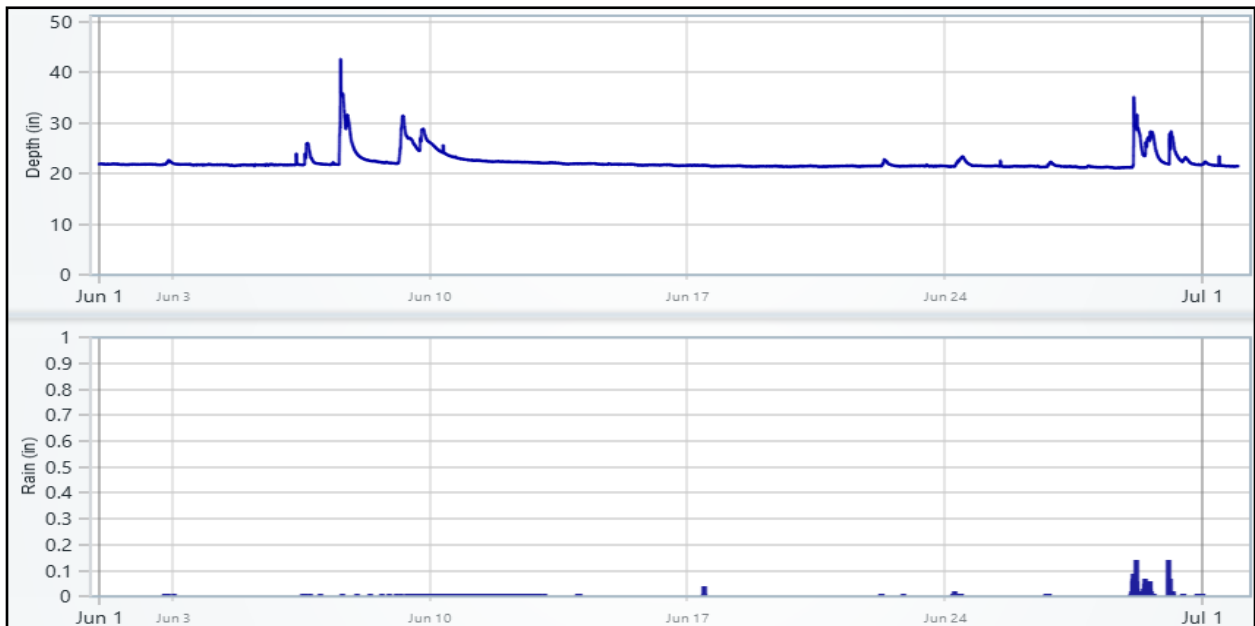


24. CSO-007_OverflowDS

24.1 May 2024

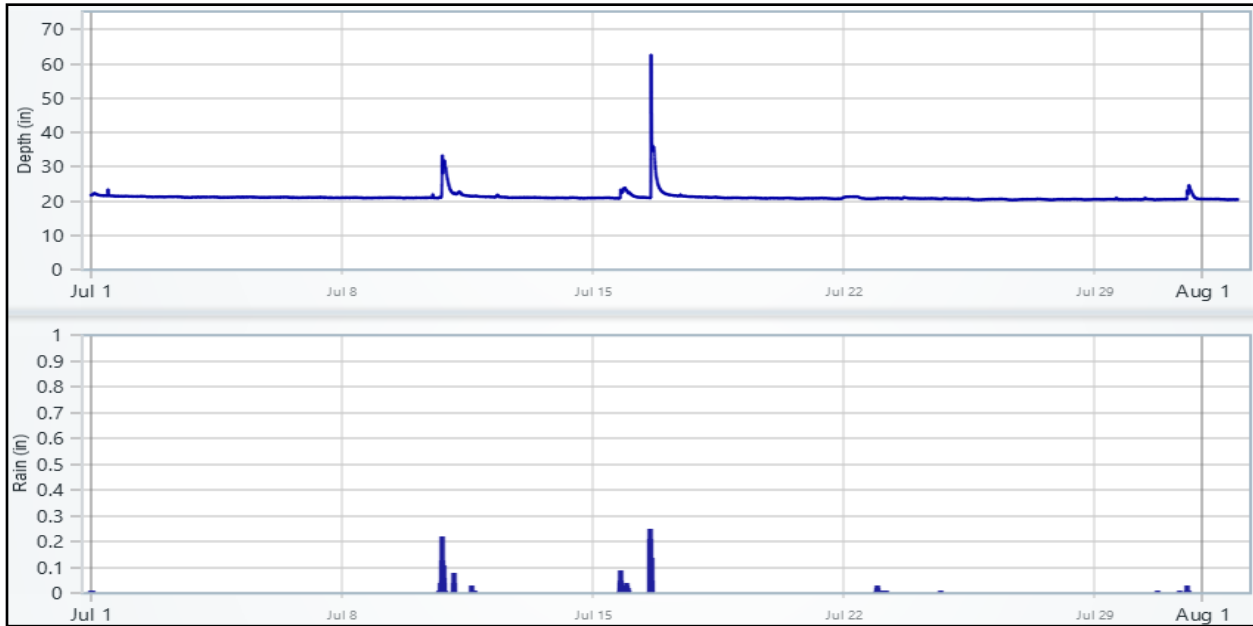


24.2 June 2024

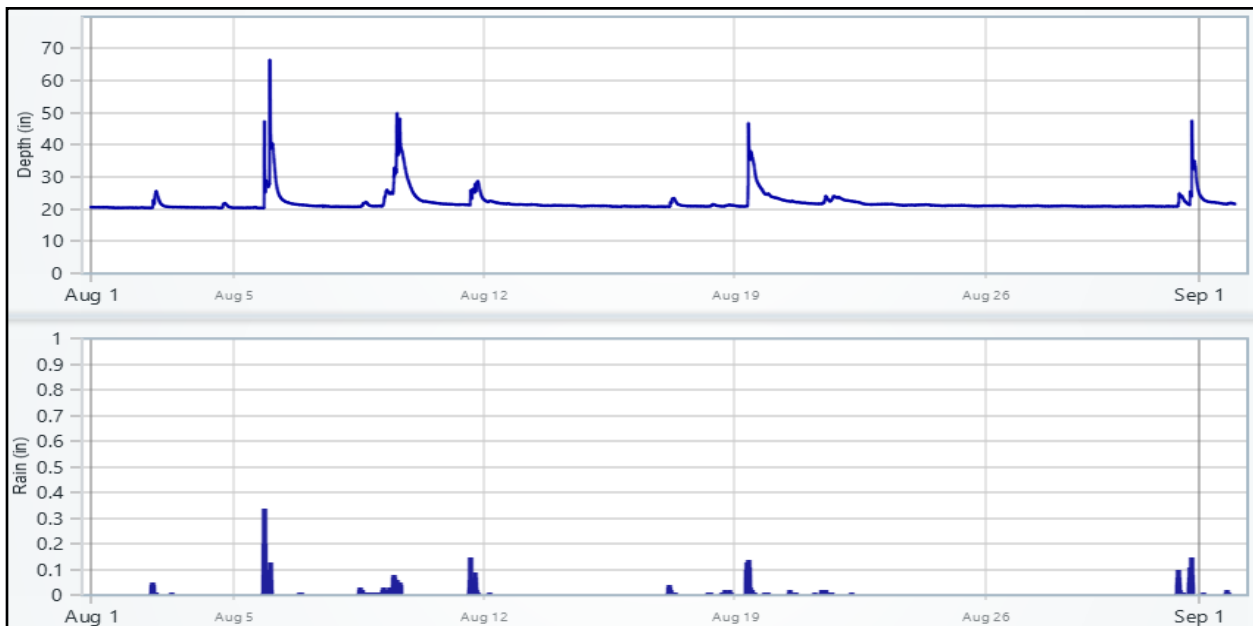


Appendix C – 2024 Harbor Brook Flow Meter Data

24.3 July 2024



24.4 August 2024

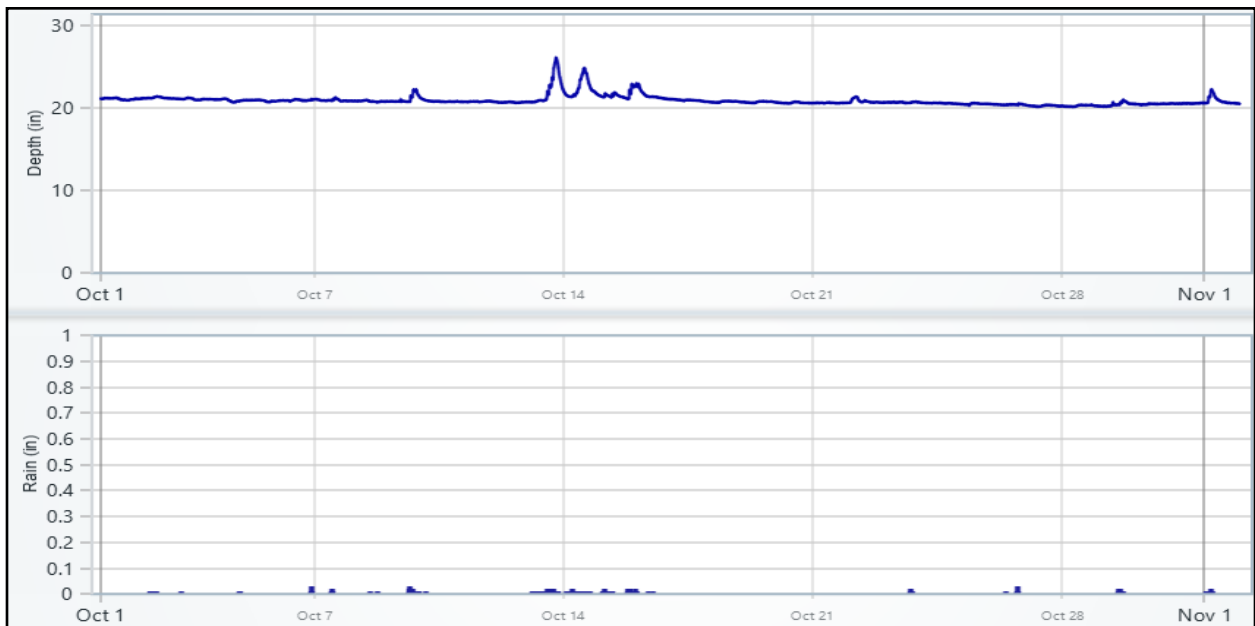


Appendix C – 2024 Harbor Brook Flow Meter Data

24.5 September 2024

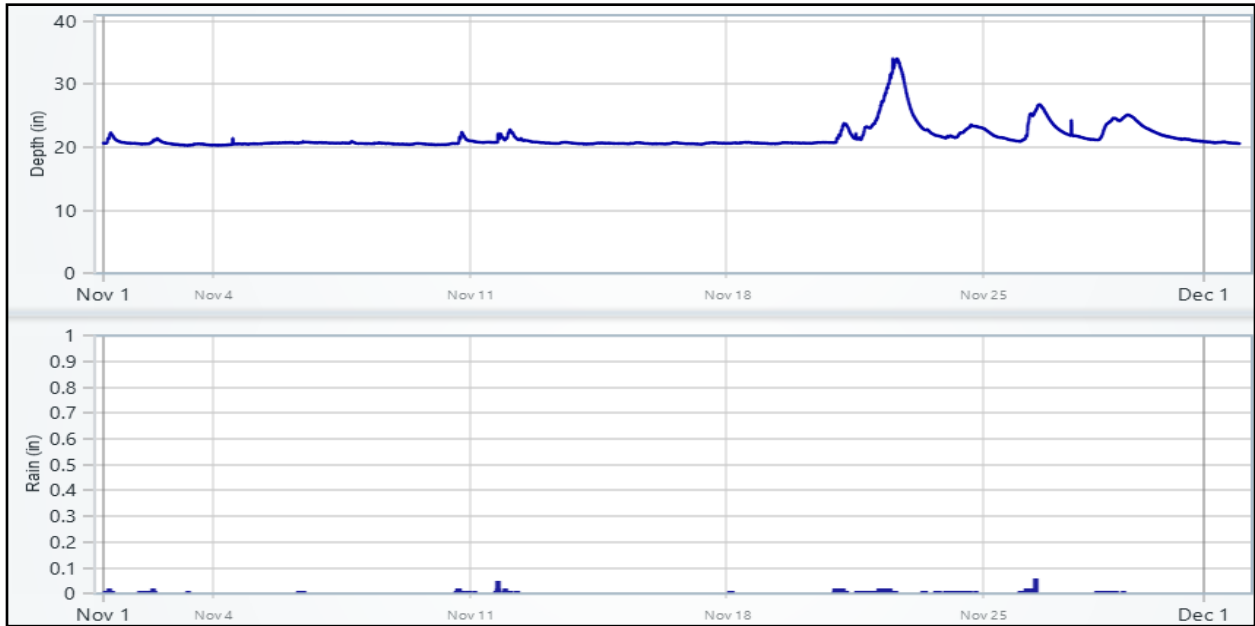


24.6 October 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

24.7 November 2024



24.8 December 2024



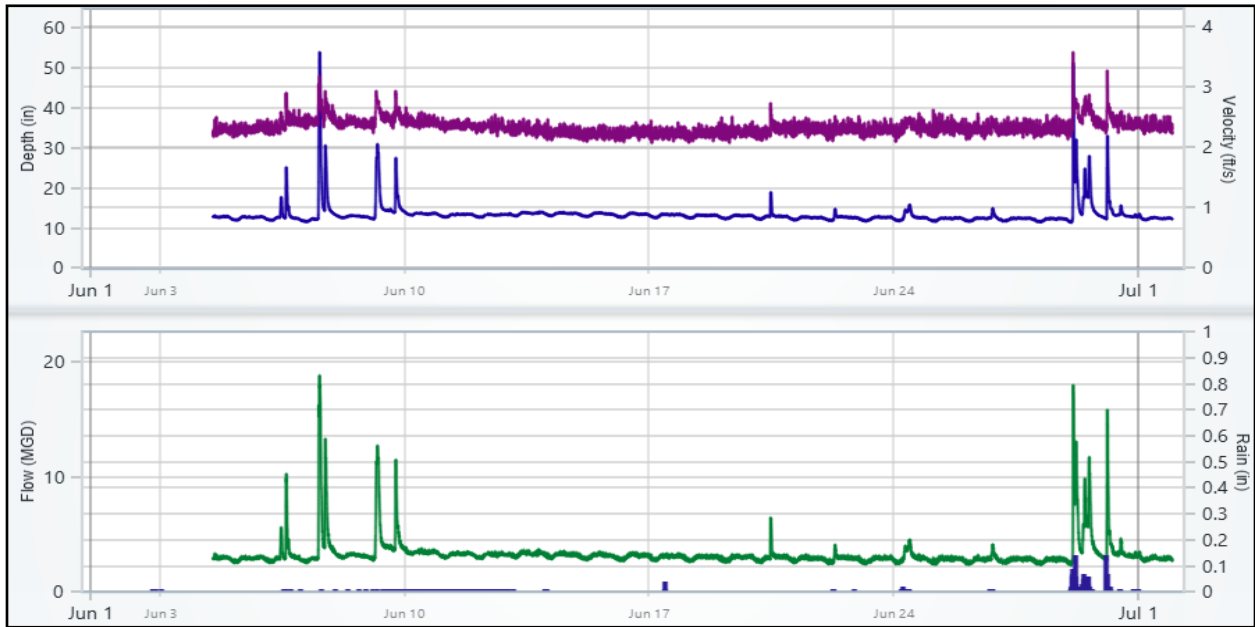
Appendix C – 2024 Harbor Brook Flow Meter Data

25. CSO-007_IntercepDS

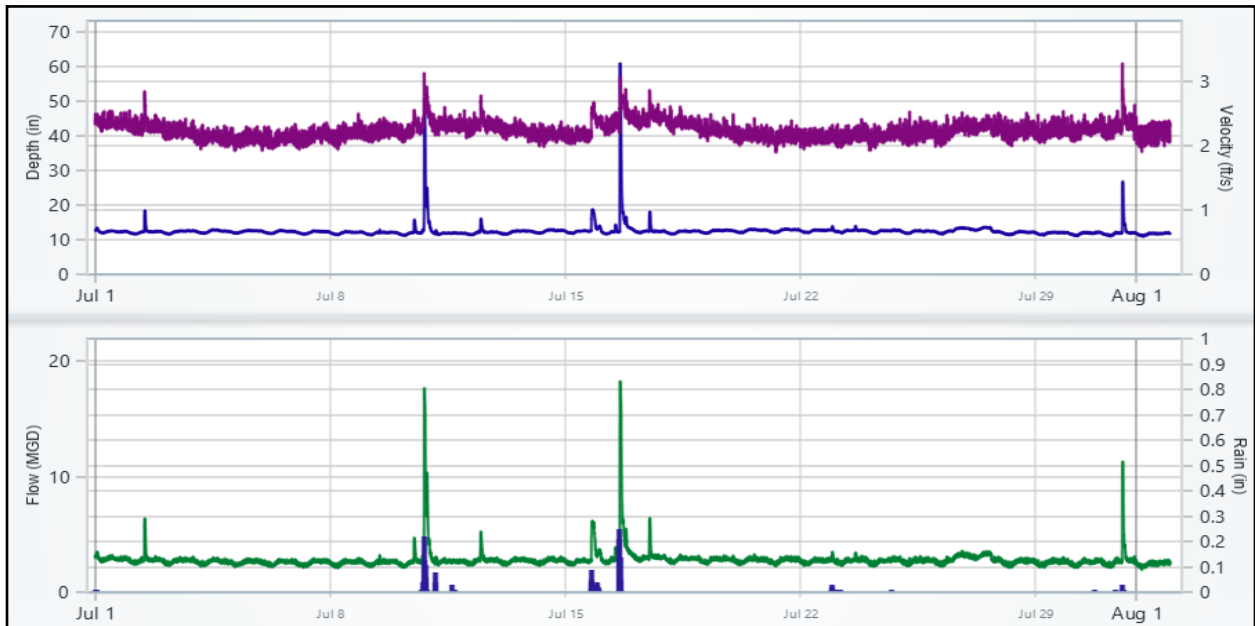
25.1 May 2024

No Data

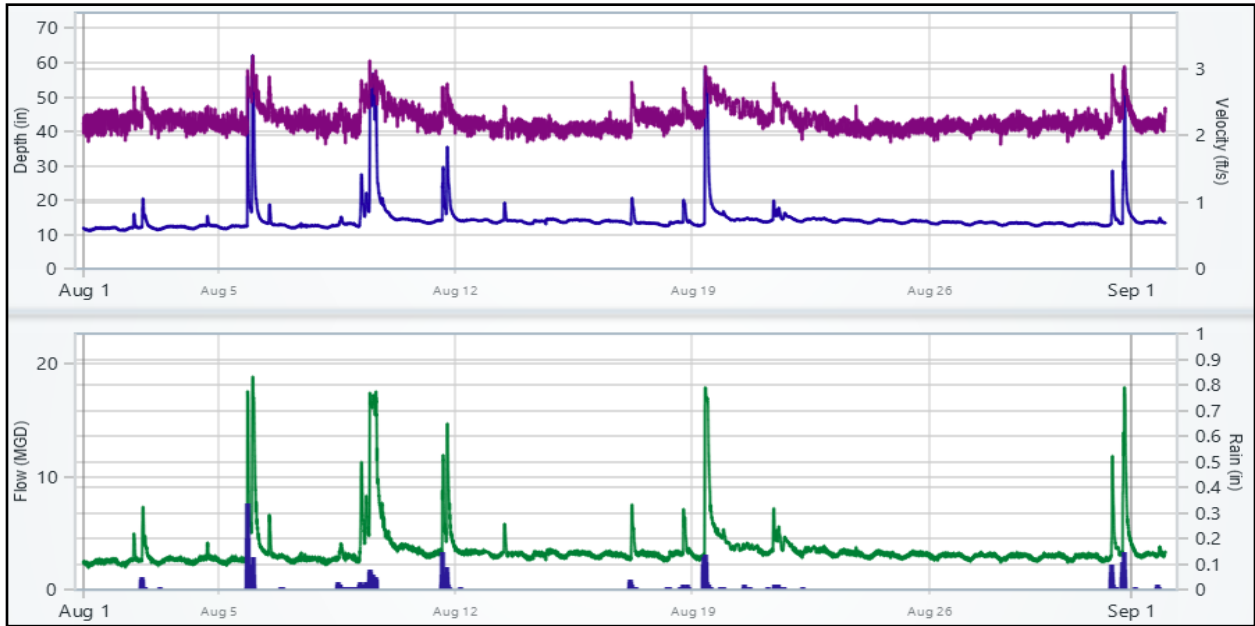
25.2 June 2024



25.3 July 2024



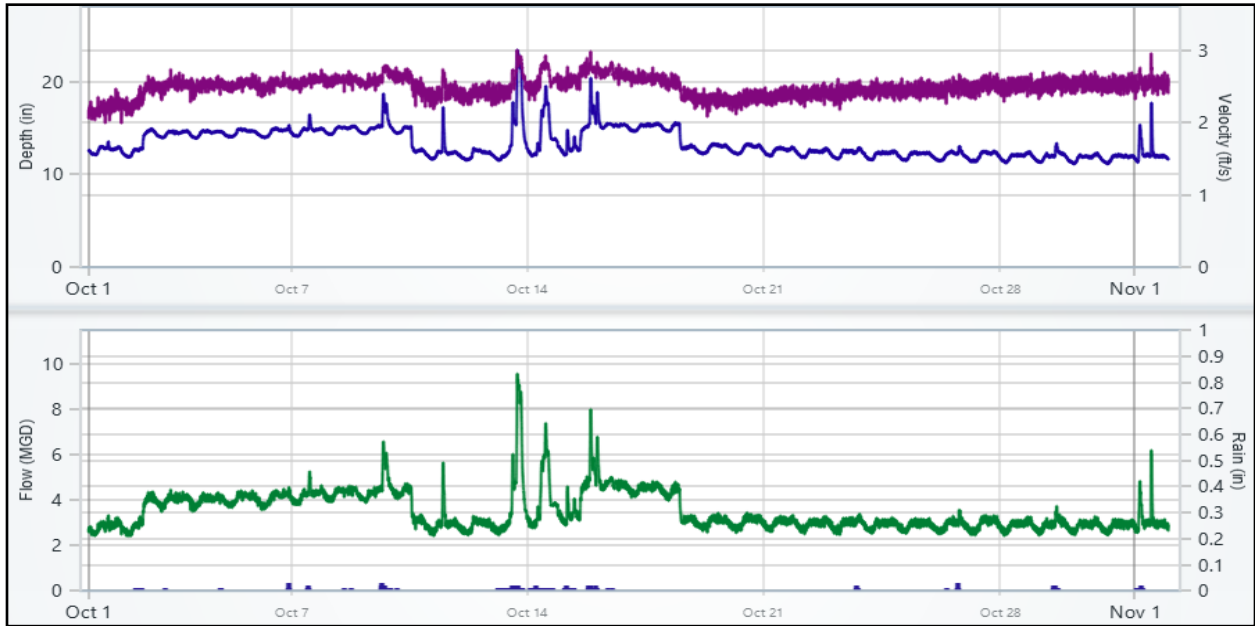
25.4 August 2024



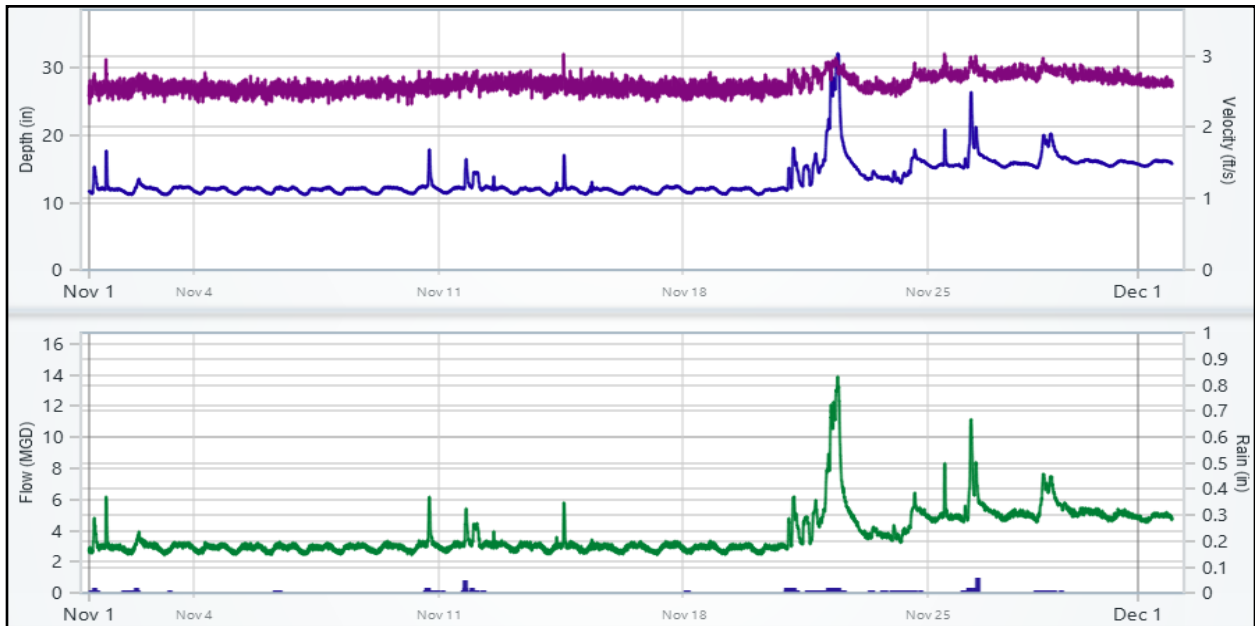
25.5 September 2024



25.6 October 2024

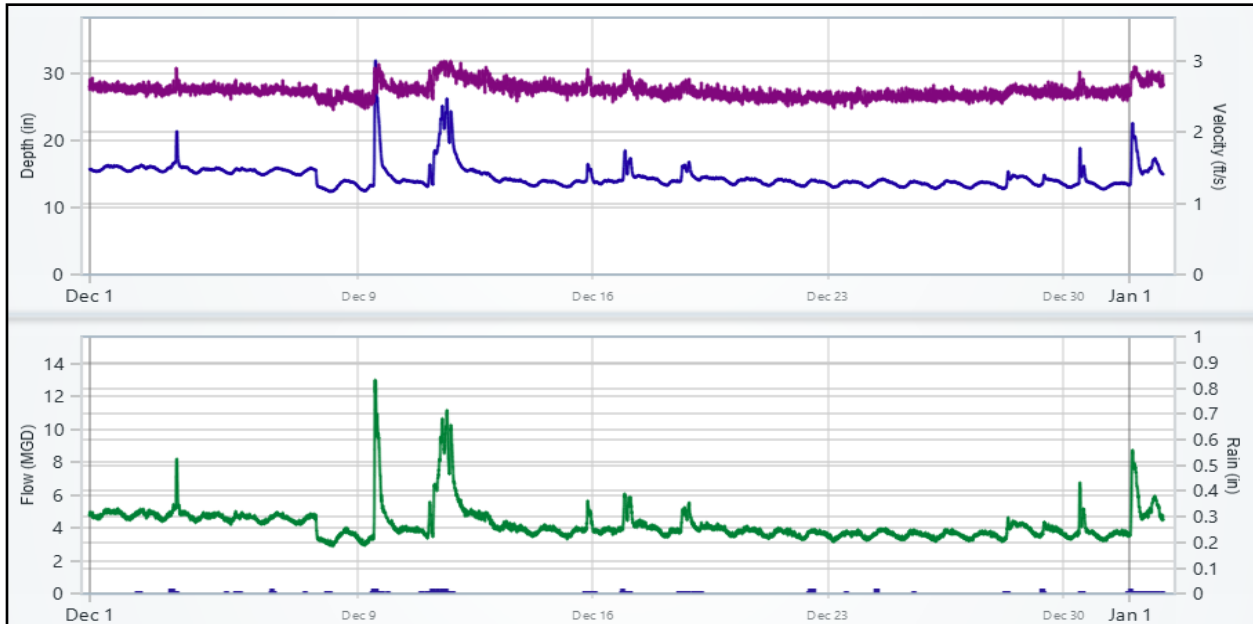


25.7 November 2024



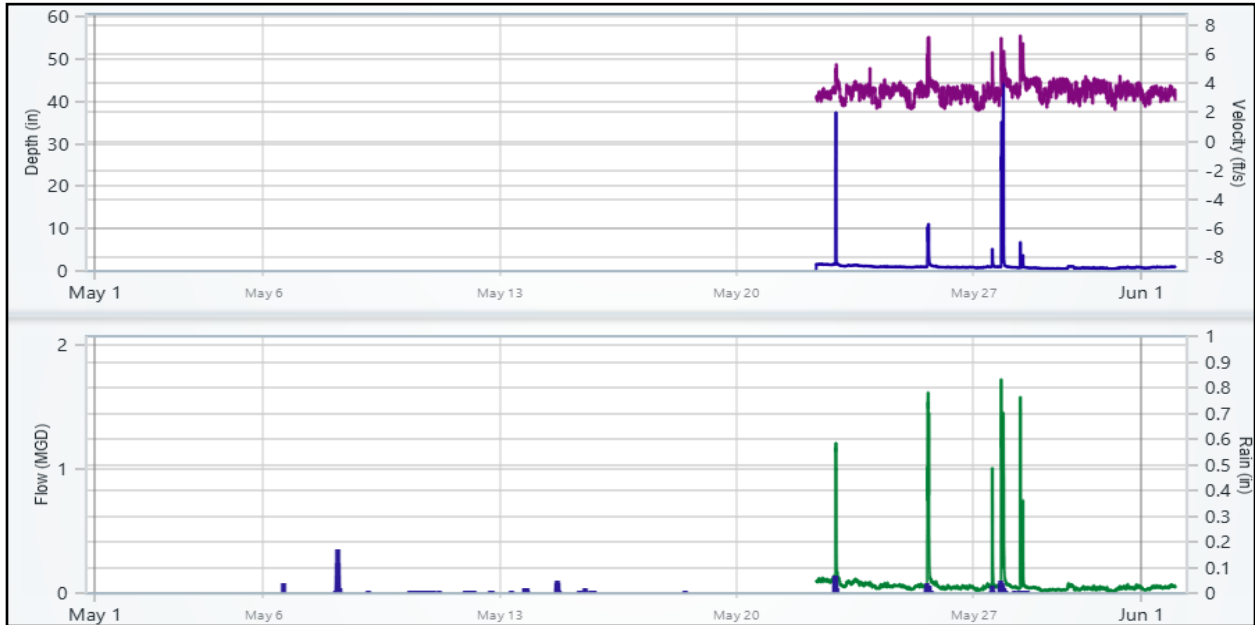
Appendix C – 2024 Harbor Brook Flow Meter Data

25.8 December 2024

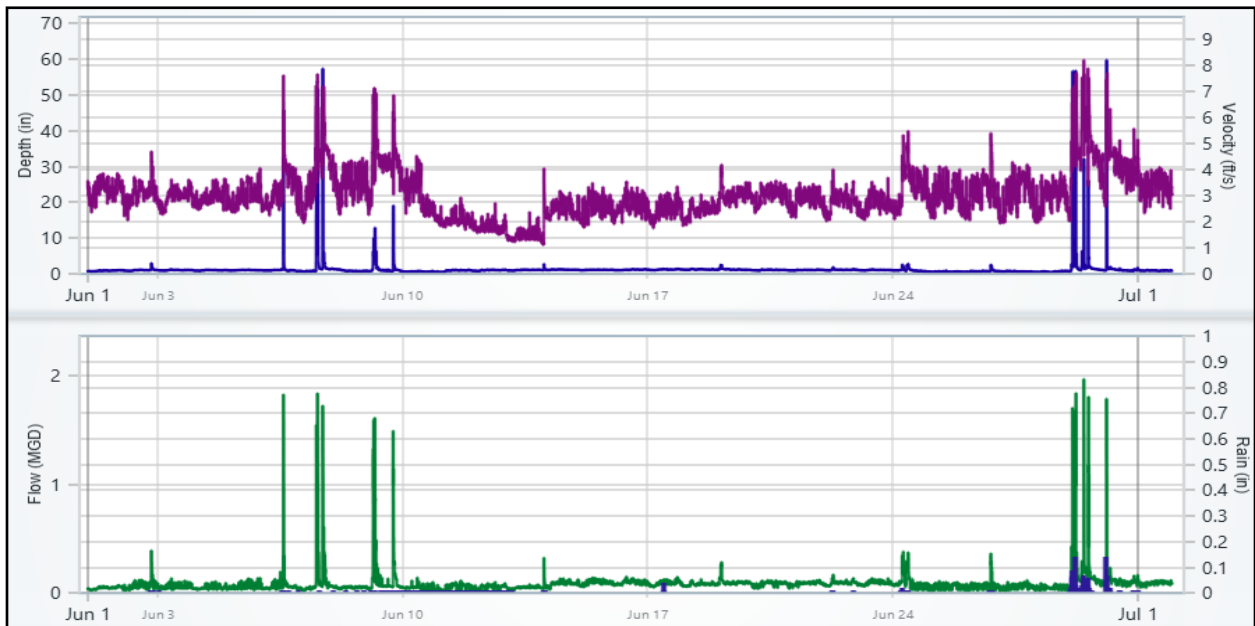


26. CSO-006_Underflow

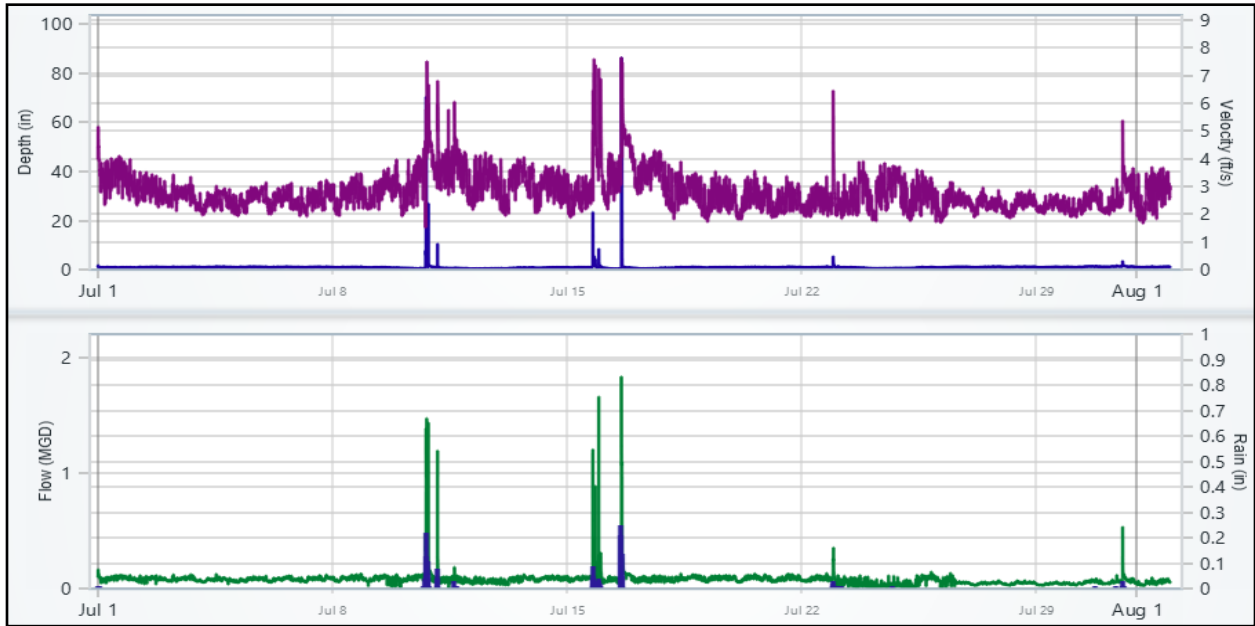
26.1 May 2024



26.2 June 2024



26.3 July 2024



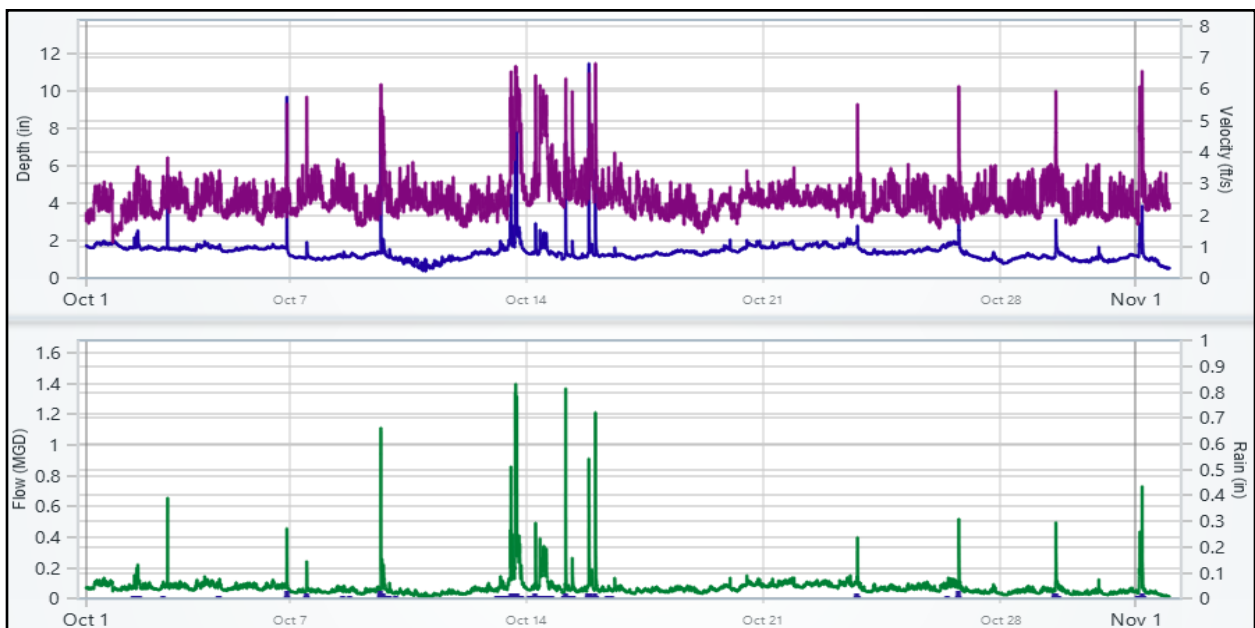
26.4 August 2024



26.5 September 2024

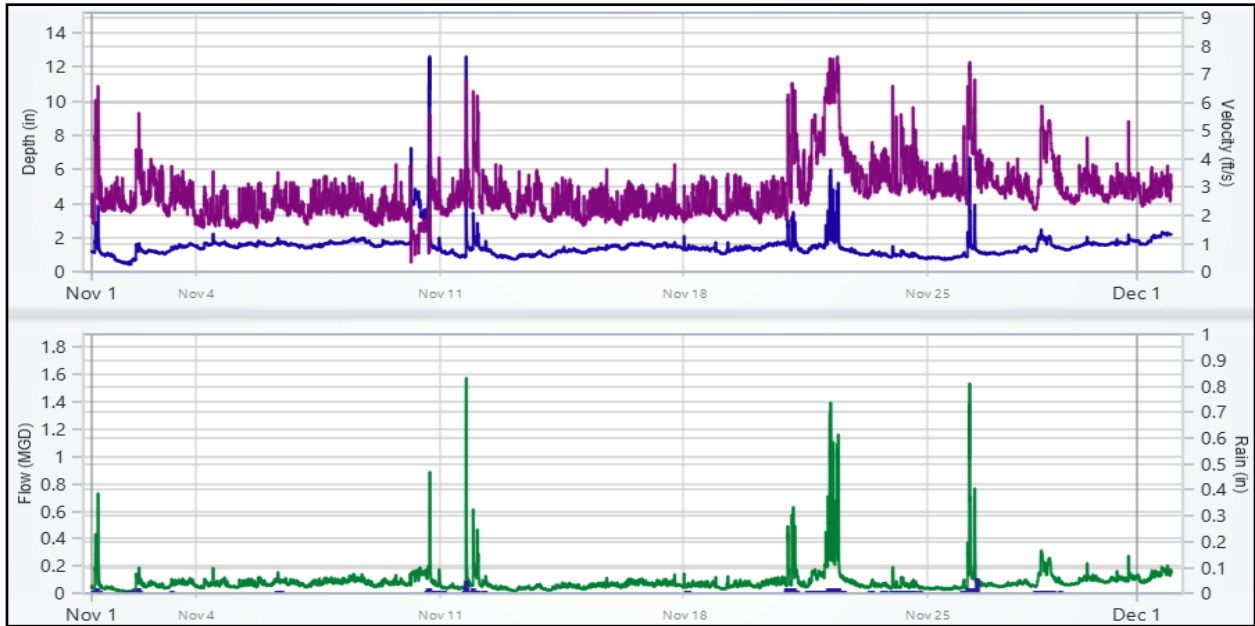


26.6 October 2024

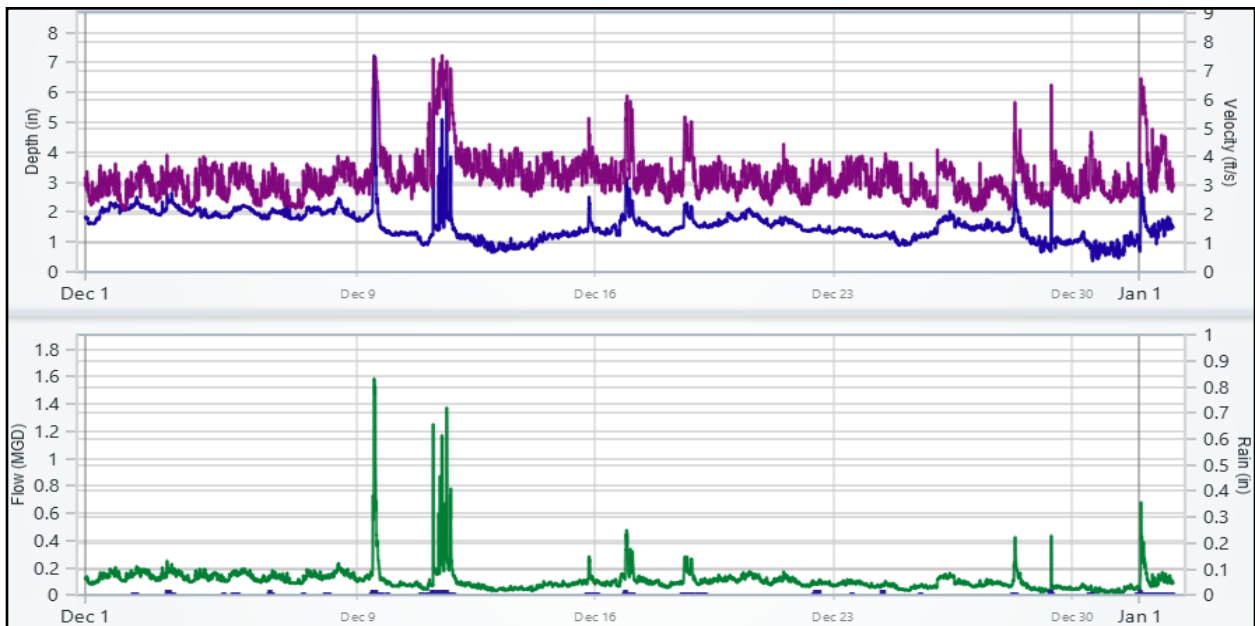


Appendix C – 2024 Harbor Brook Flow Meter Data

26.7 November 2024



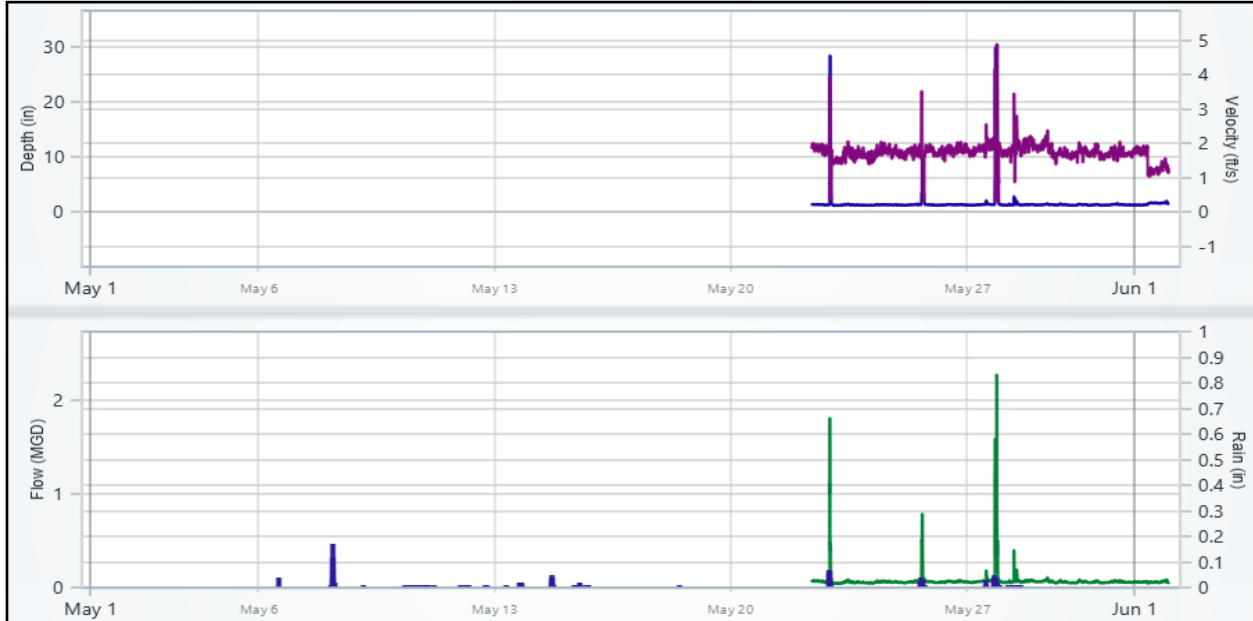
26.8 December 2024



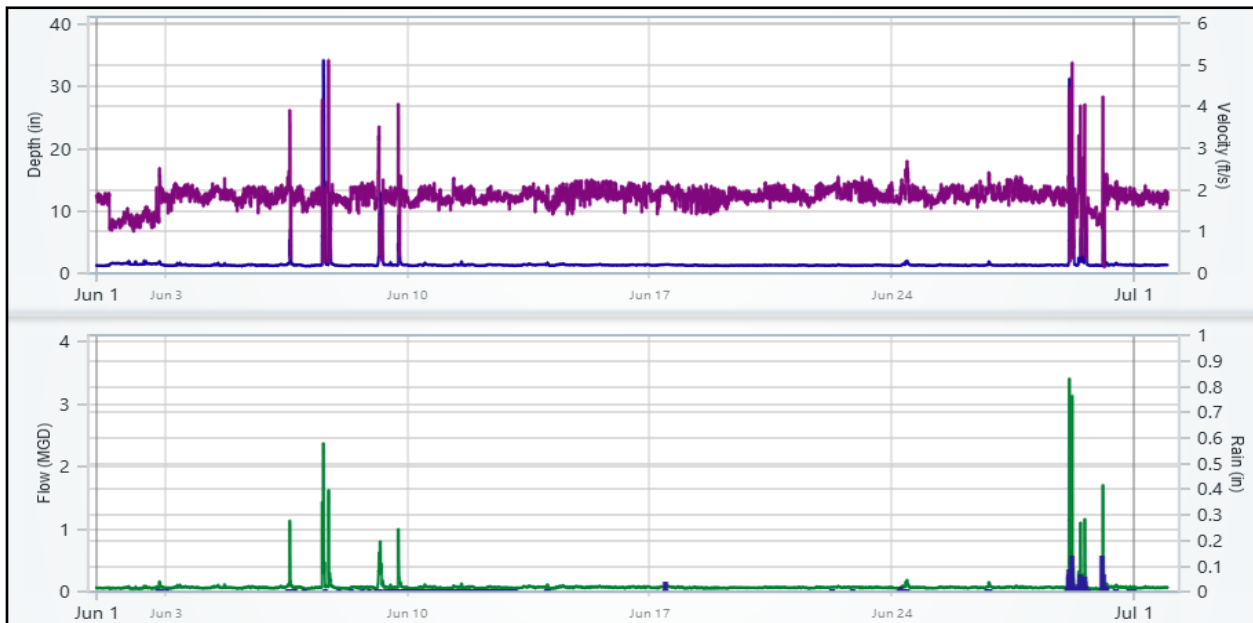
Appendix C – 2024 Harbor Brook Flow Meter Data

27. CSO-006A_Trunk

27.1 May 2024

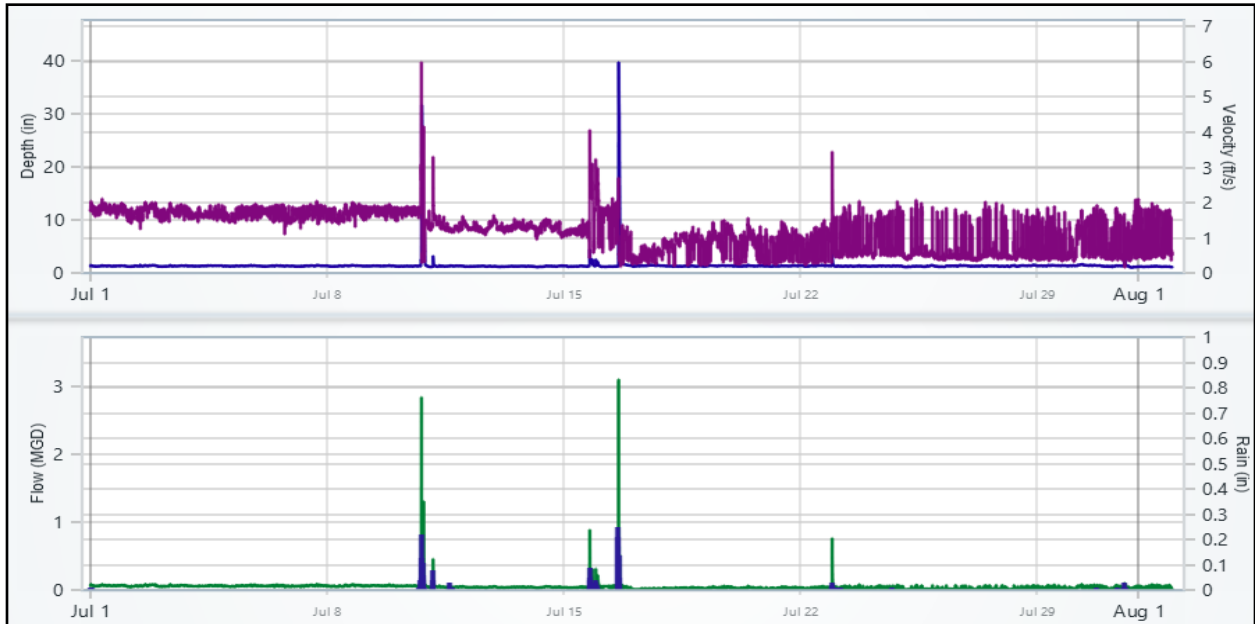


27.2 June 2024

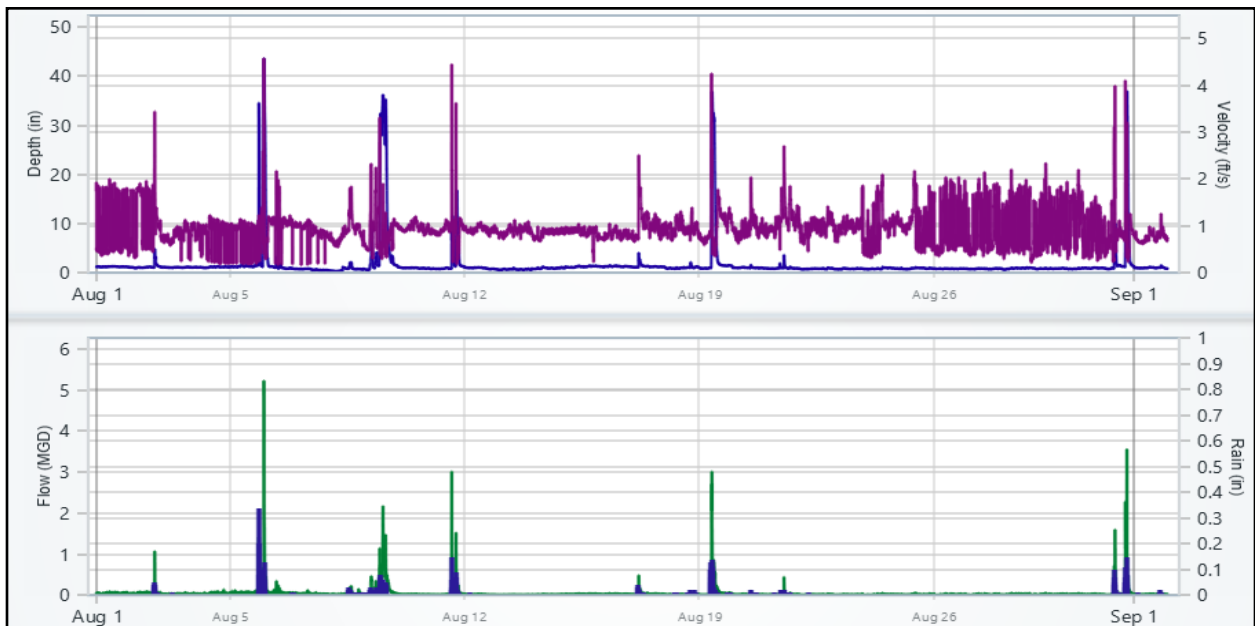


Appendix C – 2024 Harbor Brook Flow Meter Data

27.3 July 2024



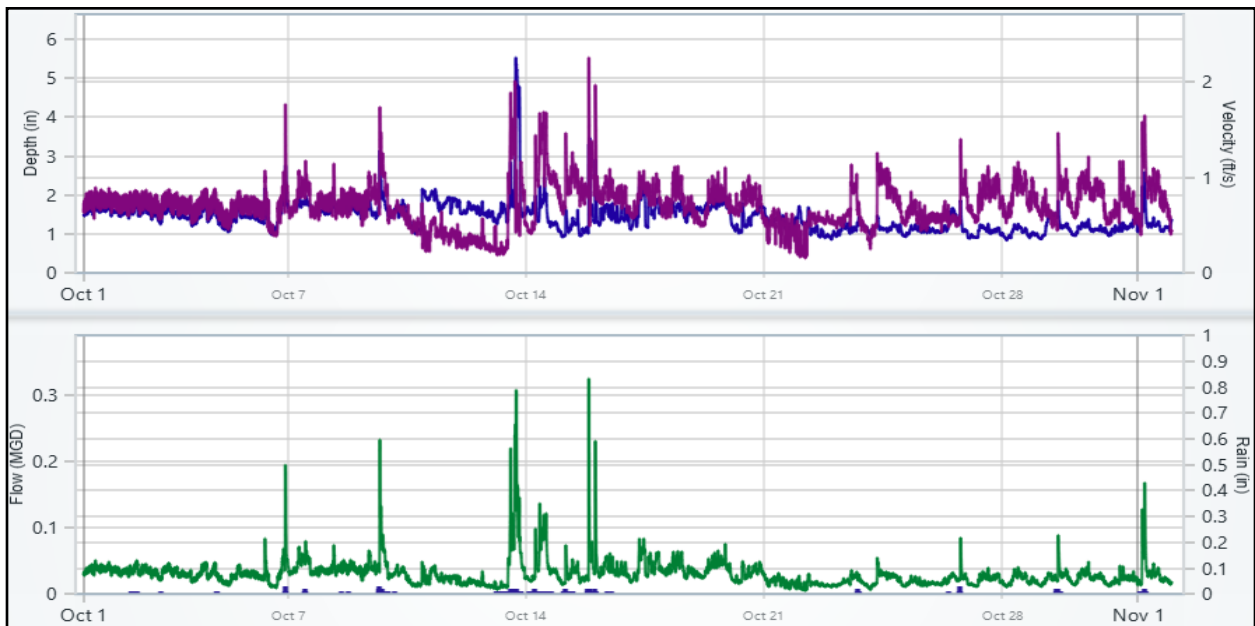
27.4 August 2024



27.5 September 2024

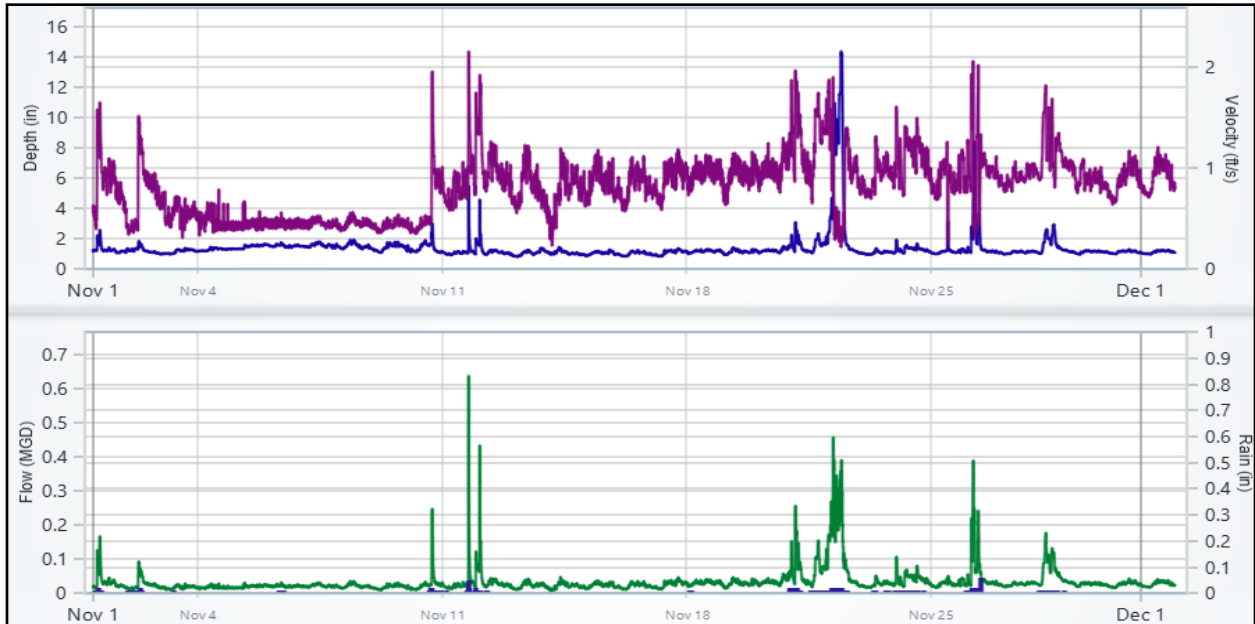


27.6 October 2024

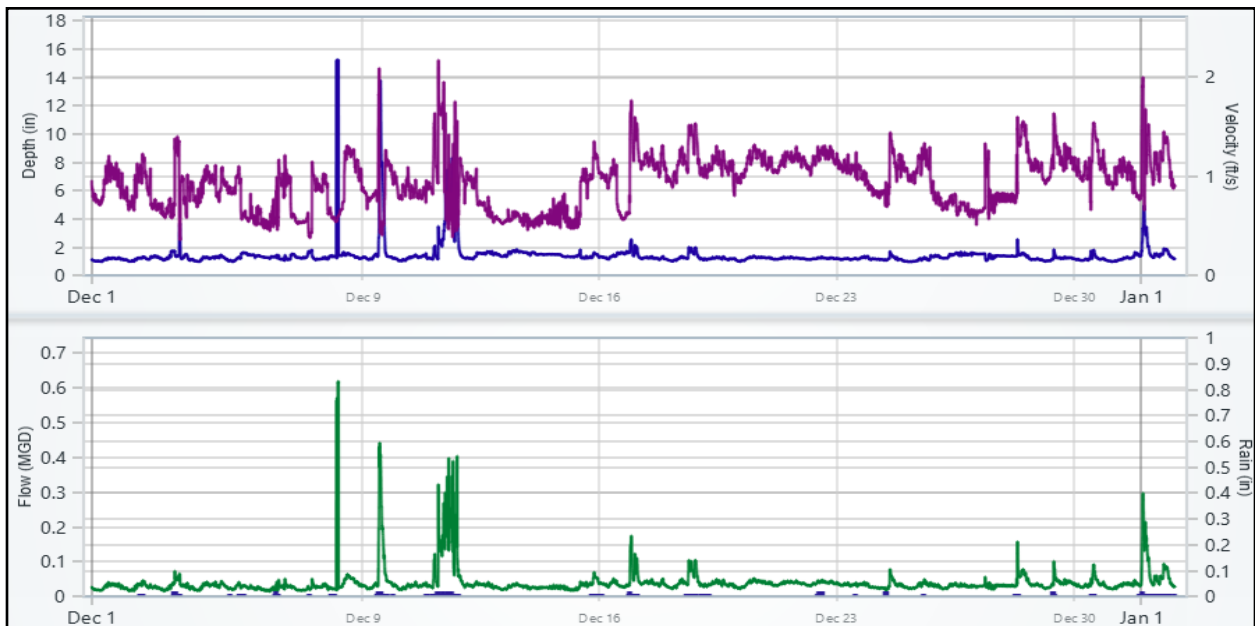


Appendix C – 2024 Harbor Brook Flow Meter Data

27.7 November 2024

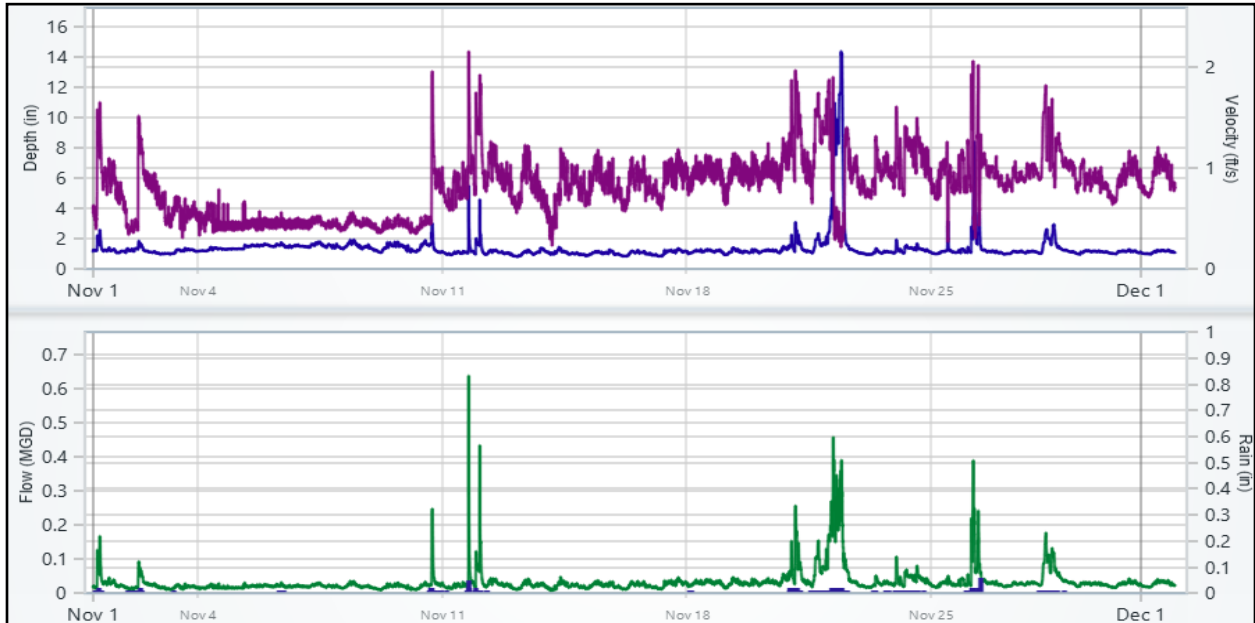


27.8 December 2024

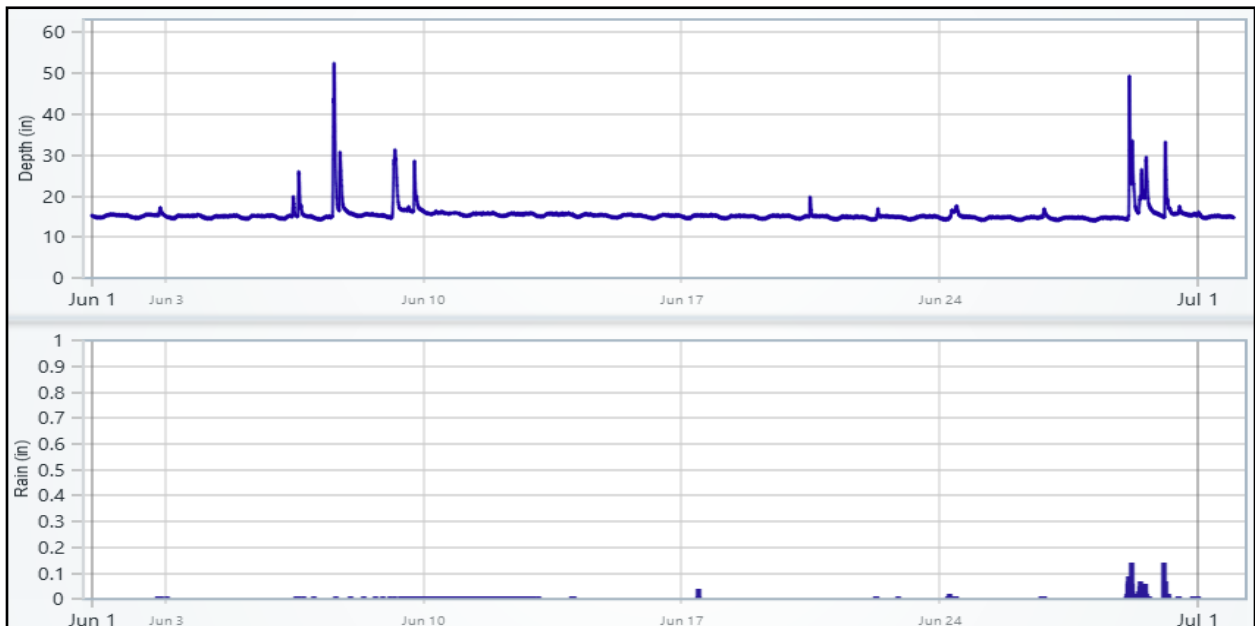


28. CSO-006A_OverflowUS

28.1 May 2024

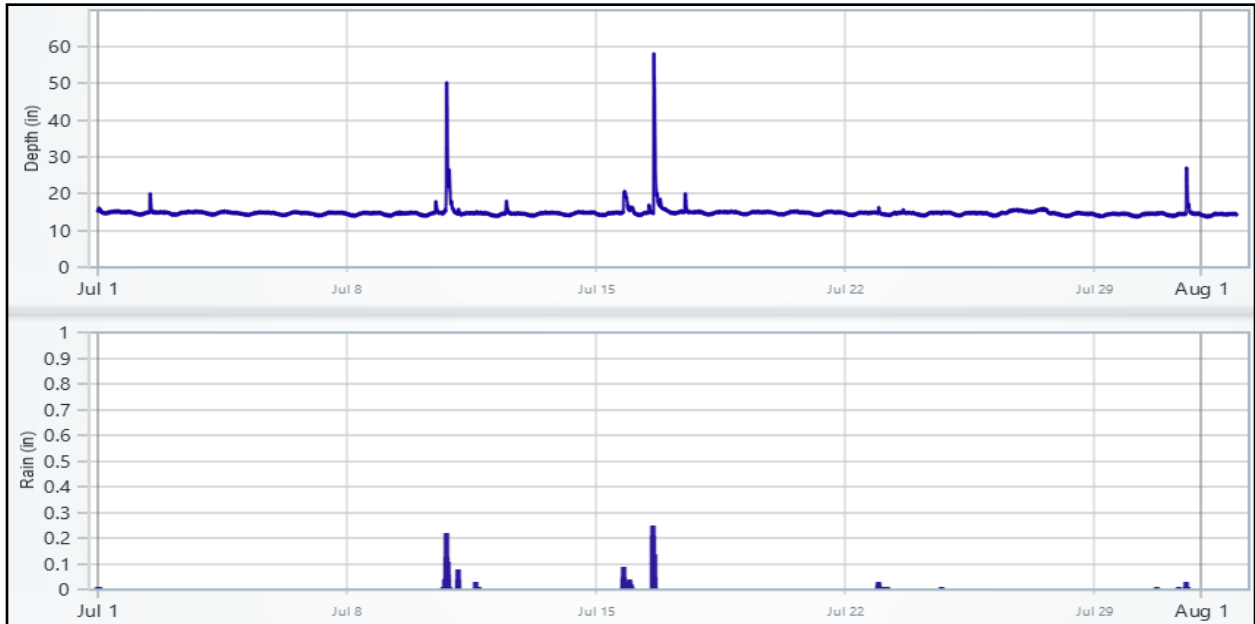


28.2 June 2024

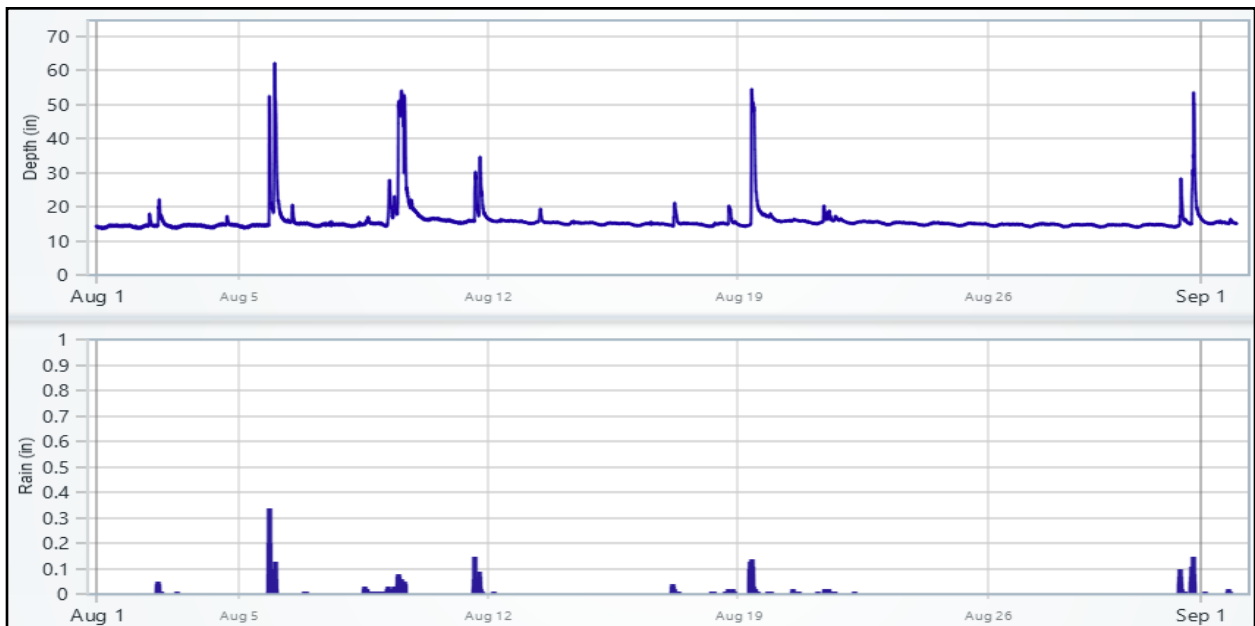


Appendix C – 2024 Harbor Brook Flow Meter Data

28.3 July 2024



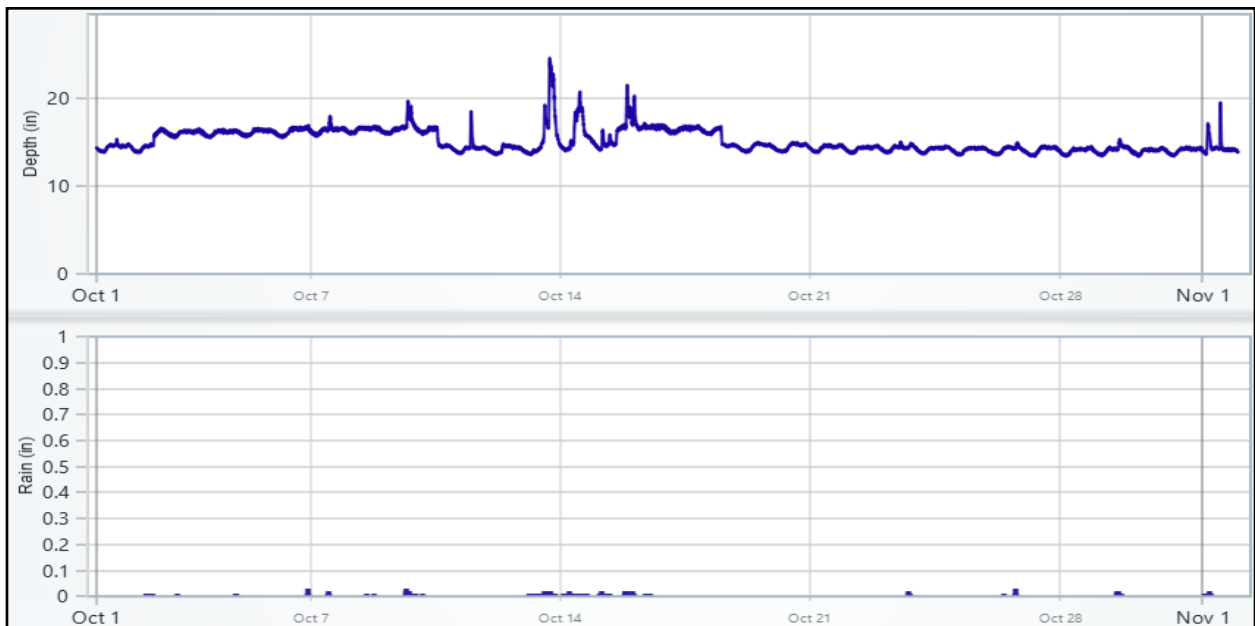
28.4 August 2024



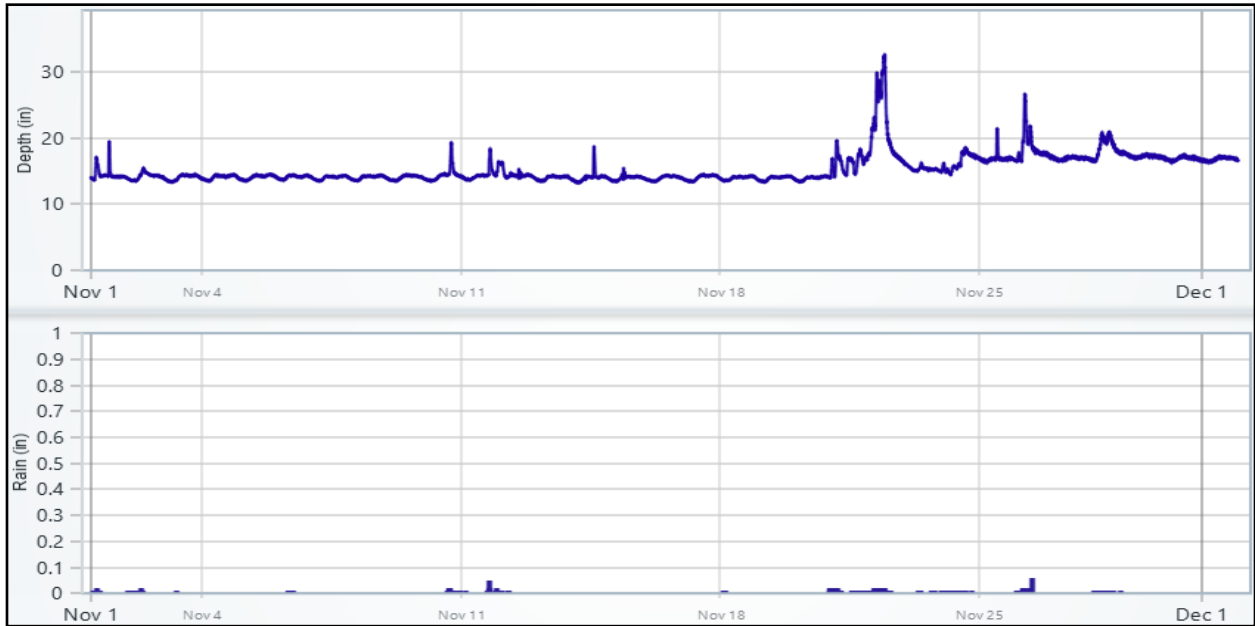
28.5 September 2024



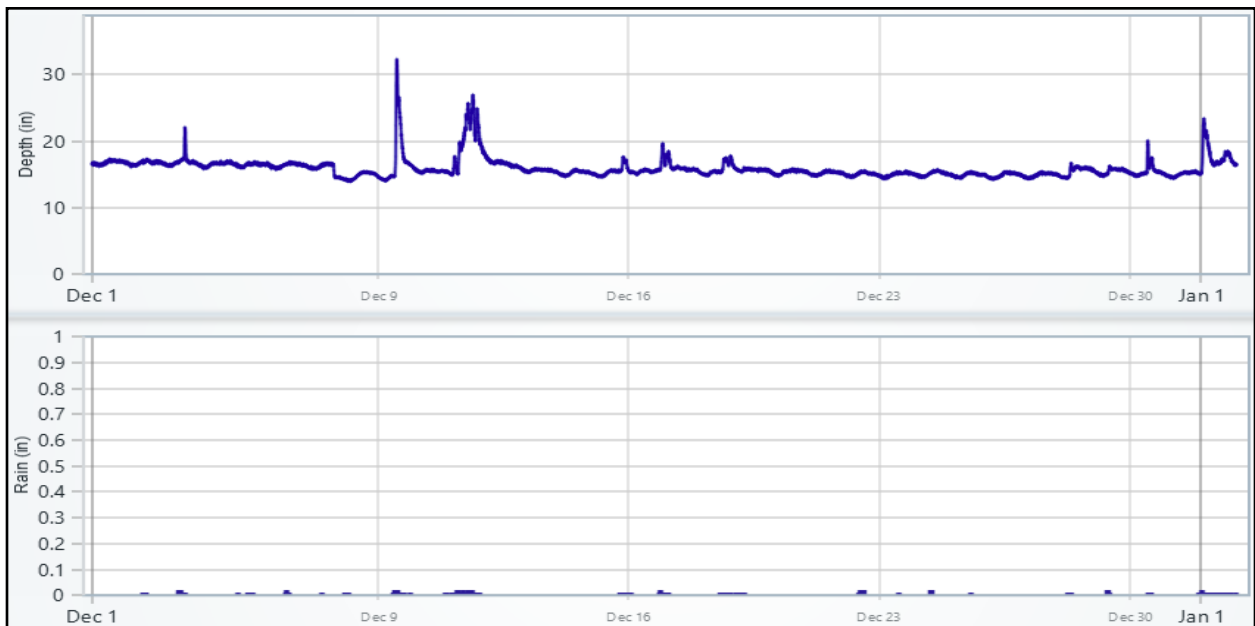
28.6 October 2024



28.7 November 2024

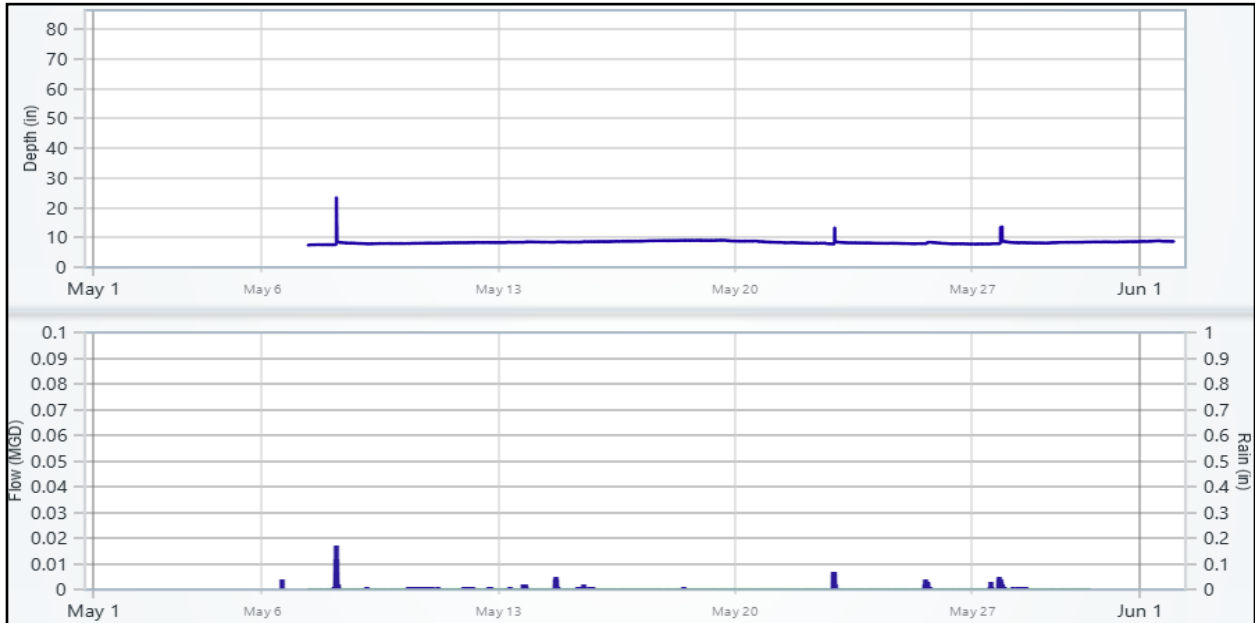


28.8 December 2024

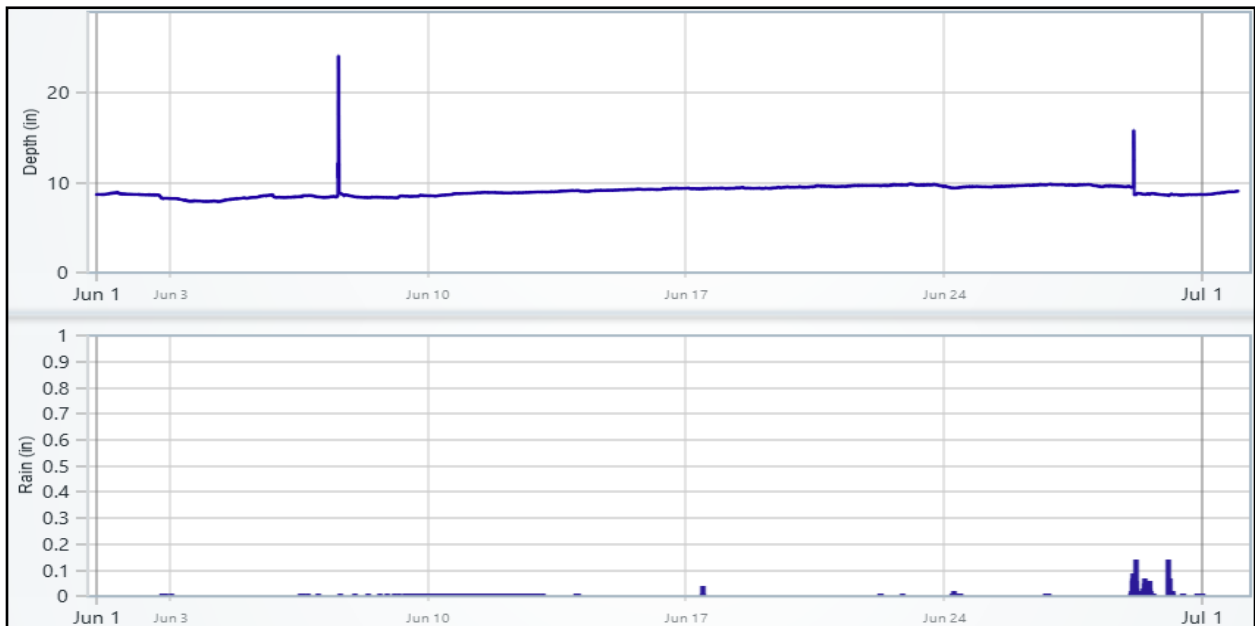


29. CSO-006A_OverflowDS

29.1 May 2024

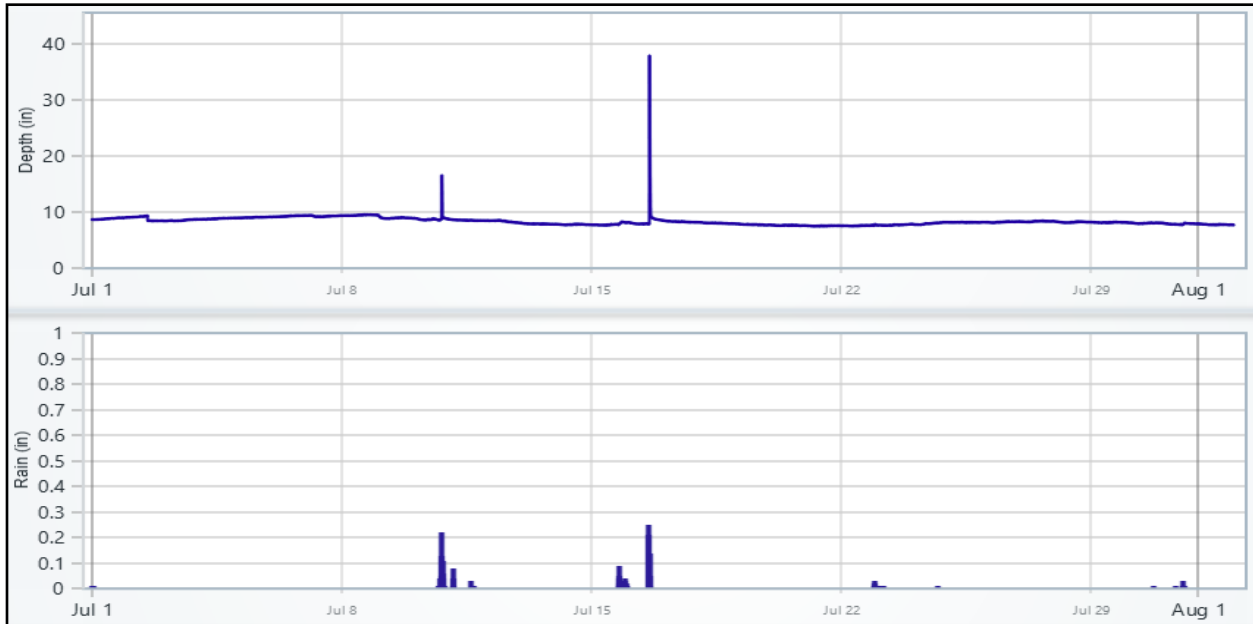


29.2 June 2024

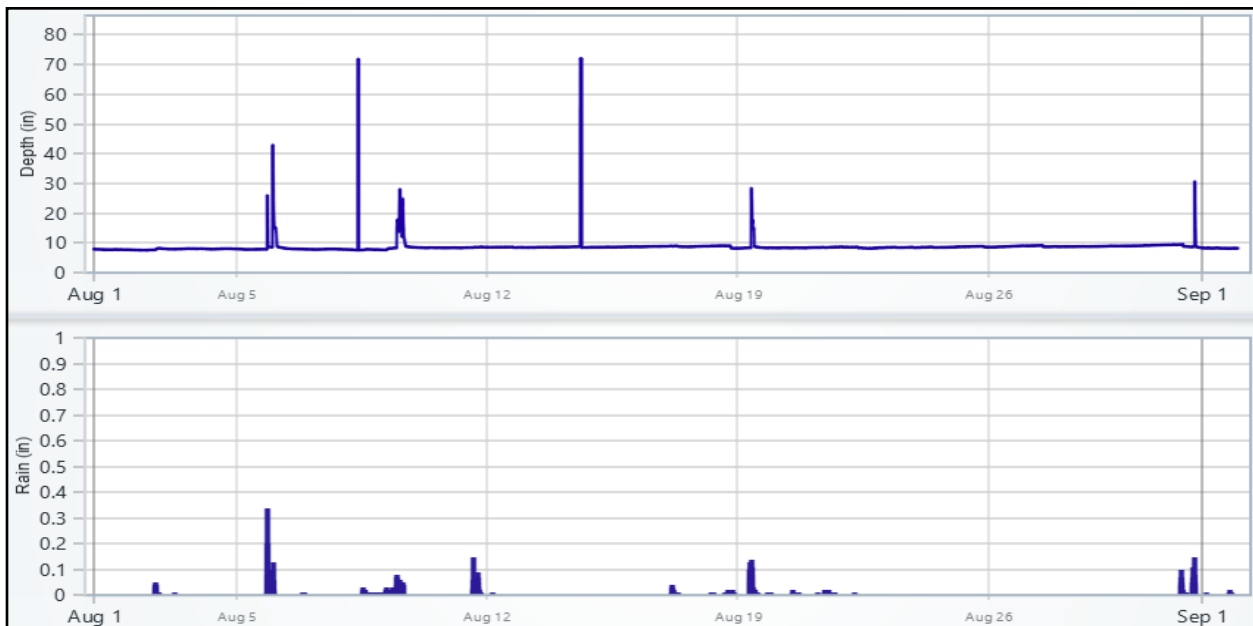


Appendix C – 2024 Harbor Brook Flow Meter Data

29.3 July 2024



29.4 August 2024



29.5 September 2024

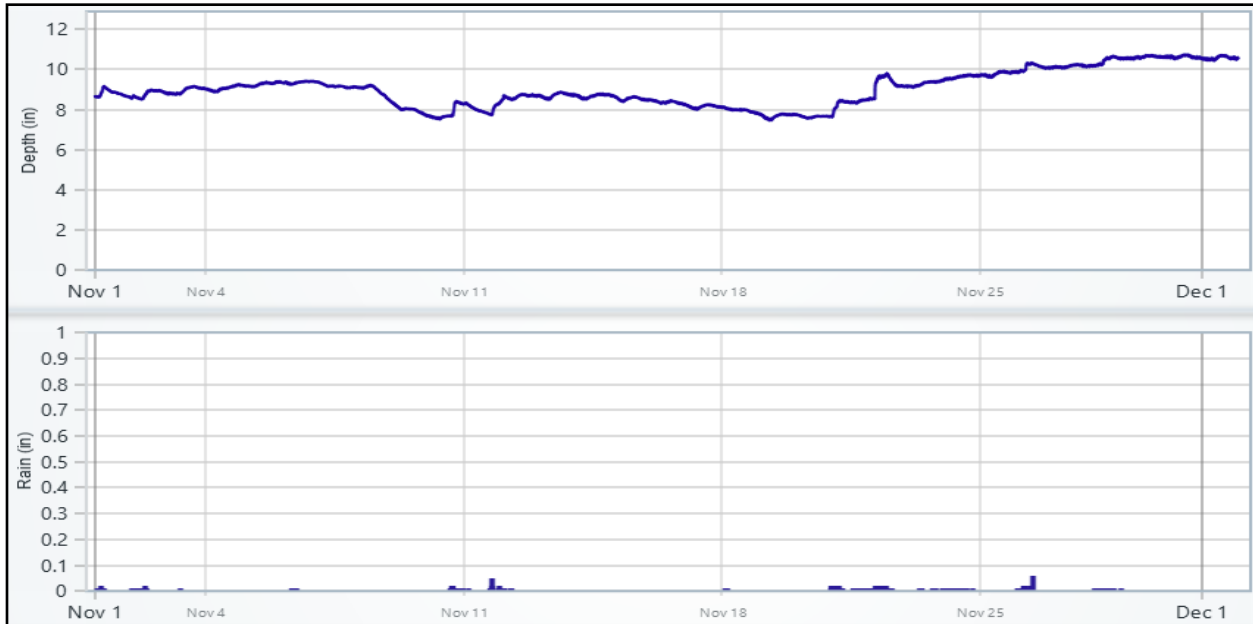


29.6 October 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

29.7 November 2024

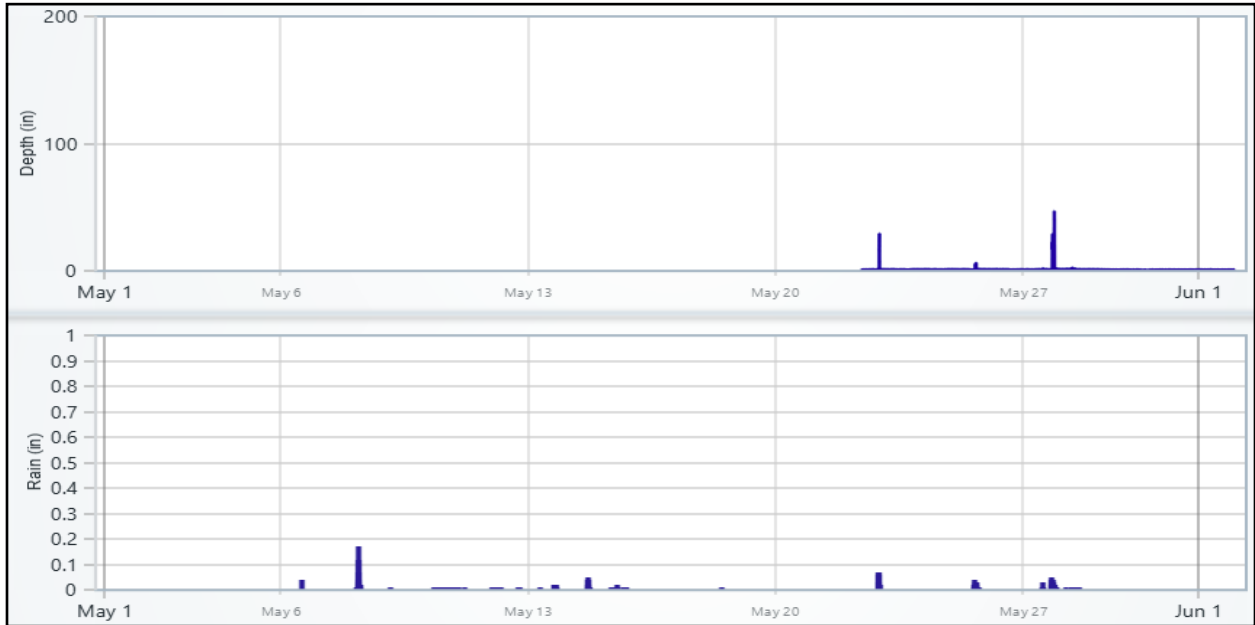


29.8 December 2024

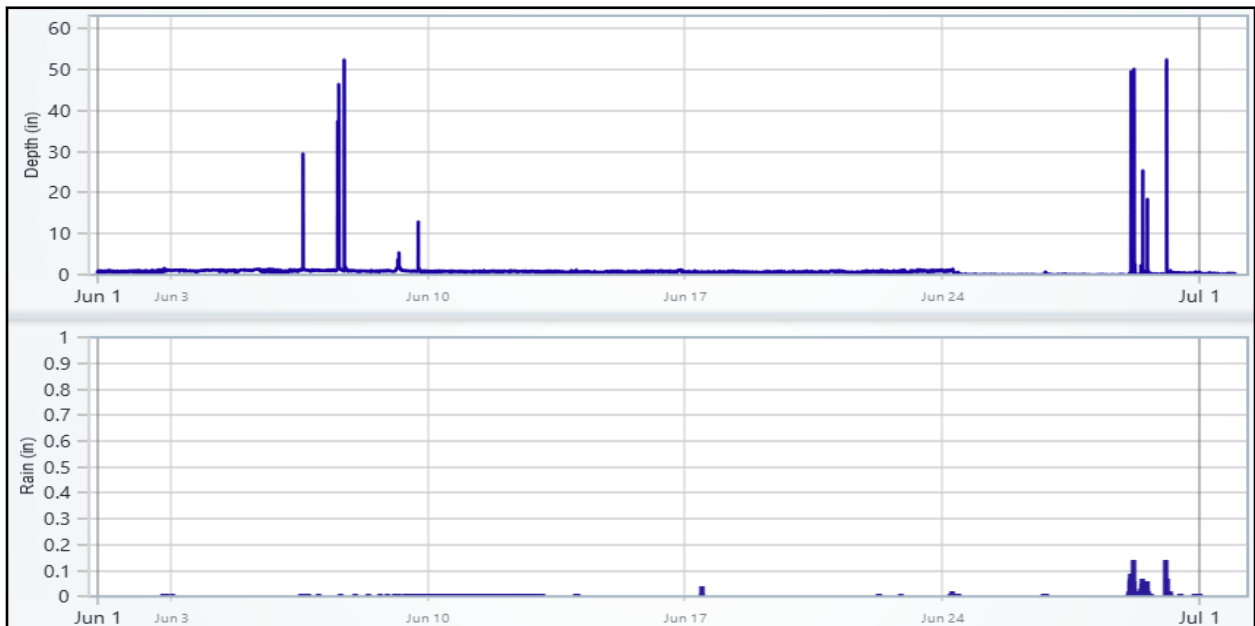


30. CSO-006_OverflowUS

30.1 May 2024

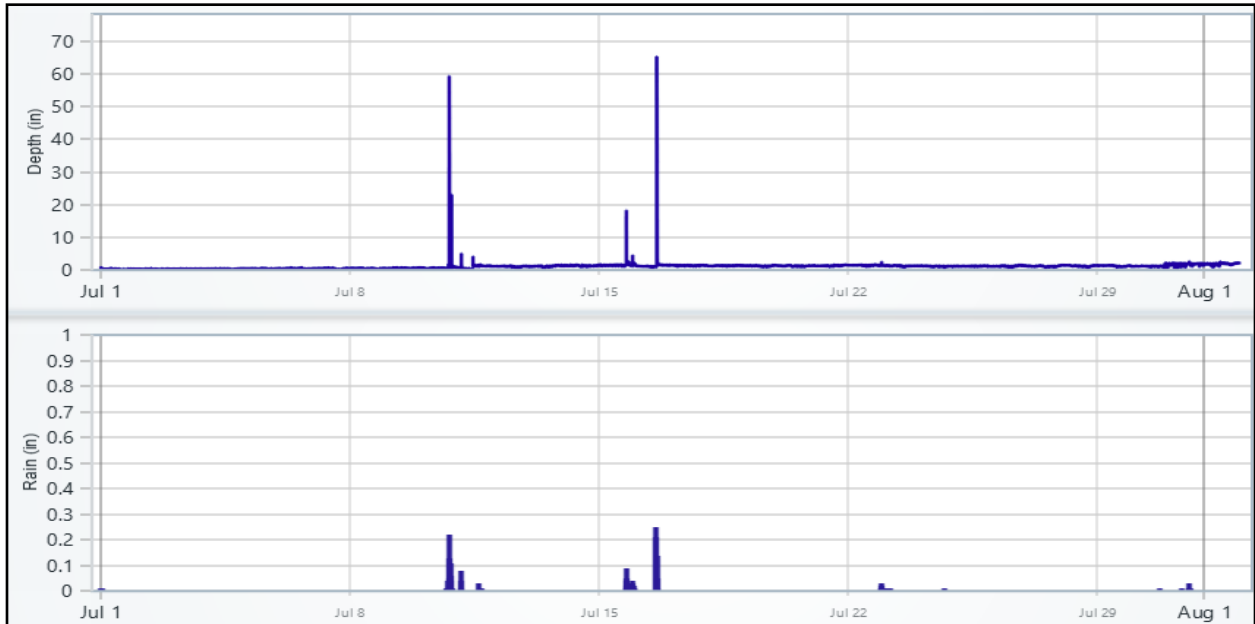


30.2 June 2024

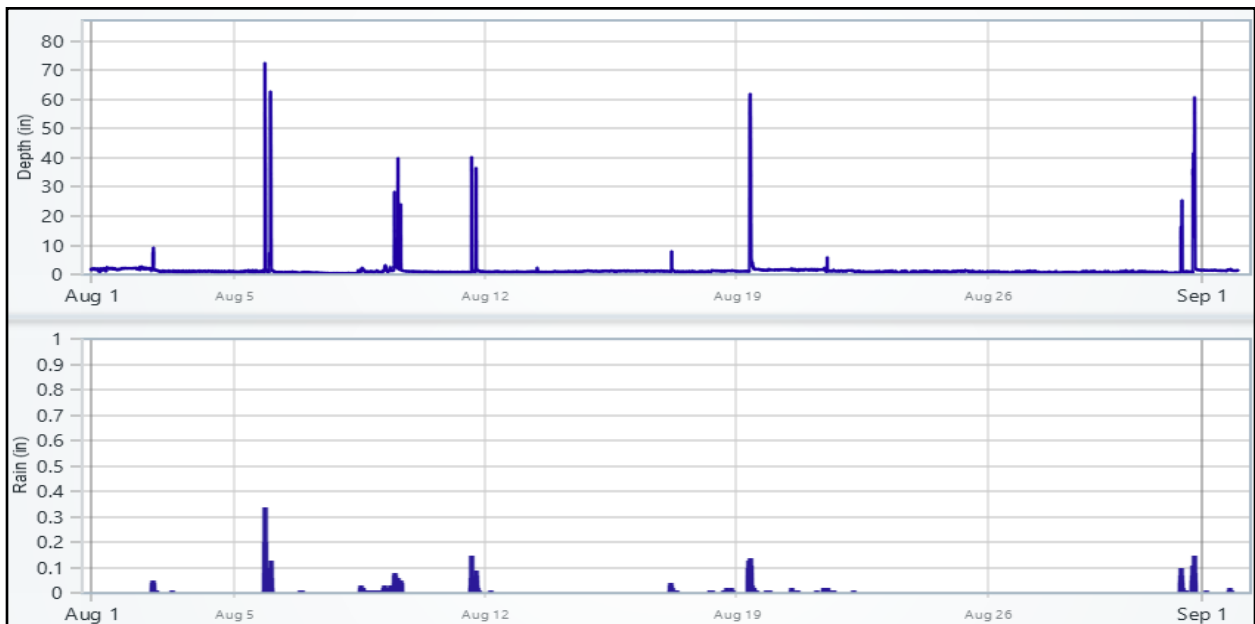


Appendix C – 2024 Harbor Brook Flow Meter Data

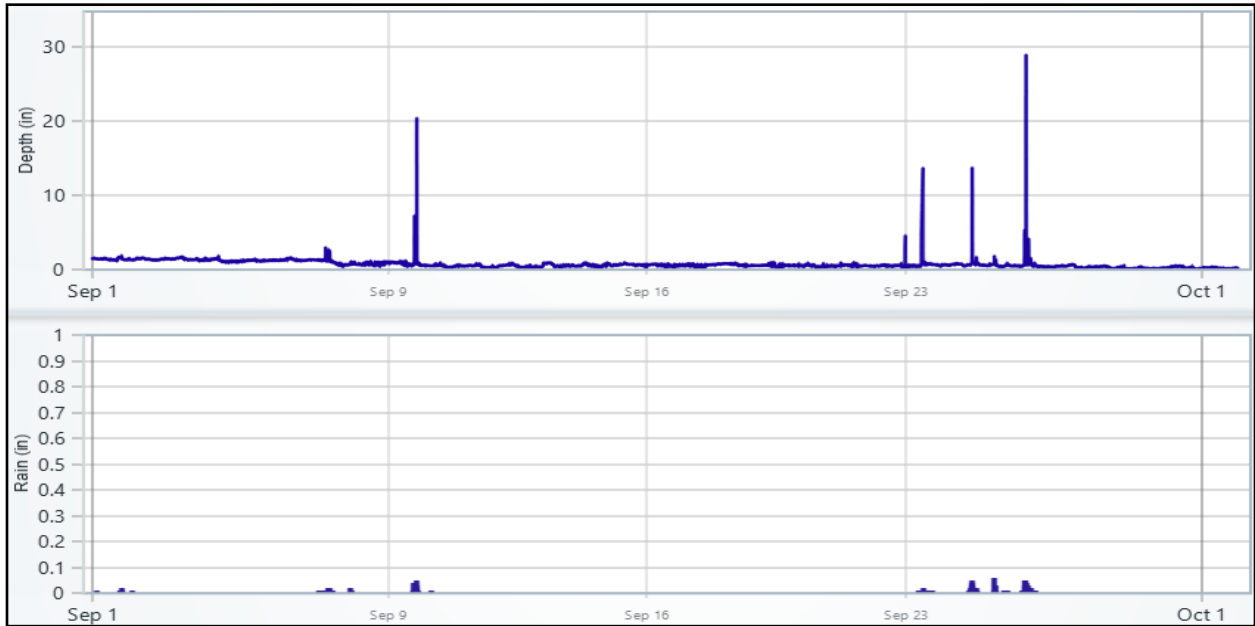
30.3 July 2024



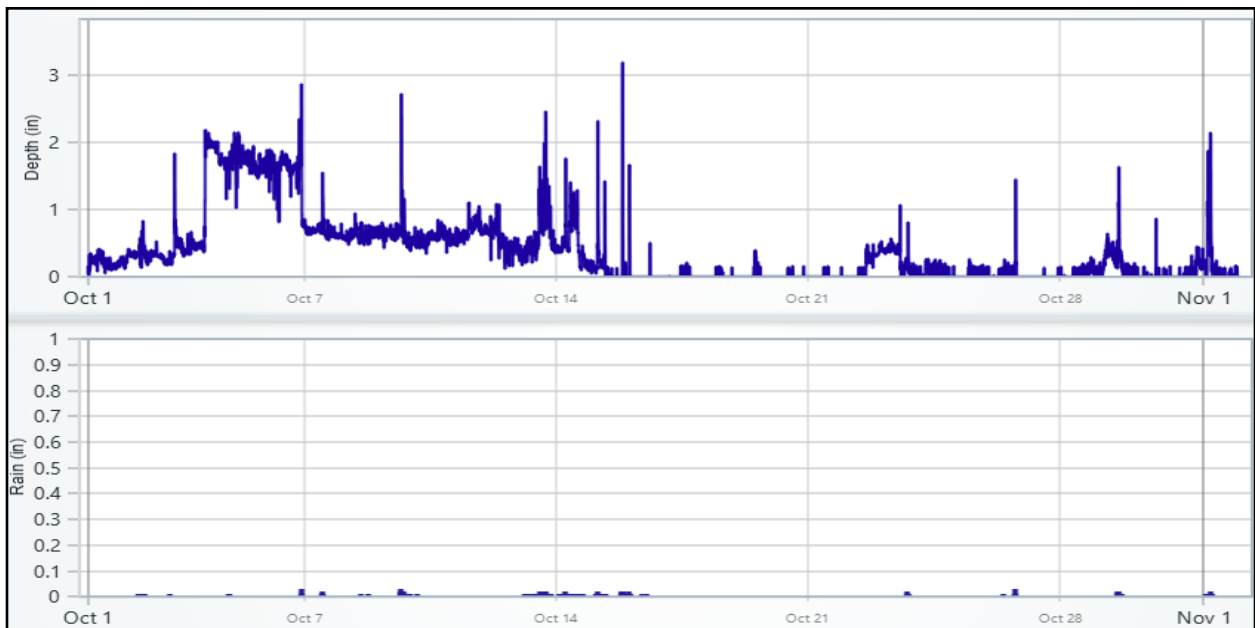
30.4 August 2024



30.5 September 2024

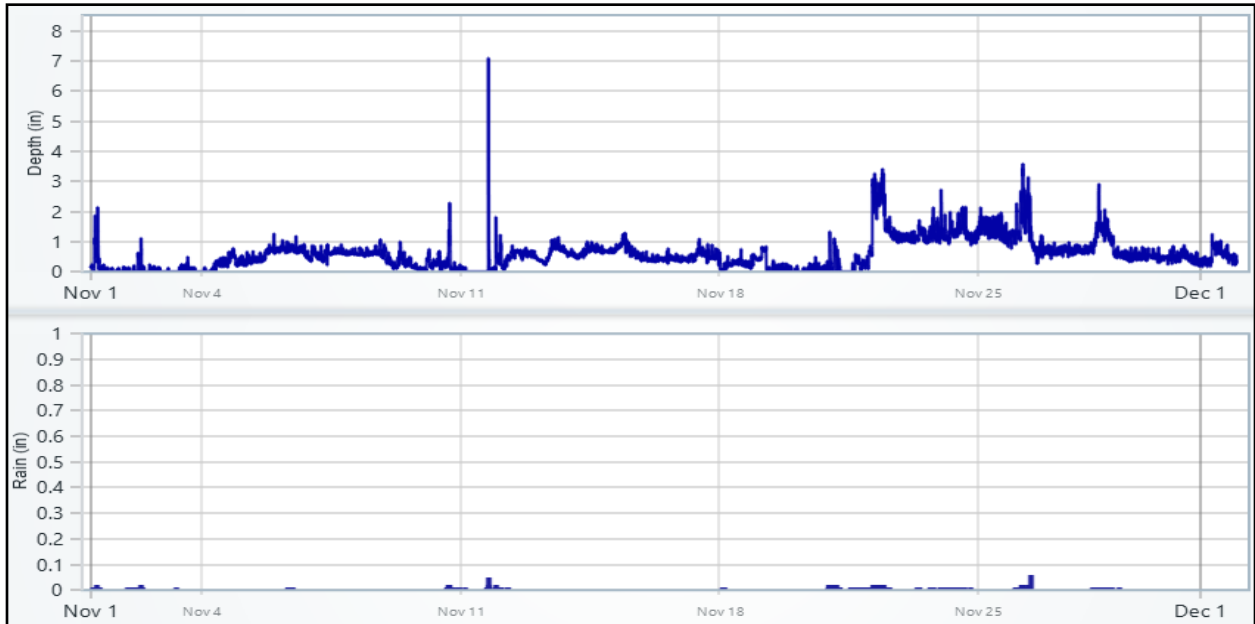


30.6 October 2024

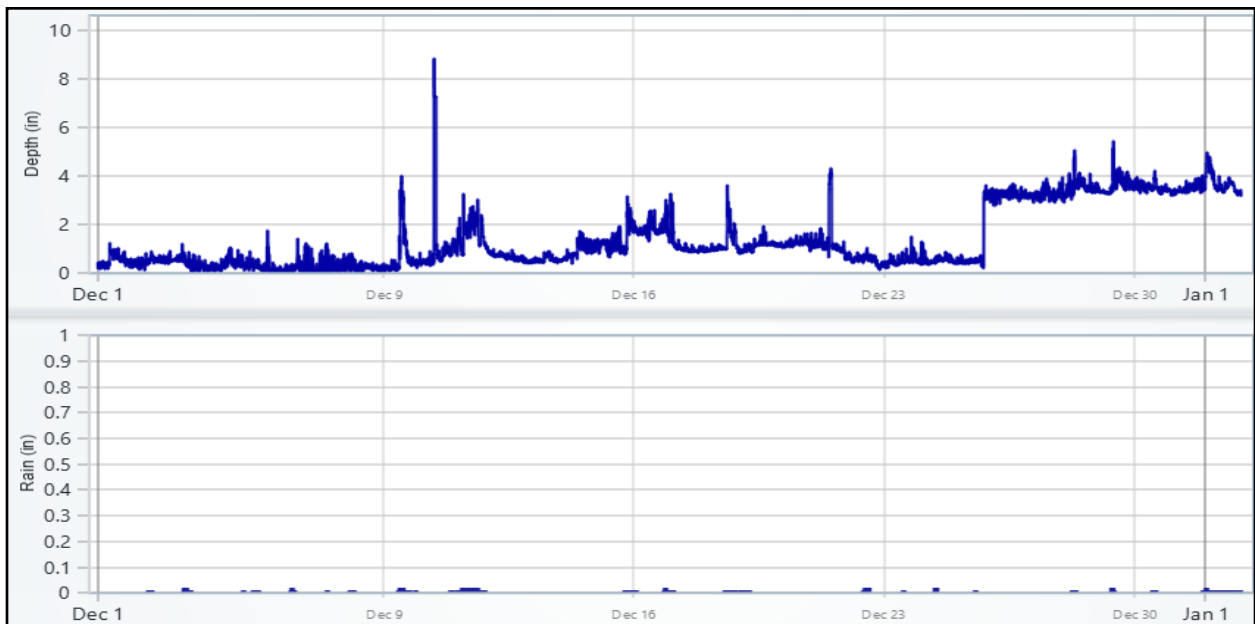


Appendix C – 2024 Harbor Brook Flow Meter Data

30.7 November 2024

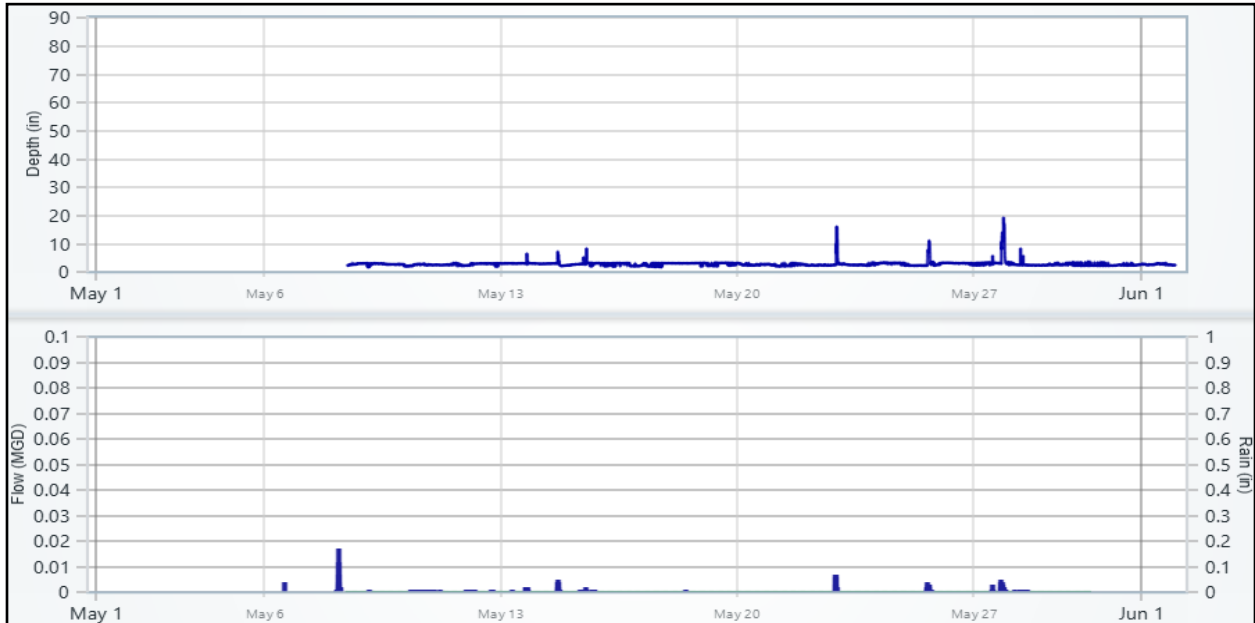


30.8 December 2024

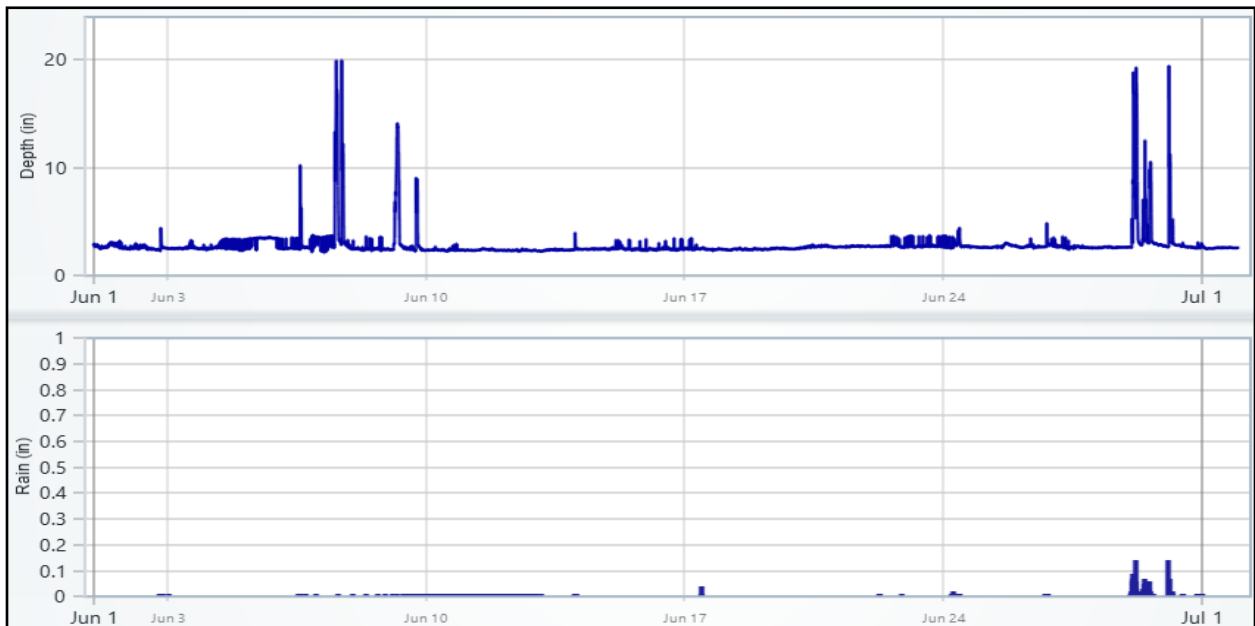


31. CSO-005_OverflowDS

31.1 May 2024

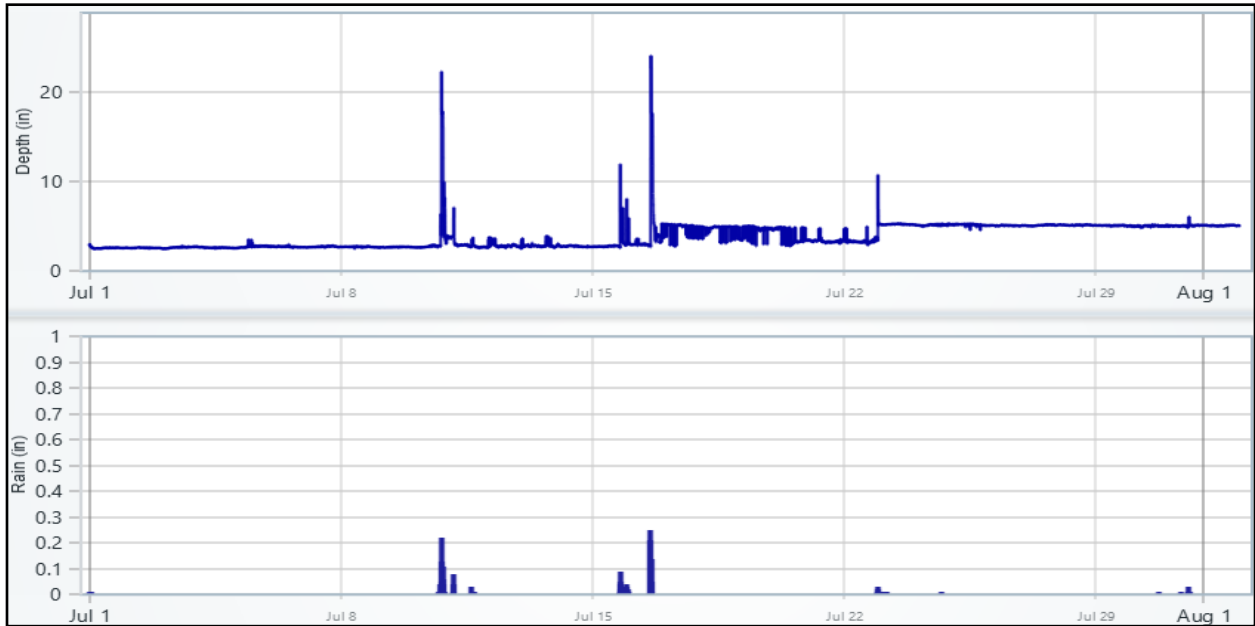


31.2 June 2024

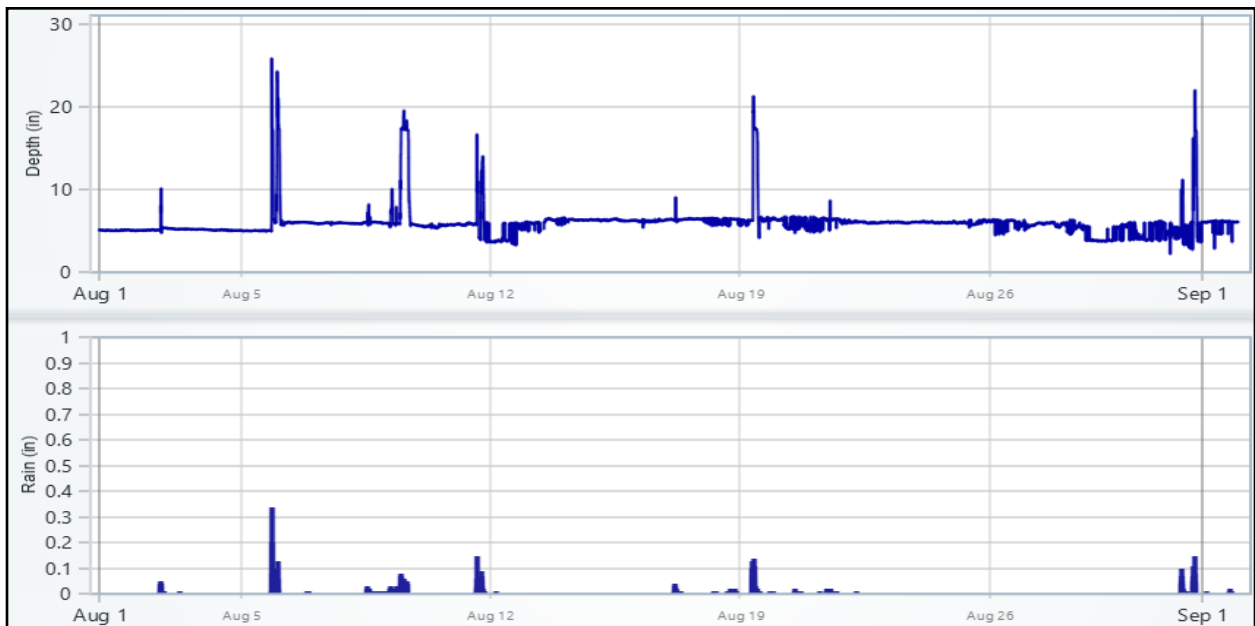


Appendix C – 2024 Harbor Brook Flow Meter Data

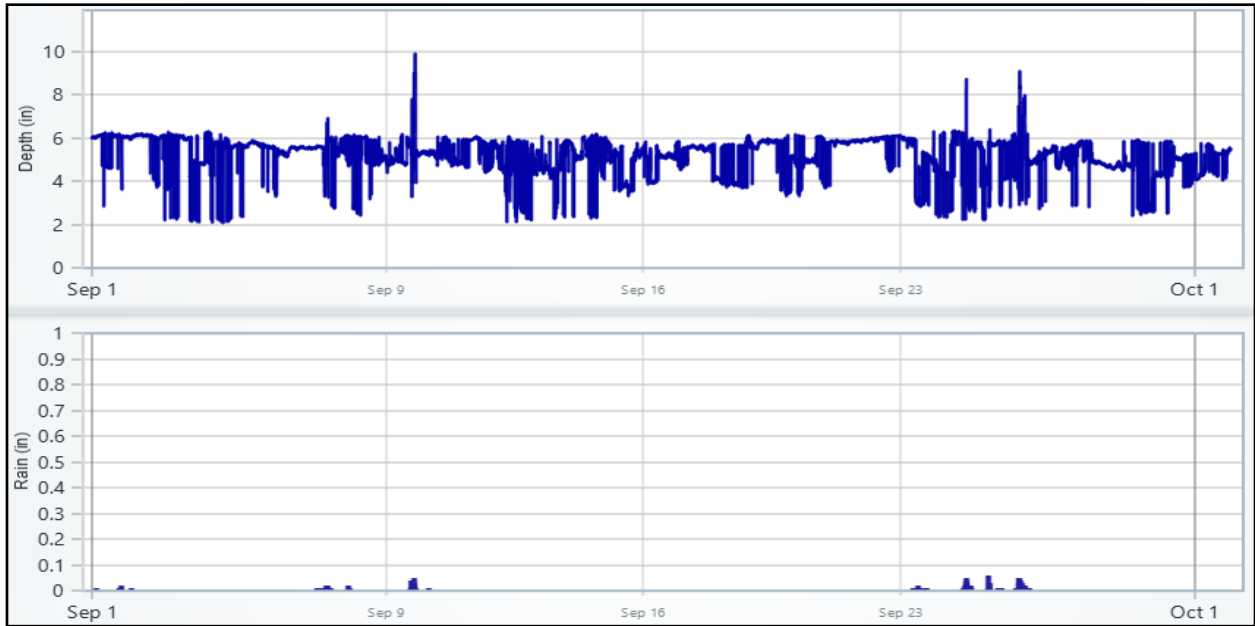
31.3 July 2024



31.4 August 2024



31.5 September 2024

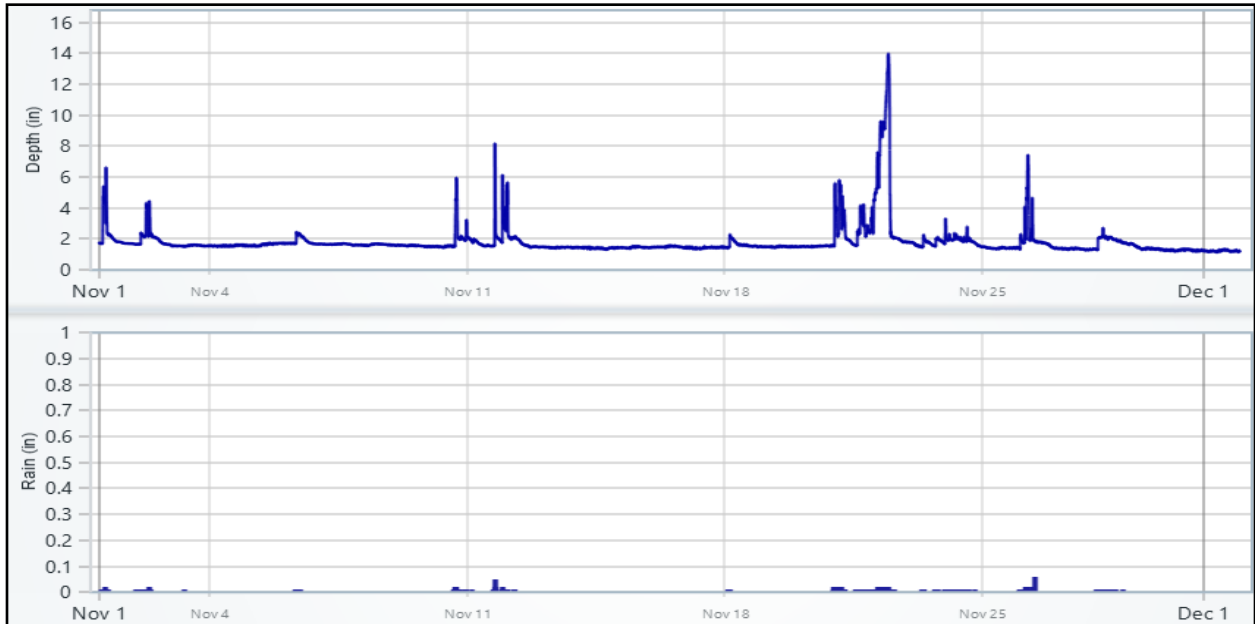


31.6 October 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

31.7 November 2024



31.8 December 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

32. CSO-005_OverflowUS

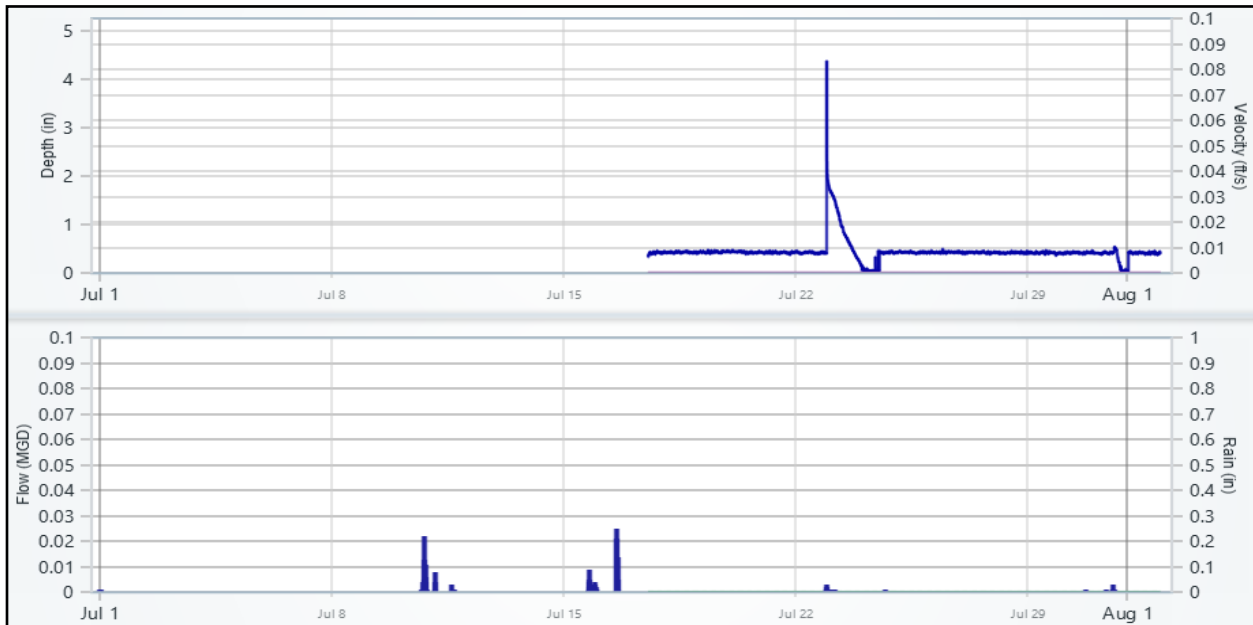
32.1 May 2024

No Data

32.2 June 2024

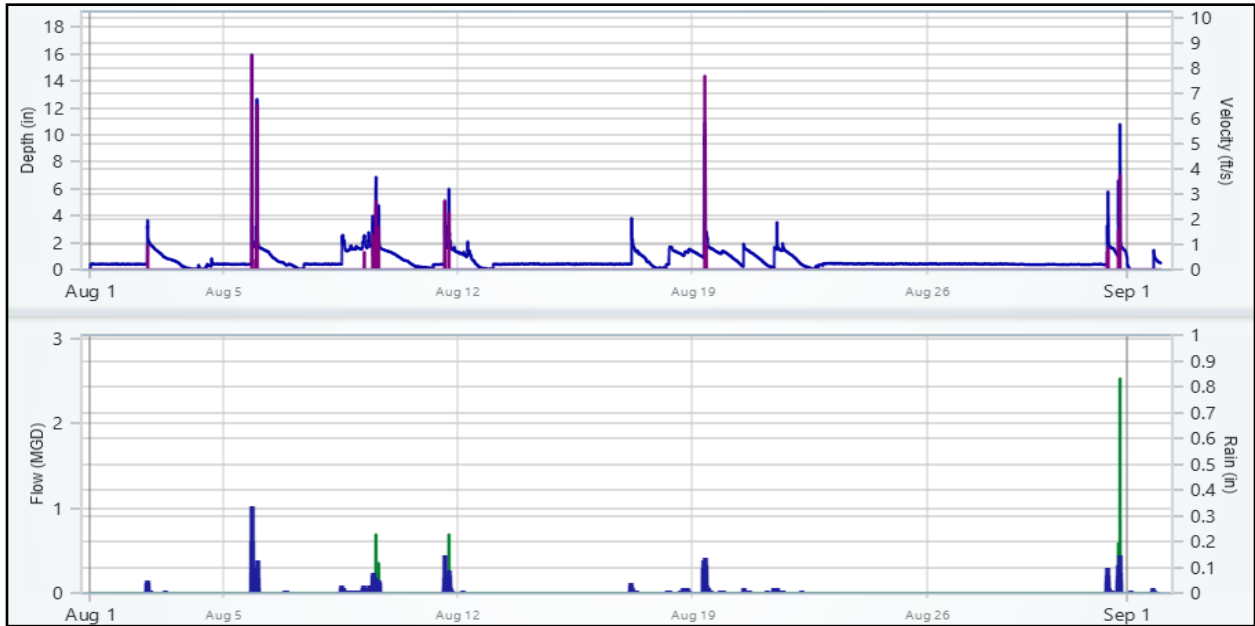
No Data

32.3 July 2024

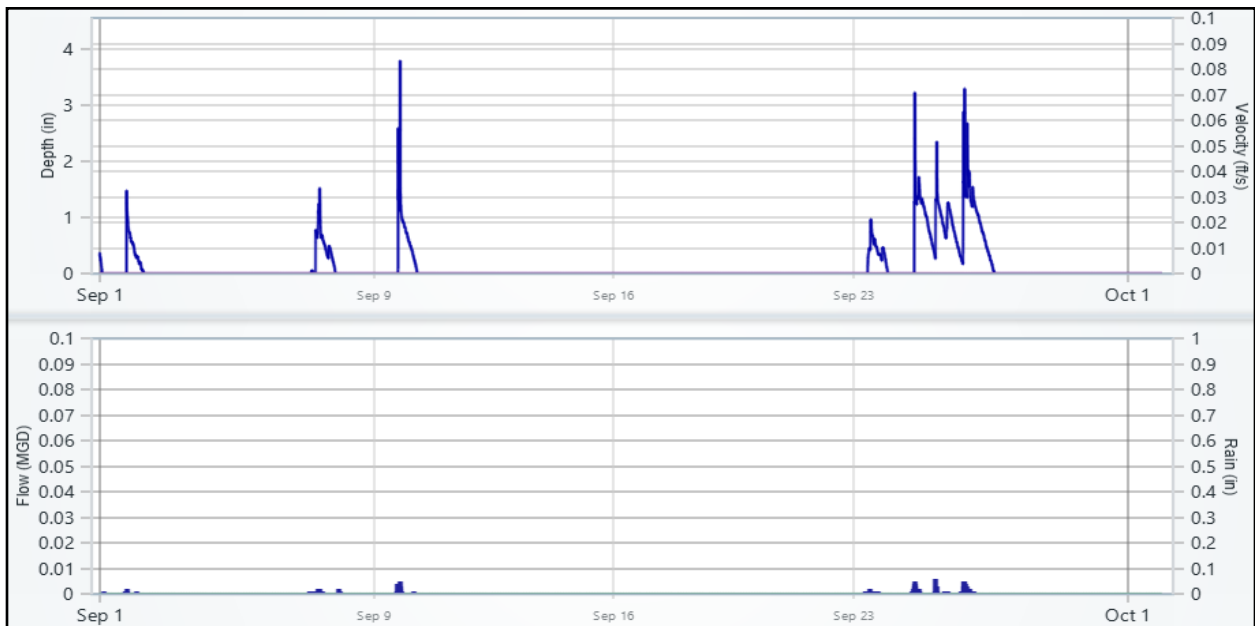


Appendix C – 2024 Harbor Brook Flow Meter Data

32.4 August 2024



32.5 September 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

32.6 October 2024



32.7 November 2024



32.8 December 2024



Appendix C – 2024 Harbor Brook Flow Meter Data

33. CSO-005_Trunk

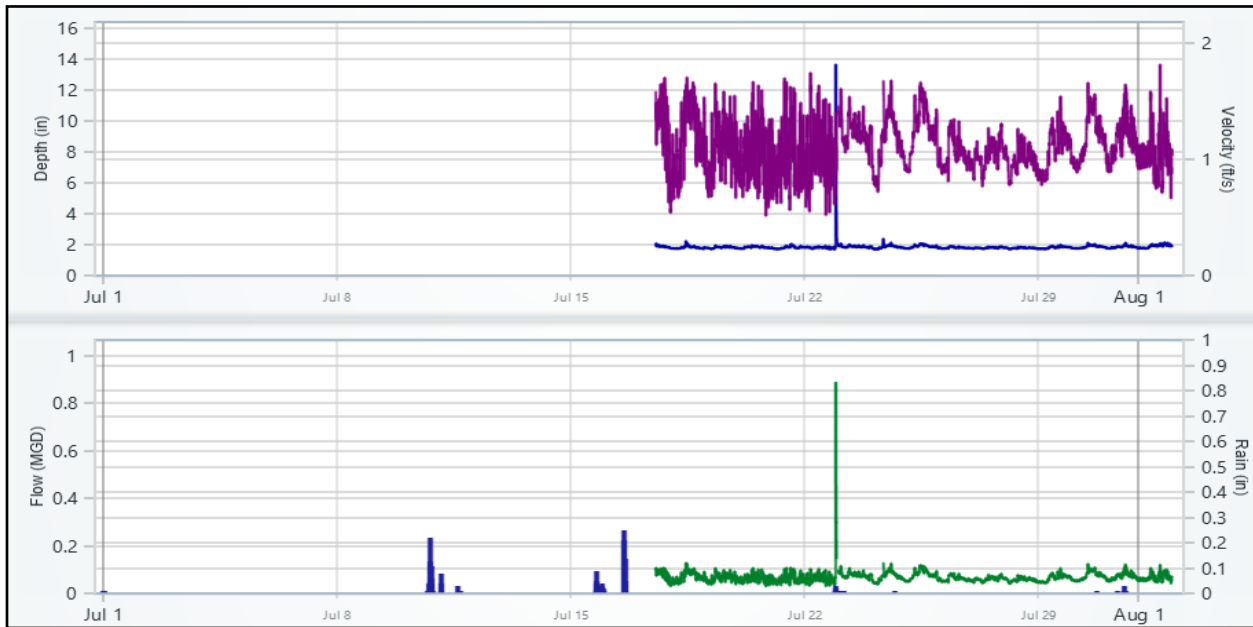
33.1 May 2024

No Data

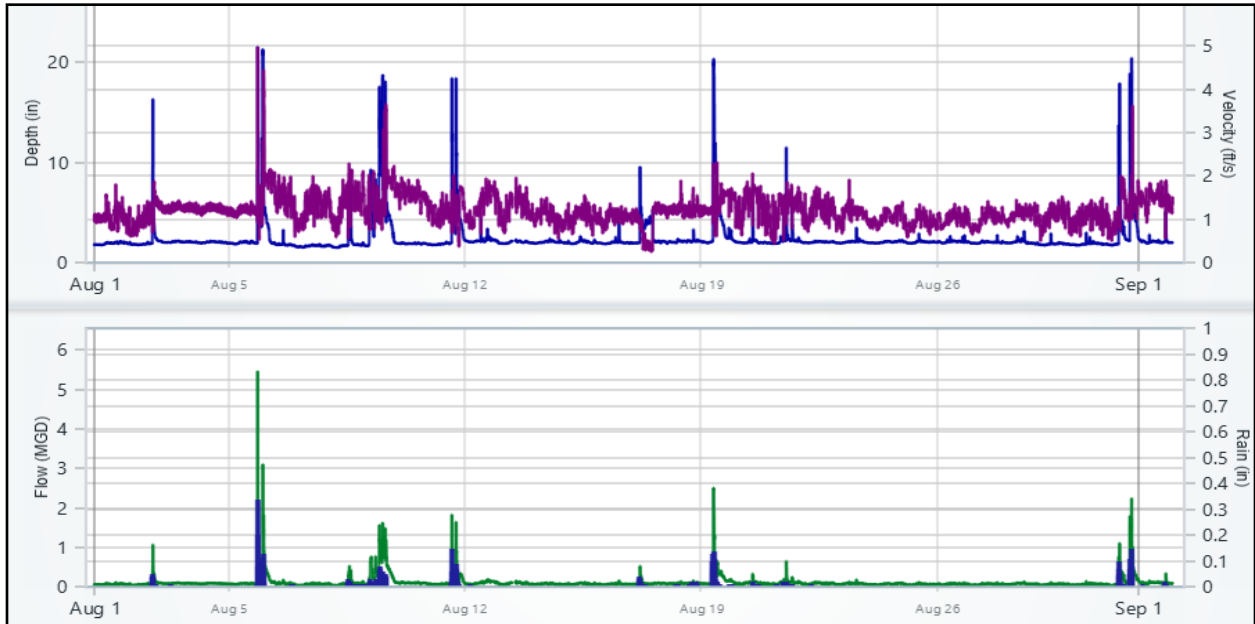
33.2 June 2024

No Data

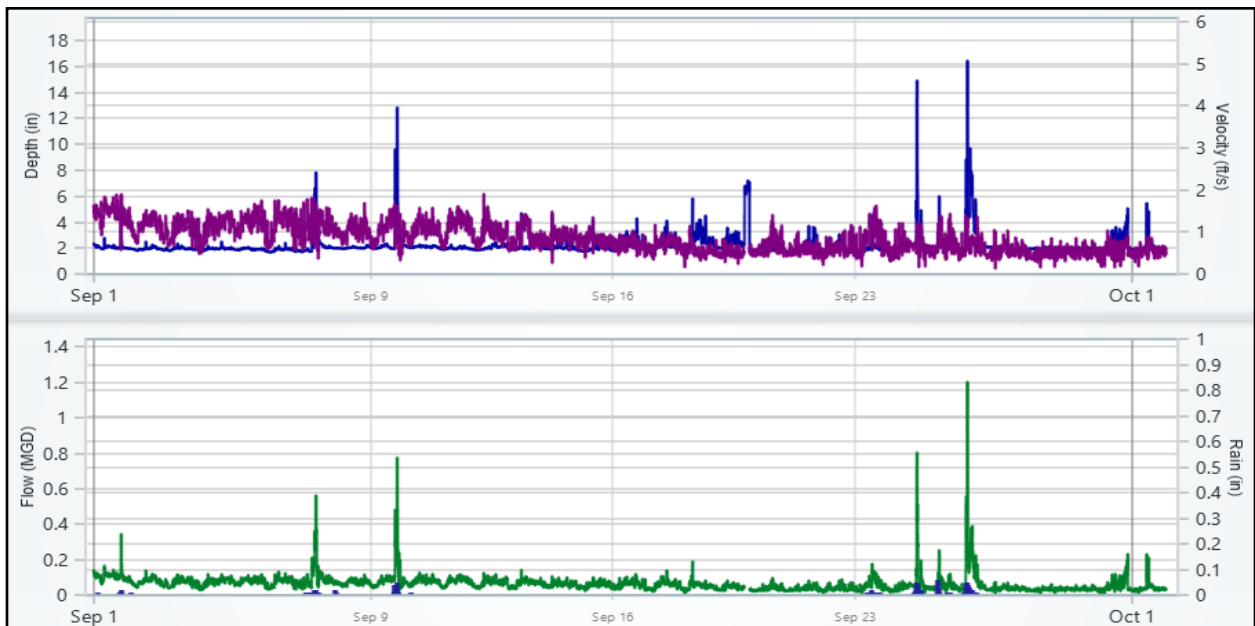
33.3 July 2024



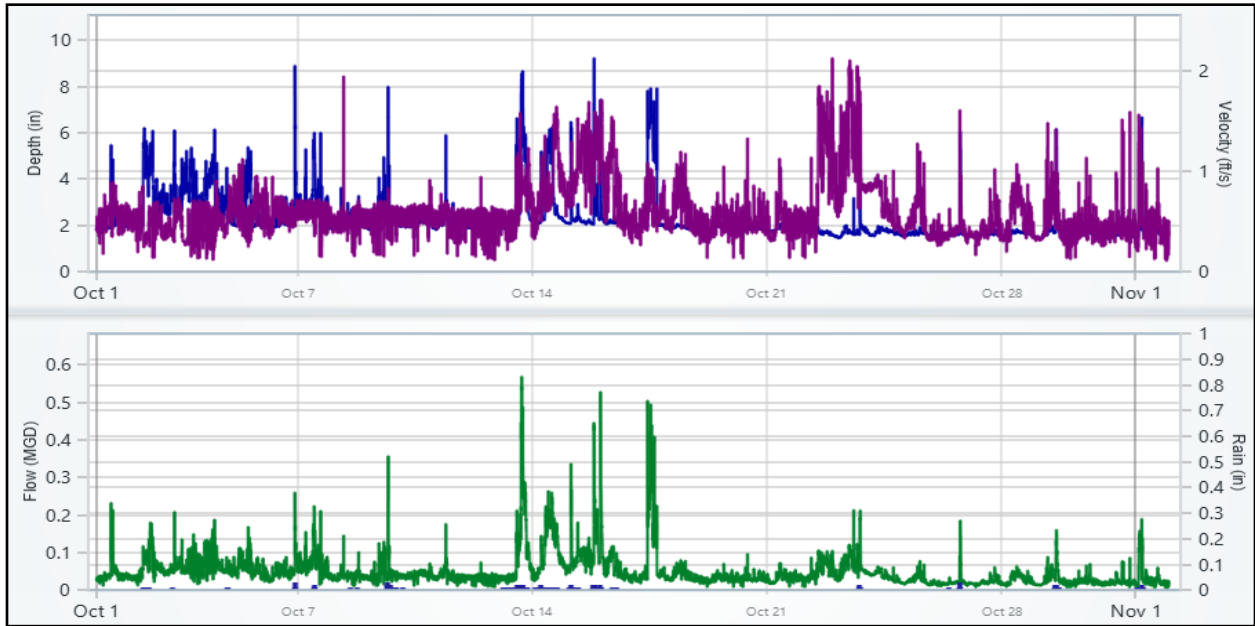
33.4 August 2024



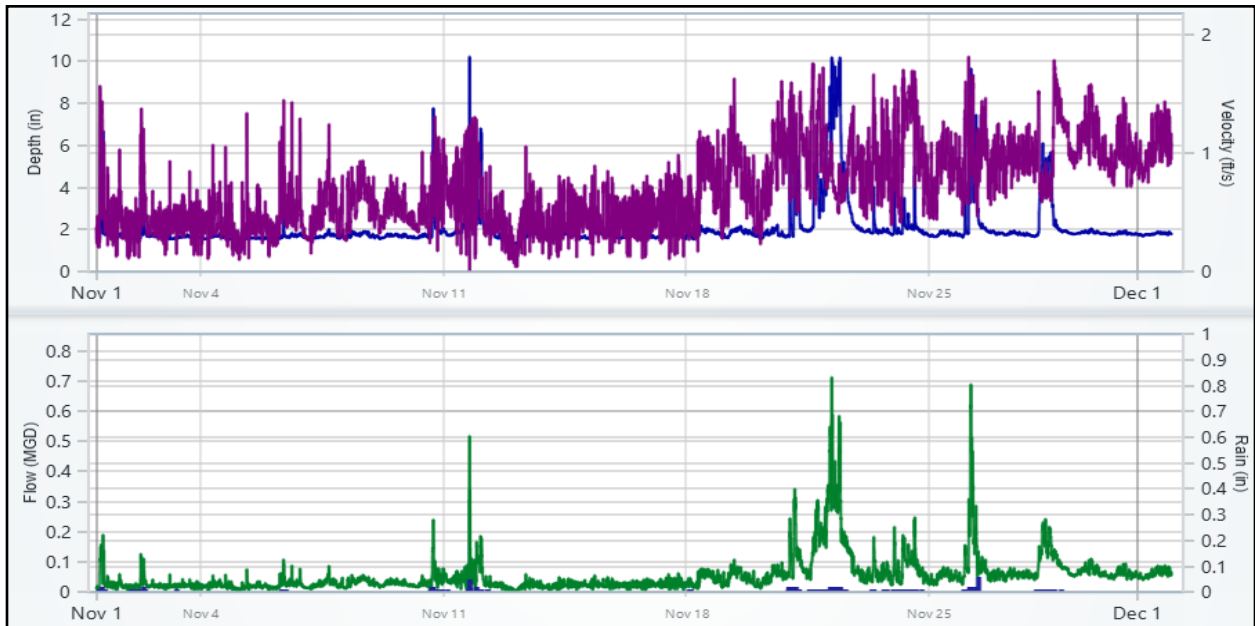
33.5 September 2024



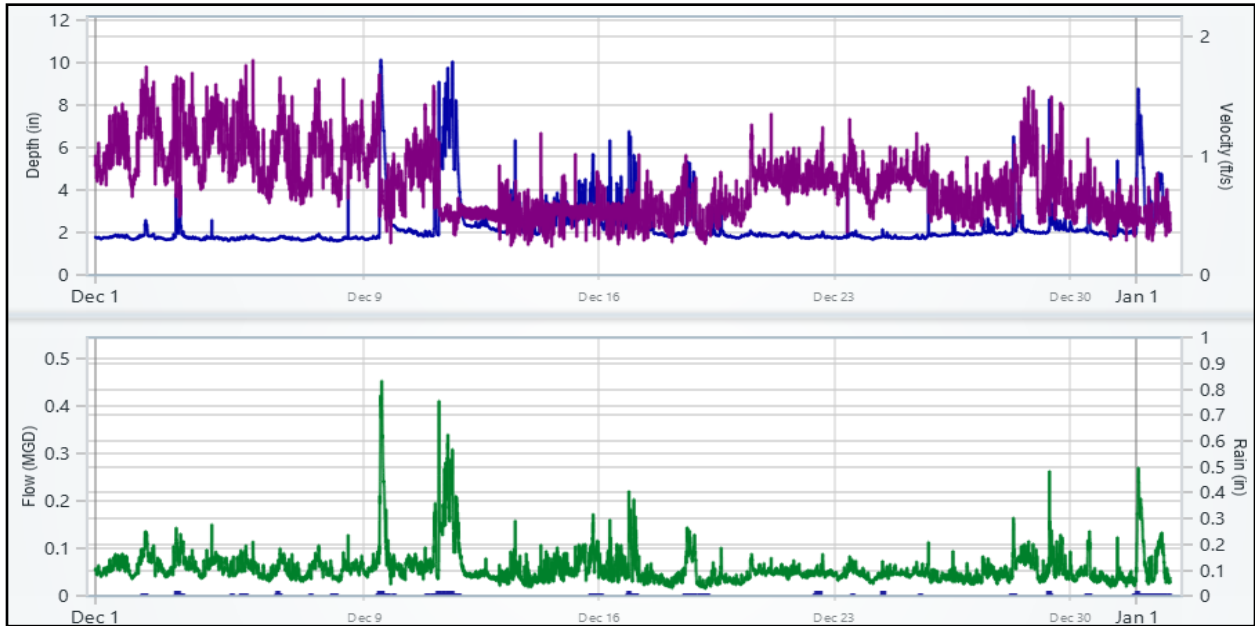
33.6 October 2024



33.7 November 2024

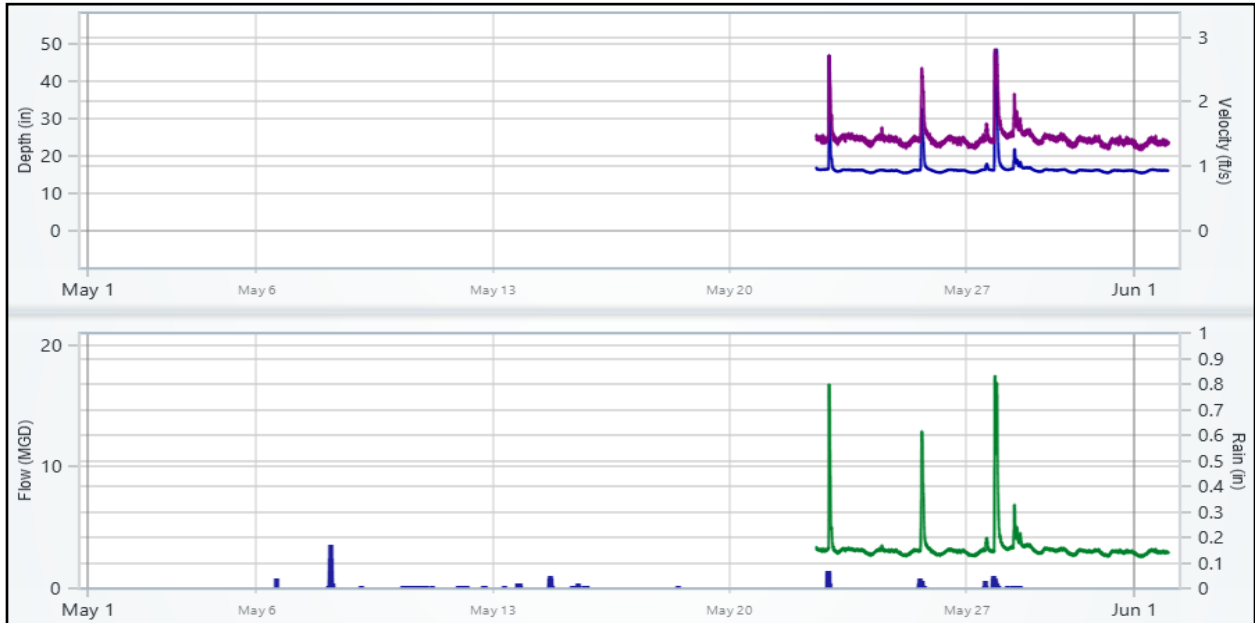


33.8 December 2024



34. HBIS-3

34.1 May 2024



34.2 June 2024



34.3 July 2024



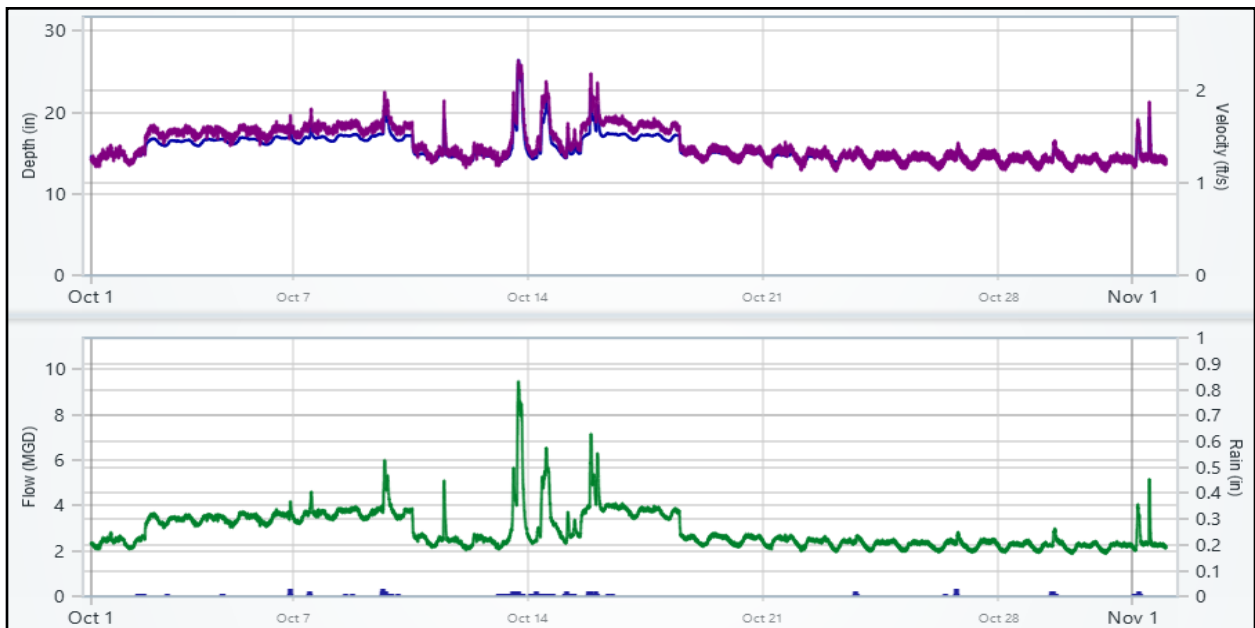
34.4 August 2024



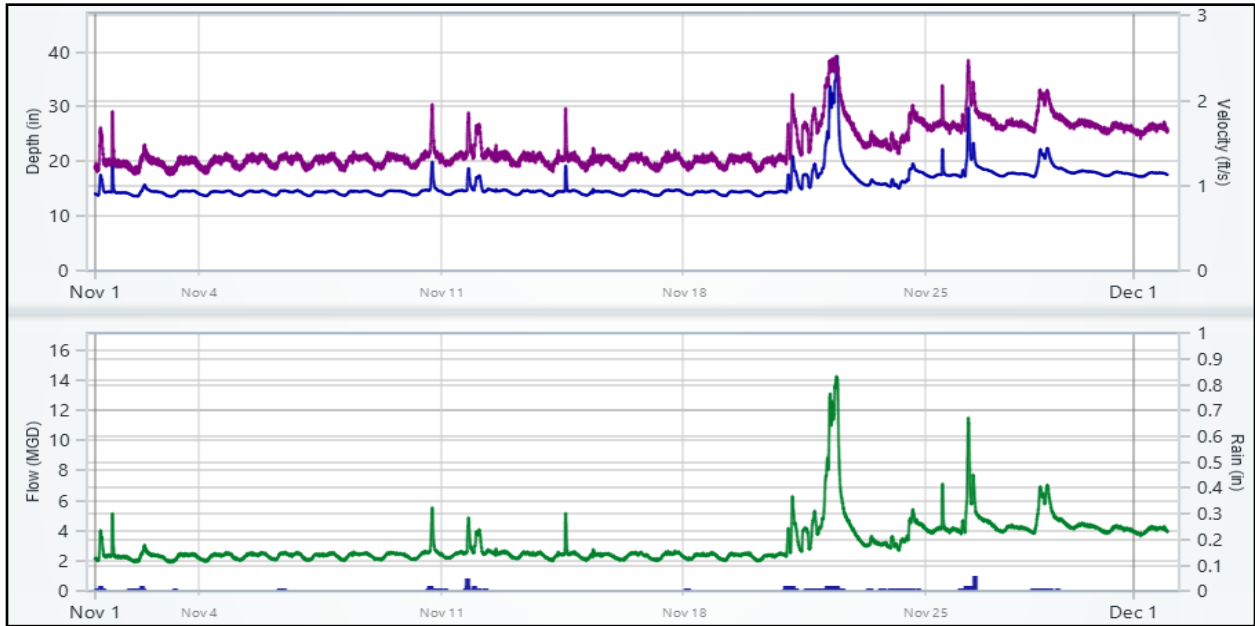
34.5 September 2024



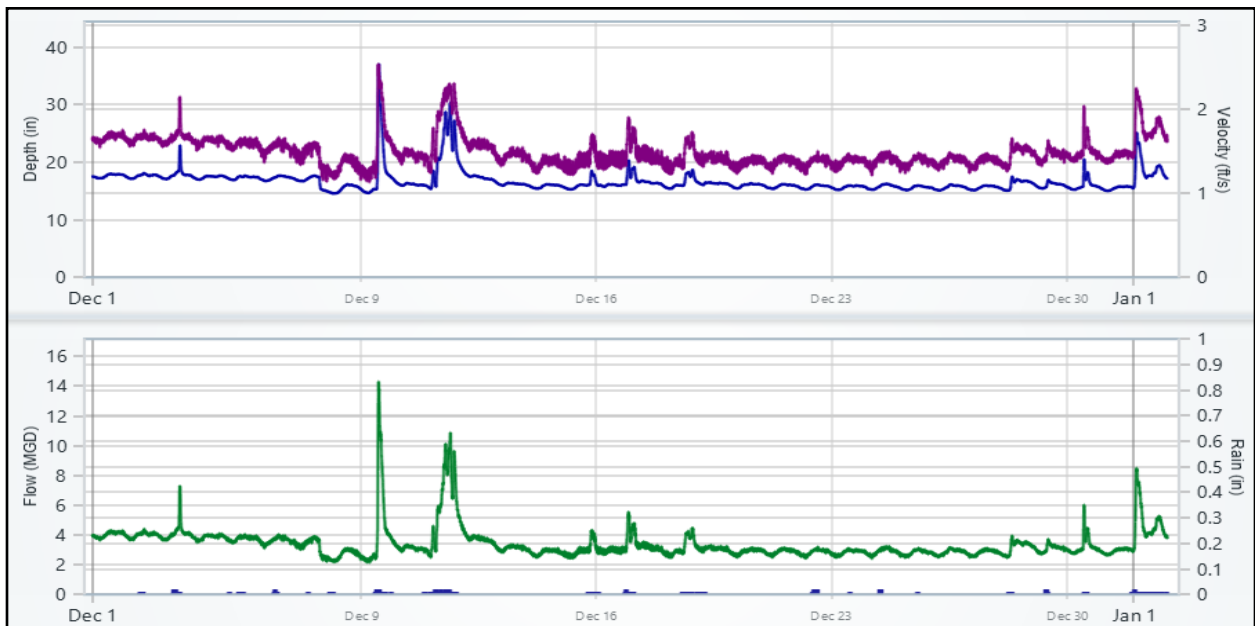
34.6 October 2024



34.7 November 2024



34.8 December 2024



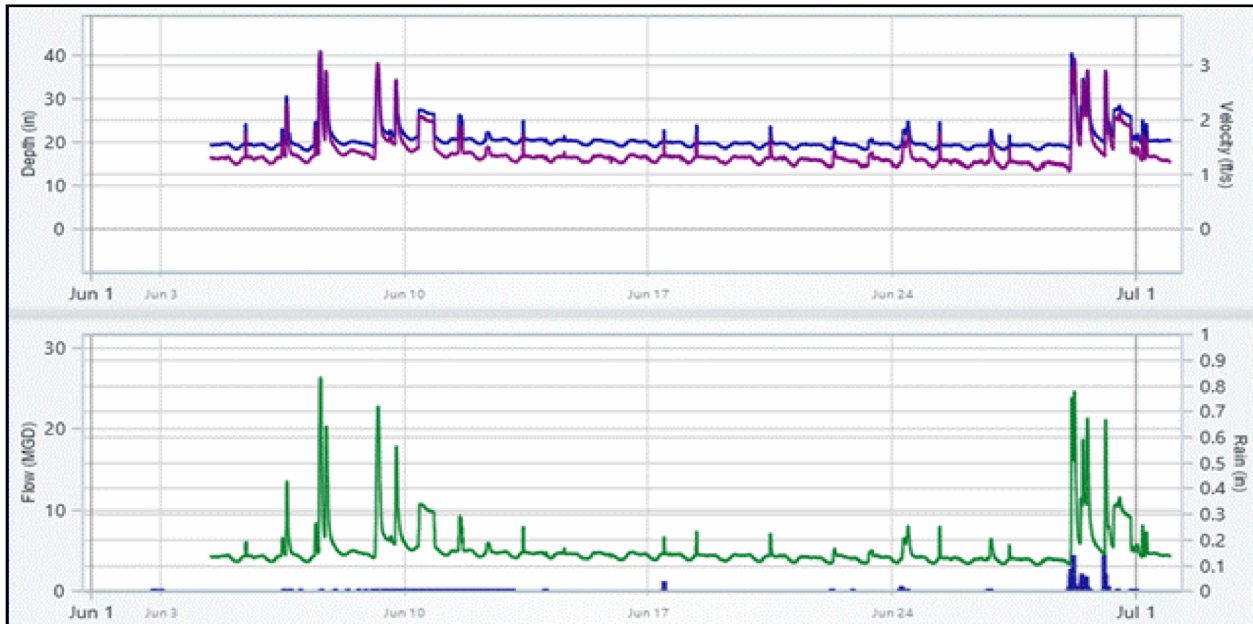
Appendix C – 2024 Harbor Brook Flow Meter Data

35. HBIS-4

35.1 May 2024

No Data

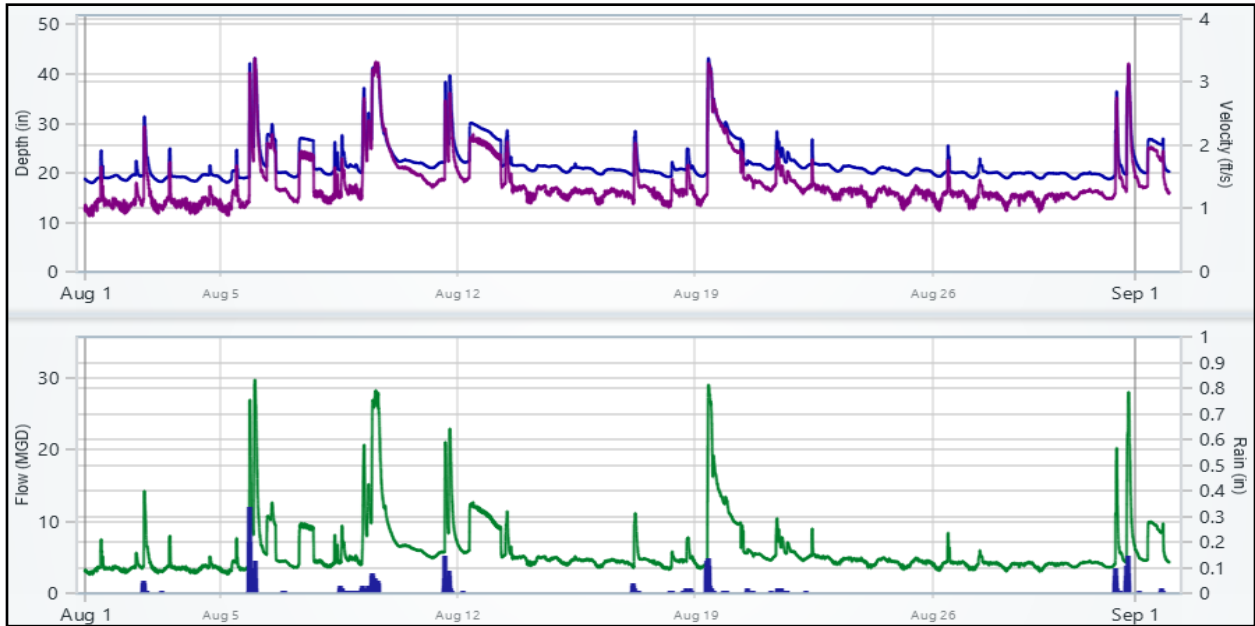
35.2 June 2024



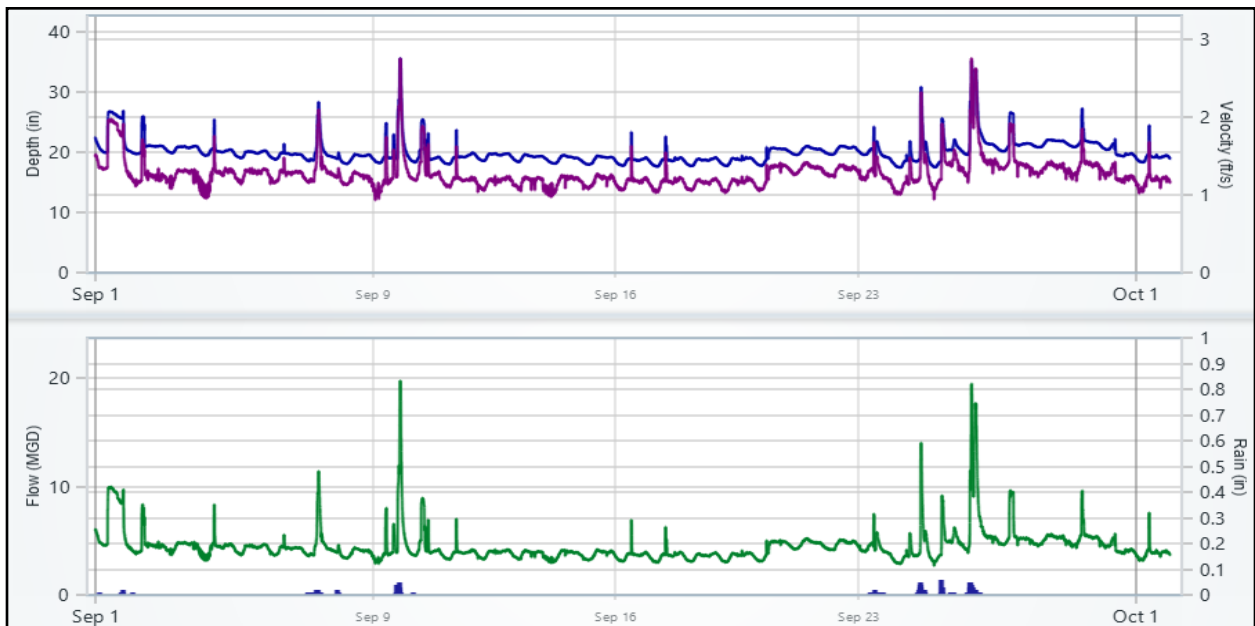
35.3 July 2024



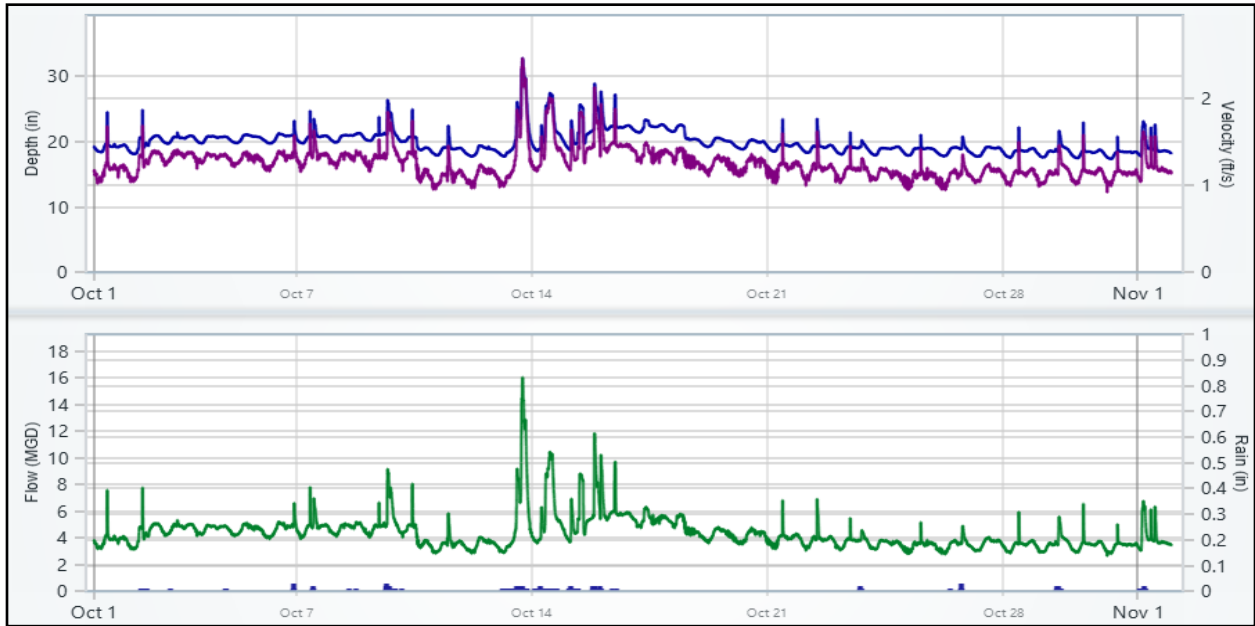
35.4 August 2024



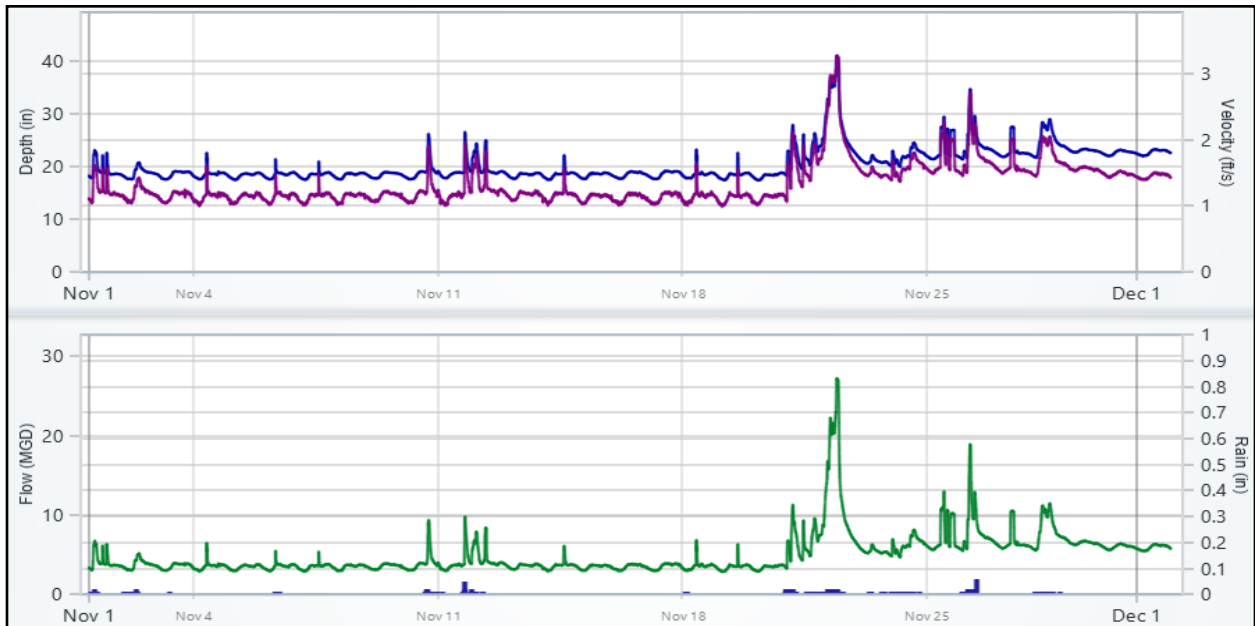
35.5 September 2024



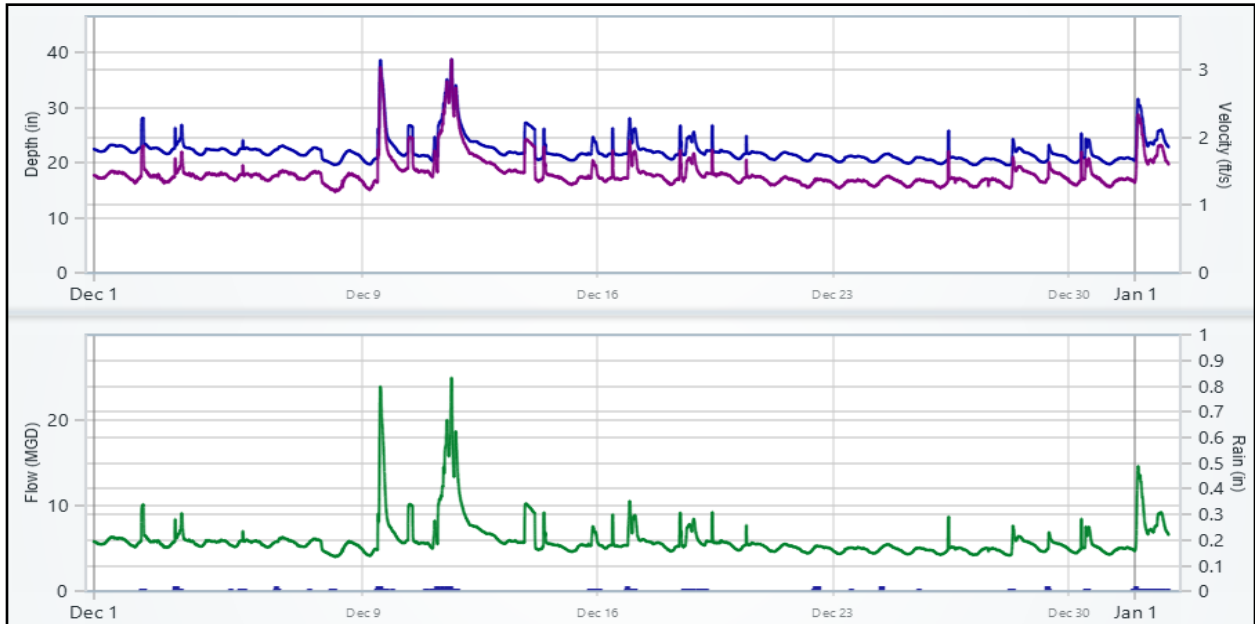
35.6 October 2024



35.7 November 2024



35.8 December 2024



Appendix D
2024 Water Quality Monitoring Data
(Electronic Only – File on Flash Drive)

Appendix D

Appendix D is provided electronically on the enclosed flash drive.