

Illicit Discharge Detection and Elimination (IDDE) Report

Permit Year 7

PREPARED FOR





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September 3, 2025



Table of Contents

1	Exec	tive Summary		1
2	Regu	lated Outfall Screening		5
	2.1	Dry Weather Screening and Sam	pling	5
	2.2	,	Review	
		2.2.1 Problem Outfalls		7
		2.2.2 Highest Priority Outfal	ls	7
		2.2.3 High Priority Outfalls		8
		2.2.4 Low Priority Outfalls		8
		2.2.5 Excluded Outfalls		8
3	Catcl	ment Investigations		9
	3.1	Problem Outfalls Catchment Inve	estigations	10
			s; Investigation complete)	
			outfall; Follow-up ongoing)	
			ll; Investigation complete)	
		3.1.4 Wollaston Beach (8 ou	tfalls; 5 investigations ongoing; 3	
		investigations complet	e)	13
		3.1.5 Neponset Valley Parkv	yay (1 outfall; Investigation complete)	16
		3.1.6 Western Avenue (3 ou	tfalls; 3 investigations complete)	16
	3.2	Highest Priority Catchment Inves	tigations	16
	3.3	High Priority Catchment Investig	ations	16
	3.4	Low Priority Catchment Investiga	tions	16
4	Illicit	Discharge Removal		17
Арр	endix A	– Problem and Highest Catchme	nt Activities Following Permit 7	A-1
Арр	endix B	- Problem Catchment Investigation	on Summary Table	B-1
Арр	endix C	– Highest Priority Catchment Inv	estigation Summary Table	C-1
App	endix D	– Removed Illicit Discharge Deta	ils	D-1



List of Tables

Table No.	Description	Page
Table 1	Permit Year 7 Screening and Sampling Summary	2
Table 2	Regulated Outfall Prioritization	3
Table 3	Catchment Investigations Status	3
Table 4	Dry Weather Screening and Sampling	6
Table 5	Regulated Outfall Prioritization	7
Table 6	Catchment Investigations Status	10



1

Executive Summary

This Illicit Discharge Detection and Elimination (IDDE) Report for Permit Year 7 (July 1, 2024–June 30, 2025) has been developed for the Massachusetts Department of Conservation and Recreation (DCR) to track progress towards the requirements of the United States Environmental Protection Agency's (EPA) 2016 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts, hereafter referred to as the "2016 Massachusetts MS4 Permit" or "MS4 Permit." This report documents the progress of the DCR IDDE program, developed to fulfill Minimum Control Measure 3 of the MS4 Permit. The goal of the program is to systematically identify and eliminate sources of non-stormwater discharges to DCR's storm sewer system and implement procedures to prevent such discharges.

Activities under the IDDE program include the screening of regulated outfalls¹, catchment investigations, and illicit discharge removal. During this permit year, the Project Team of VHB, subconsultant Stacy DePasquale Engineering, Inc (SDE), and DCR staff and subcontractors completed the following IDDE program tasks:

regulated outfall dry weather screening,

¹ "regulated outfalls" refers to both outfalls and interconnections included in DCR's Outfall/Interconnection inventory pursuant to the MS4 permit part 2.3.4.7.a.i.



- Problem and Highest catchment investigation field work including wet weather screening, dye testing, and closed circuit television investigation (CCTV), where required,
- desktop analysis and planning focused on Problem and Highest priority outfalls, and
- catchment investigation screening and sampling for High and Low priority outfalls,
- desktop analysis of catchments including identification of System Vulnerability Factors,
- illicit discharge mitigation including pipe lining, structure restoration, interagency coordination, where required.

Table 1 summarizes the screening conducted in Permit Year 7. The Project Team identified one illicit discharge in Permit Year 7 and removed two illicit discharges previously identified in Permit Year 6. All illicit discharges identified in Permit Year 7 require coordination with private property owners, municipalities, or other entities to remove and properly remove. The project team has allocated significant resources to identifying, removing, and coordinating with other agencies on illicit discharges. This work is detailed in Section 4.

Table 1 Permit Year 7 Screening and Sampling Summary

Screening Activity	, Details	Permit Years 1 - 6	Permit Year 7	Total
	Regulated Outfalls Included in IDDE Program	-	-	1,416 ¹
Dry Weather	Regulated Outfalls Screened	1,276 ²	54	1,330
Wet Weather	Regulated Outfalls Screened	58	60	118
Illicit Discharges	Potential Illicits Identified	8	1	9
	Illicit Discharges Removed	3	2	5
	Gallons of Sewage Removed per Day ³	30	310	340

^{1 –} The number of regulated outfalls continues to be updated as mapping, field work, and desktop review identify additional outfalls and interconnections or changes to the regulated status of an outfall or interconnection occur.

^{2 –} The number of regulated outfalls screened prior to Permit Year 7 decreased from the number reported in Permit Year 6 due to a limited number of outfalls which were previously screened being reclassified as non-regulated due to additional data and mapping updates.

^{3 –} When sewer is identified as the source of the illicit discharge, the gallons of sewage removed per illicit discharge per day is estimated using the equation detailed in Section 4. Illicit discharges with an unknown quantity of sewage removed or those where sewer is not the source of the illicit discharge are excluded from these calculations.



As required by the permit, each regulated outfall was assigned a prioritization category - problem, high, low, or excluded² - as part of the Year 1 update to the IDDE plan. As new outfalls are added to the database through continued field mapping, priorities are assigned and the outfalls are prioritized for dry weather screening. Regulated outfalls where dry weather sampling results indicated likely sewer inputs are ranked at the top (Highest) of the High priority outfalls category for investigation. Outfall priorities have been reviewed, and updated as needed, to reflect results from Permit Year 7's sampling. **Table 2** summarizes the updated outfall prioritization.

Table 2 Regulated Outfall Prioritization

Prioritization Category	# of Regulated Outfalls
Problem	21
High (Highest)	18
High	1,268
Low	109
Total in the IDDE Program ¹	1,416
Excluded	240 ²
Total	1,656

^{1 –} Regulated outfalls that do not have a prioritization category of "Excluded."

In Permit Year 7, the Project Team spent significant resources completing investigations on regulated outfalls that were identified as Problem and Highest priority and on making steady progress on High and Low priority outfall investigations (**Table 3**).

Table 3 Catchment Investigations Status

Regulated Outfall Priority Category	Total	In Progress	Permit Year 7 Completed	Total Completed
Problem	21	7	3	14
Highest	18	8	2	10
High	1,268	301	211	395
Low	109	19	13	32

This year, DCR focused on Problem and Highest priority outfalls to meet the Permit Year 7 deadline pursuant to the MS4 permit part 2.3.4.8.a and to expeditiously address the potential of illicit discharges in these catchments. Actions taken on Problem and Highest priority outfall investigations included desktop analysis (e.g., record plan-set and sanitary sewer

² – The number of Excluded outfalls decreased from Permit Year 6. Due to updated mapping information in Permit Year 7, several outfalls that were defined as regulated and categorized as "Excluded" no longer meet the regulated criteria under the MS4 permit.

² The terms "Problem outfalls," "Highest priority outfalls," "High priority outfalls," and "Low priority outfalls" refer to both outfalls and interconnections included in DCR's Outfall/Interconnection inventory pursuant to the MS4 permit part 2.3.4.7.a.i.



mapping review), coordination with municipalities, dye testing, CCTV, confirmatory screening, and drainage structure and pipe lining work. These are discussed in greater detail in Section 3 of this report.

DCR will also continue to follow up on potential illicit discharges that are identified outside the scope of the IDDE screening and sampling including those identified from public reports and those reported by DCR staff during regular drainage asset inspection and maintenance.

Actions taken on High and Low priority outfalls primarily included initial dry weather catchment investigations.

This year, VHB continued efforts to fine tune field workflows and data quality assurance protocols to prepare for larger field work tasks once the Problem and Highest priority outfalls are addressed.



2

Regulated Outfall Screening

In accordance with the MS4 Permit, DCR must screen all regulated outfalls during dry weather conditions and use the results of the screening to develop an outfall ranking priority order and catchment investigation completion schedule pursuant to part 2.3.4.7.b of the MS4 Permit. Due to the statewide nature of the regulated outfalls, DCR has developed a web map³ to show the location of the areas investigated, which includes the field and lab sample results for the regulated outfalls with dry weather flow (for more information on regulated outfall-specific locations, please contact DCR Stormwater Unit).

2.1 Dry Weather Screening and Sampling

The goal of regulated outfall screening is to identify regulated outfalls with dry weather flow, sample for the required parameters, and review the priority ranking of the regulated outfall based on sampling results. **Table 4** summarizes the status of the dry weather screening. While dry weather screening of known regulated outfalls on DCR regulated properties was completed to meet the Permit Year 3 deadline, DCR has continued to identify interconnections and map outfalls as IDDE program work continues and therefore has performed additional screening this year.

³ IDDE Report Webmap address: https://vhb.maps.arcgis.com/apps/webappviewer/index.html?id=87a35a2683aa4478a07ade7ffb7c1b2a



Table 4 Dry Weather Screening and Sampling

	Dry Weather Screening Outfalls	Previously Screened	Permit Year 7 Screening	Total	% of Total ¹
Regulated Outfalls Screened	1,395 ¹	1,276 ²	54	1,330	95.3%

Notes:

- 1 Total number regulated outfalls included in the IDDE program that require dry weather screening (i.e. excluding Problem Outfalls).
- 2 The number of regulated outfalls screened prior to Permit Year 7 decreased from the number reported in Permit Year 6 due to some outfalls that were previously screened being reclassified as non-regulated in Permit Year 7 due to additional data and mapping updates.

In accordance with DCR's IDDE Plan procedures developed to meet the requirements in the MA MS4 permit (Part 2.3.4.7.b.iii.4.b), the field teams performed field measurements and collected samples for lab analysis to analyze dry weather flow. Field measurements and lab samples are taken in accordance with DCR's IDDE Plan and MS4 Permit requirements⁴.

2.2 Outfall Prioritization Categories Review

The results of dry weather screening must be reviewed and used to update the regulated outfall prioritization categories each year. **Table 5** summarizes the regulated outfall prioritization categories, and the sections below discuss the results in further detail.

For regulated outfalls with no dry weather flow and no olfactory or visual evidence of illicit input, the outfall remained in the same priority category unless there was new information regarding the location or ownership of the regulated outfall. If new data indicates that a regulated outfall is either not a DCR-owned outfall, does not exist, or updated mapping precludes it from the IDDE program (e.g., updated mapping indicates that the mapped MS4 outfall is a cross-culvert outlet), the regulated outfall was removed from the total regulated outfall inventory.

For regulated outfalls with dry weather flow, VHB and SDE reviewed the results and recommended next steps based on sampling results, the sewage indicator criteria included in the MS4 permit, and DCR's IDDE plan. This review included determining if a higher priority category was appropriate for a particular regulated outfall.

⁴ Where the discharge is directly into a water quality limited water or a water subject to an approved TMDL as indicated in Appendix F of the MS4 permit; the sample shall be analyzed for the pollutant of concern identified as the cause of the impairment as specified in Appendix G of the MS4 permit.



Table 5 Regulated Outfall Prioritization

	# of Regulated				
Prioritization Category	Permit Year 6	Permit Year 7			
Problem	21	21			
Highest	18	18			
High	1,295	1,268 ¹			
Low	127	109 ¹			
Included in the IDDE Program	1,461	1,416			
Excluded	216	240 ¹			
Total	1,677	1,656			

 $^{1\,\}text{--}$ The number of High and Low priority and excluded outfalls changed from Permit Year 7 due to updated mapping information.

The status of catchment investigations for each of these categories is discussed in **Section 3**, **Catchment Investigations**.

2.2.1 Problem Outfalls

DCR identified fifteen outfalls as Problem outfalls in Permit Year 1 based on historical issues. After reviewing the ownership of these outfalls in subsequent permit years, several of these outfalls were determined to be municipally owned. As such, DCR re-delineated these Problem outfall catchments to align with DCR's upstream interconnection points. This increased the total number of Problem outfalls from fifteen to twenty-one since DCR is often interconnected upstream of the original Problem outfall in more than one location. Part 2.3.4.7.b of the MS4 Permit indicates that the permittee should move right to catchment investigations for these regulated outfalls even if they were not dry weather screened.

2.2.2 Highest Priority Outfalls

The Highest priority category was developed by DCR to reflect where dry weather sampling results met the likely sewer input indicators⁵ to prioritize their investigation. Permit Year 7 dry weather screening detected potential olfactory evidence of non-stormwater flow and elevated sampling results that exceeded sewer input indicator thresholds at one outfall. Therefore, this outfall was reprioritized as Highest. DCR also reclassified one highest priority outfall as high priority after reviewing historic outfall screening data. This assessment is detailed in **Table 7**.

⁵ As defined in the MS4 permit, likely sewage input indicators are any of the following:

Olfactory or visual evidence of sewage,

Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or

[•] Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine (0.02 mg/L).



2.2.3 High Priority Outfalls

The High priority outfalls screened this year either had no flow or results did not indicate elevated concentrations of pollutants. Since they still discharge to receiving waters with specific listed impairments these outfalls will remain classified as High priority. In Permit Year 7, due to some outfalls that were previously screened being reclassified as non-regulated and updated data gathered through DCR field visits, the number of High priority outfalls decreased from Permit Year 6.

2.2.4 Low Priority Outfalls

The Low priority outfalls screened this year were initially categorized as Low priority and the screening did not indicate signs of illicit connections. Therefore, these outfalls remain categorized as Low priority. In Permit Year 7, updated data gathered through DCR field visits caused the number of Low priority outfalls to decrease from 127 reported in Permit Year 6 to 109.

2.2.5 Excluded Outfalls

Regulated outfalls with no potential for illicit discharges may be excluded from the IDDE program. The permit identifies that drainage from the following categories below can be excluded:

- Roadway drainage in undeveloped areas with no dwellings and no sanitary sewers,
- > Drainage for athletic fields, parks, or undeveloped green space and associated parking without services, or
- Cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.

DCR has identified regulated outfalls that are excluded from the IDDE program as those located away from sanitary sewer systems, in undeveloped areas based on land use, and not in proximity to a DCR building with restrooms. In Permit Year 7, additional outfalls were either newly mapped or identified as Excluded through desktop analysis. DCR will continue to refine excluded outfall status through catchment investigations and desktop analysis.



3

Catchment Investigations

DCR must perform catchment investigations on all non-excluded regulated outfalls as part of the IDDE program. Pursuant to the MS4 permit Part 2.3.4.8.b.ii, the field crews conducted dry weather catchment investigations by opening key junction manholes upstream of the regulated outfalls. If flow was observed in a particular pipe, the flow was sampled in accordance with DCR's IDDE Plan. If there were signs of potential intermittent flow at a pipe, a sandbag was placed for a minimum of 48 hours to capture intermittent flows. In order to complete a catchment investigation, DCR must perform wet weather screening if the catchment includes System Vulnerability Factors (SVFs) based on previous information or the catchment investigation. DCR has continued to refine its catchment investigation procedures as documented in the IDDE Plan. The dry weather catchment investigation data and wet weather screening data are available in a public web map⁶.

Investigation of the Problem outfalls must begin within two years of the permit effective date and the source of the illicit discharge must be identified and a schedule for removal developed within seven years of the permit effective date. The permit requires that all catchment investigations be completed within ten years of the permit effective date.

In Permit Year 7, significant effort was focused on completing investigations on Problem and Highest priority outfalls and steady progress on High priority outfall investigations. The Project Team has spent significant resources working to identify the source of non-

⁶ IDDE Report Webmap address: https://vhb.maps.arcqis.com/apps/webappviewer/index.html?id=87a35a2683aa4478a07ade7ffb7c1b2a



stormwater flows in the Problem and Highest catchments. The complexity and age of DCR's drainage systems, location in high-traffic roadways and urbanized areas, and connectivity with other MS4 systems contribute to the extensive coordination efforts required to complete these investigations. The Project Team utilizes all available methods as part of these investigations, often collecting additional samples than required by the permit to expeditiously identify sources. DCR was able to complete the investigation of 14 Problem and 10 Highest outfalls for the Permit Year 7 deadline, but investigation of the source of the potential illicit discharges in the remaining Problem and Highest outfall investigations are ongoing.

Catchment investigations, if not yet completed, will proceed based on regulated outfall priority. **Table 6** summarizes the status of the catchment investigations and further detail is provided in the sections below.

Table 6 Catchment Investigations Status

				Compl	eted	
Prioritization Category	Total	In Progress	Year 7	Total	% Complete	Permit Investigations Complete Due Dates
Problem	21	7	3	14	66%	PY7 (July 1, 2025)
Highest	18	8	2	10	55%	PY7 (July 1, 2025)
High	1,268	301	211	395	31%	PY10 (July 1, 2028)
Low	109	19	13	32	29%	PY10 (July 1, 2028)

3.1 Problem Outfalls Catchment Investigations

As part of filing for coverage under this permit, DCR identified Problem outfalls in six areas based on historic information or ongoing issues. Catchments associated with these areas were prioritized for investigation and are discussed in the following sections. Each section identifies catchments by the outfall originally included in the Problem outfall list even though DCR has identified that some of the outfalls are instead owned by others and DCR instead interconnects upstream of the final outfall. For simplicity we have included historical screening and sampling information regarding the investigation but highlighted the work this year. We have also included tables summarizing the status of the Problem Outfalls and the actions taken during Permit Year 7 to identify if the discharge includes illicit flows as **Appendix B**.

3.1.1 Stacey Brook (2 outfalls; Investigation complete)

The storm drainage area under review, which is comprised of two outfalls (outfalls 38017 and 37114.1), is located around Stacey Brook in Lynn and Swampscott, MA. Stacey Brook flows underground through a 6-foot culvert and discharges through an outfall on Red Rock Beach and ultimately into Nahant Bay.

DCR's drainage network to these outfalls is mostly limited to Lynn Shore Drive, Red Rock Beach, and the landscaped areas between the roadway and beach; it also includes a portion of Eastern Ave and Humphrey Street. DCR's drainage interconnects to outfall 38017, which is



owned by Swampscott, at manhole 25416 and at catch basin 666668502. DCR's drainage interconnects to outfall 37114.1, which is owned by Lynn, at manhole 25418 and at a blind connection downstream of catch basin 666667101. These outfalls were flagged as Problem Outfalls based on previous sampling results indicating high bacteria (both *E. Coli* and *Enterococcus*) as well as the presence of pharmaceutical indicators that suggested the presence of human waste. It was not initially clear which outfall had been sampled so both outfalls were classified as Problem Outfalls.

The catchment investigation of these outfalls occurred over several days in May and June 2019.

For outfall 38017, sampling results from the catchment investigation narrowed the area of interest for potential illicit discharge to the infrastructure along Humphrey Street in Swampscott (Outfall 38017). The contributing DCR drainage infrastructure was CCTVed and did not show any signs of illicit connection or dry weather flows, but the dry weather flows in non-DCR owned pipes continued to show elevated parameters. Based on the investigation, it was determined that the flow could be coming from one of the Swampscott residences adjacent to the area of interest.

DCR sent a letter to the Town of Swampscott in November 2019 with a summary of the sampling results and requested that Swampscott dye-test the several residences. COVID remote working impacted DCR's meeting with Swampscott. DCR sent a second letter to the Town of Swampscott in February 2022 with the summary of sampling results and again requested that Swampscott perform dye-testing on residences.

In June 2023, two of the four DCR pipes that interconnect into Swampscott outfall 38017 (Pipe 12640 and Pipe 12649) were sampled during wet weather. Sampling results did not exceed the MS4 permit thresholds indicating there was no illicit input. In August 2023, the remaining DCR interconnections were screened during wet weather. Sampling results did not exceed the MS4 permit thresholds indicating there was no illicit input. DCR then sent a third letter to the Town of Swampscott in November 2023 to share the most recent sampling results and notify them that DCR will take no additional actions in the catchment and considers the **catchment investigation for outfall 38017 closed** unless additional information comes to light. DCR has yet to receive a response from Swampscott.

The second outfall (37114.1), located in Lynn, was screened during dry weather; no signs of a potential illicit discharge were found. In September 2023, the interconnecting DCR pipes were screened during wet weather. Sampling results did not exceed the MS4 permit thresholds indicating there was no illicit input; therefore, this catchment investigation for outfall 37114.1 has been closed.

3.1.2 Morrissey Boulevard (1 outfall; Follow-up ongoing)

The storm drainage system is located along Morrissey Boulevard in Dorchester and includes one outfall. The outfall drains to the mouth of the Neponset River and ultimately Dorchester Bay. This outfall (21850) was flagged as a Problem outfall based on previous sampling results from both the Boston Water and Sewer Commission (BWSC) and DCR, which showed elevated levels of *Enterococcus*. BWSC shares sampling data with DCR on an annual basis in locations where its system interconnects with DCR's system.



The catchment investigation occurred over several days in July 2019. Based on sampling results, the areas of interest were narrowed to the intersection of Morrissey Boulevard and Tenean Street and near the intersection of Morrissey Boulevard and McKone Street. DCR performed follow-up investigations of the infrastructure in the areas of interest and bricked off the connections from several pipes that were identified during CCTV investigation but not included on the map and were confirmed to be abandoned by CCTV investigation.

In order to further confirm the source of the dry weather flow and since there are BWSC sewer lines intersecting the DCR stormwater infrastructure, DCR reached out to BWSC in November 2019 with a summary of sampling results and a request to share information and investigate some of the adjacent sewer lines. DCR sent a follow-up request to BWSC in April 2021. BWSC sent a letter to DCR in response in May 2022 (dated February 2022) noting BWSC plans to reinspect a manhole in dry weather and will dye test two previously un-dye tested buildings in the area. A May 2023 email from BWSC indicated that additional screening and dye testing had not yet identified any illicit input into the drainage system and that a more formal response with sampling and dye testing results would be sent as soon as remainder of the investigation was completed. In November 2023, BWSC sent a summary of the results of their investigation to DCR, which did not uncover additional evidence of illicit discharge nor identify sources of the potential non-stormwater flow that was detected during sampling in previous investigations.

In Fall 2024, DCR requested dye testing and sampling data from BWSC for further review. After reviewing, DCR concluded that the BWSC dye testing effort in the catchment was comprehensive and determined that further dye testing was not necessary.

In Spring 2025, DCR completed a comprehensive screening and sampling effort throughout the catchment to obtain more up-to-date information and to identify the source of potential illicit flow. This investigation identified potential non stormwater flow in the southern end of the catchment where Morrissey Boulevard and McKone Street intersect.

Following this investigation DCR conducted a CCTV investigation of the catchment's trunkline near the intersection of McKone Street and Morrisey Boulevard. This investigation did not conclusively determine the source of the potential non-stormwater flow, but identified two laterals, one abandoned and one owned by BWSC, for further investigation, which is scheduled for Permit Year 8.

Additionally, in Spring 2025, DCR discovered a discrepancy in BWSC and DCR's mapping, which led to the identification of an abandoned DCR system. BWSC shared sampling results from the pipe directly downstream of the abandoned system, which showed highly elevated levels of ammonia and enterococcus. These sampling results suggest the abandoned pipe is the source of non-stormwater flow detected in this system. This system was scheduled for additional CCTV investigation by DCR. **Appendix A** provides further details on DCR work to date in the catchment after Permit Year 7 through August 2025.

DCR will complete the investigatory work in the catchment expeditiously in Permit Year 8 to identify the source of the potential non-stormwater flow in the catchment detected via dry weather sampling.



3.1.3 Tenean Beach (1 outfall; Investigation complete)

The storm drainage system is located immediately south of Tenean Beach in Dorchester. The system extends from the parking area and through the park to one outfall draining to the mouth of the Neponset River and ultimately Dorchester Bay. This outfall (18257) was flagged as a Problem Outfall based on previous sampling results showing elevated levels of *Enterococcus*.

The catchment investigation occurred over several days in July 2019, September 2019, and February 2020. The July 2019 investigation narrowed the areas of interest to two previously unmapped pipes and two catch basins. DCR determined the two unmapped pipes were no longer in use. DCR capped the two pipes. The catch basins and surrounding infrastructure were reviewed by DCR staff and it was confirmed that there were no illicit connections. DCR then cleaned the entire drainage system. To confirm there was no longer potential illicit discharges, samples were taken from two catch basins in September 2019 following the cleaning and sampling results showed a decrease in *Enterococcus*.

To close out the problem outfall catchment investigation per the permit, DCR performed dry weather screening of the outfall in February 2020, which was the soonest available dry weather screening window after DCR conducted all follow-up actions. Since sampling results at the outfall did not exceed MS4 sewer input indicators, the catchment had been fully reviewed, and no SVFs have been identified in this area to require wet weather screening, the outfall catchment investigation for outfall 18257 is now considered complete.

3.1.4 Wollaston Beach (8 outfalls; 5 investigations ongoing; 3 investigations complete)

DCR investigated eight catchments along Wollaston Beach in Quincy, MA. The infrastructure for each of the catchments was generally located along Quincy Shore Drive and the beach. All of the outfalls drain directly to Quincy Bay. These outfalls were flagged as Problem outfalls based on previous sampling results showing elevated levels of *Enterococcus*.

Five of the outfalls originally identified as Problem Outfalls were determined to likely be owned by the City of Quincy. DCR drainage interconnects upstream in the system. The ownership of the outfalls and interconnections from DCR drainage is being officially confirmed via a memorandum of understanding (MOU) between DCR and the City of Quincy that is currently being drafted. Despite the pending status of the MOU, the upstream interconnections, which in many cases include more than one per each of the original Problem outfalls, and their respective catchments were broken out of the original Problem Outfall catchments. These catchments remained categorized as Problem since they drain to the outfalls historically showing elevated levels of *Enterococcus*.

Initial catchment investigations occurred in November 2019 and February 2020. The November investigation was cut short due to weather and the next favorable weather window was not until February 2020. The November and February investigations narrowed the area of interest to three outfalls (outfalls 17661, 90000.1, and 34509.3) with the remaining four not showing signs of potential illicit discharges based on the sewer input



indicators outlined in the MS4 Permit. However, due to the tidal conditions of the area, much of the system could not be sampled due to standing water.

<u>Outfall 34509.3 and 666667986</u>: In Permit Year 5, Outfall 34509.3 was screened and sampled during wet weather and the results did not exceed the permit thresholds and thus were cleared of any wet weather illicit input.

Although Outfall 34509.3 did not show signs of illicit input during wet weather, its dry catchment investigation results from 2020 did indicate the presence of potential non-stormwater flow. In Permit Year 6, the outfall was re-screened during dry weather to confirm the accuracy of the 2020 screening, since four years had elapsed since its initial screening and the results from 2020 were only slightly above potential non-stormwater indicator thresholds. The results of this screening conducted in August 2023 continued to show signs of potential illicit input. Catchment investigations in the upstream pipes were inconclusive due to standing water. Following this investigation, DCR updated mapping in this area and identified a separate outfall, added to map as outfall 666667986, which receives runoff from a portion of the catchment previously attributed to Outfall 34509.3. This new outfall was added to DCR's program as a Problem outfall.

In Permit Year 6, additional mapping on the sewer system within the catchments for these two outfalls was retrieved from the City of Quincy and BWSC to inform future investigations. In Permit Year 7 DCR updated catchment mapping to reflect previous CCTV investigations. DCR conducted dye testing at adjacent residences and businesses, but did not find any connections to the drainage system. DCR rescreened OF-34509.3 taking lab samples for all parameters including bacteroides and identified potential non-stormwater flow. In Permit Year 8, DCR will clean and CCTV the system to narrow down the source of potential illicit discharges. DCR will develop a plan to determine whether non-stormwater flow is present and perform follow up if needed for Outfall 666667986 to complete the catchment investigation.

<u>Outfall 34507.3</u>: In Permit Year 5, this outfall was screened and sampled during wet weather. The wet weather sampling results did not exceed the permit thresholds and thus were cleared of any wet weather illicit input. Since both the dry and wet weather screening results did not show any signs of illicit input, the **catchment investigation for Outfall 34507.3 is considered complete**.

Outfall 17661: For the interconnections upstream of outfall 17661, DCR performed a subsequent CCTV investigation in August 2020 during which the pipes were de-watered showed no flow coming from DCR infrastructure and no illicit connections were found. The results indicate that the sampling results from the 2019 dry weather investigation likely sampled stagnant, standing water in the pipes. To provide a second look, this catchment was re-screened in Permit Year 6 and considerable effort was made to ensure stagnant water was not sampled. The results from the rescreening showed no signs of potential illicit input. Outfall 17661 was wet weather screened in Permit Year 6; results of the screening did not exceed the sewer input indicators and the **catchment investigation for Outfall 17661 is considered complete**.

<u>Outfall 90000.1</u>: DCR performed a CCTV investigation in August 2020 during which the pipes were de-watered for the interconnections upstream of outfall 90000.1. The investigation



showed no flow coming from DCR infrastructure and no illicit connections were found. The results indicate that the pervious 2019 and 2020 dry weather investigation sampling results likely sampled stagnant, standing water in the pipes. To provide a second look, these catchments were re-screened in Permit Year 6 and considerable effort was made to ensure stagnant water was not sampled.

Dry weather screening results for Outfall 90000.10 were elevated, but did not exceed EPA's sewer threshold. In Permit Year 7, given the elevated results, DCR re-screened flow found from the interconnection from MH-37195.00 taking lab samples for ammonia and surfactants. During this follow-up screening no potential illicit flow was found. The wet weather screening and sampling for Outfall 90000.10 conducted in Permit Year 6 also did not indicate the presence of non-stormwater flow but was only completed for approximately half of the catchment. In Permit Year 8, the remainder of the catchment to Outfall 90000.10 will be screened during wet weather to complete its investigation.

<u>Outfall 37221.10:</u> The dry weather investigations for Outfall 37221.10 did not show evidence of non-stormwater flow in DCR contributing pipes and was completed for entire catchment.

In Permit Year 7, DCR completed wet weather screening for the catchment draining to Outfall 37221.10; results of the screening did not exceed sewer input indicators and the catchment investigation for Outfall 37221.10 was closed.

Outfall 34500.3: The dry weather investigations conducted in the catchment to Outfall 34500.3 did not show signs of illicit input and was completed with exception of Pipe 18076, which accepts runoff from approximately one third of the catchment. Flow was observed exiting this pipe during a man-entry inspection further upstream in the system, but it could not be sampled to the lack of a street level access structure at the discharging end of the pipe and a large steel grate that obstructs sampling access from the upstream structure. In Permit Year 7, DCR completed dry weather screening of the catchment area discharging to Outfall 34500.30 by screening immediately up and downstream of the blind interconnection. This screening did not find any increase concentration in sampling results between the up and downstream structures; in fact, concentrations were lower at the downstream structure. These results indicate Pipe 18076 discharges clean groundwater diluting the contaminants detected in Quincy owned pipes. Wet weather screening and sampling was conducted Permit Year 6 for approximately one half of the catchment draining to Outfall 34500.3. In Permit Year 8, DCR will complete wet weather screening for the catchment area discharging to Outfall 34500.30 to complete the catchment investigation.

Outfall 38020: The dry weather investigation for Outfall 38020 revealed potential non-stormwater flow with slightly elevated sampling parameters originating from an abandoned pipe. This pipe was sealed by DCR, which eliminated the elevated sampling parameters. The dry weather investigation in the remainder of the catchment to Outfall 38020 was inconclusive due to standing water. In Permit Year 7, DCR received and reviewed CCTV footage in the catchment areas draining to Outfall 38020.00. DCR discovered that a significant portion of this catchment had built up concrete within the drainage infrastructure. DCR began removal of this concrete in Permit Year 7, however was unable to complete the work due to equipment failure. In Permit Year 8, DCR will complete concrete removal in this catchment and complete dry and wet weather investigations.



3.1.5 Neponset Valley Parkway (1 outfall; Investigation complete)

Outfall 17289 was included in the Problem outfall list in Permit Year 1, but DCR is not aware of historical sampling data indicating potential illicit discharges at this location. DCR completed both the dry weather screening and wet weather sampling in November 2021 and January 2022, respectively. There was no evidence of illicit discharge during either of these investigations. **The catchment investigation for the outfall 17289 is considered complete.**

3.1.6 Western Avenue (3 outfalls; 3 investigations complete)

Four outfalls in this location were included in the Permit Year 1 Problem outfall list but DCR is not aware of historical sampling data indicating potential illicit discharges. During review of the outfall locations in the database, we determined that Outfall 19738 was a duplicate of Outfall 19739 and therefore there were only three outfalls to follow up on in this area. Outfall 19738 was removed from DCR's database.

For Outfalls 19105 and 19377, the catchment investigations were completed in June 2021; there was no flow present. For Outfall 19379, the catchment investigation was completed in April 2025; there was no flow present. There are no known SVFs in these locations and the catchment investigations for Outfalls 19105, 19377, and 19379 are considered complete.

3.2 Highest Priority Catchment Investigations

In addition to investigating Problem Outfalls, DCR focused on Highest Priority Outfalls in Permit Year 7. DCR has begun dry weather investigations for all Highest Priority catchments. A summary of the actions performed in Permit Year 7 for the Highest Priority catchments can be found in **Appendix C**. A summary of actions prior to Permit Year 7 are outlined in the Permit Year 4 through 6 IDDE Summary Reports or are available upon request from DCR.

3.3 High Priority Catchment Investigations

There were 301 High priority catchment investigations in progress and 211 completed during Permit Year 7. Permit Year 7 activity on these catchments consisted of dry weather investigations and wet weather screening. DCR will continue to make progress on the active High priority catchment investigations when possible.

3.4 Low Priority Catchment Investigations

There were 13 Low priority catchments completed and 19 in progress during Permit Year 7. The Low priority catchments will be completed following the completion of High priority catchments.



4

Illicit Discharge Removal

In Permit Year 7, DCR identified one source of illicit discharge into DCR-owned drainage systems and removed two illicit discharges identified in previous permit years. In Permit Year 7, DCR removed one illicit discharge (previously Illicit ID8) from its total inventory, as confirmatory screening indicated the suspected illicit discharge source was not contributing illicit flow. Further details within this catchment can be found in Appendix A. Details from illicit discharges closed in previous permit years can be found in Appendix D. Illicit discharge IDs are listed below for reference. Details from illicit discharges active as of the close of Permit Year 7 are detailed below.

Illicit ID 1: Details in Appendix D

Illicit ID 2: Details in Appendix D

Illicit ID 3: Details in Appendix D

Illicit ID 4

- Location: 647 West Roxbury Parkway
- > Description: Exfiltration into abandoned drainage line from adjacent sanitary sewer lateral
- > Associated outfall ID: 27352.00
- > Associated catchment ID: 978
- > Method and date of discovery: Dye testing on 5/22/2024
- > Date of elimination: December 2024
- Date of confirmatory Dry Weather Screening: June 2025



- Date of confirmatory Wet Weather Screening: Incomplete. Scheduled for Fall 2025
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: The illicit discharge was removed by capping the abandoned drainage line into which the sanitary sewer lateral was exfiltrating ...
- > Estimated volume of sewage removed: 20 gallons/day
 - o Formula: WWR x EF = Volume of Sewage Removed (Gallons/Day)
 - o **WWR** = 135 gallons/day
 - Assumed typical wastewater flow rates from residential building. This assumed an average 150 qpd of water use multiplied by a factor of 90% to represent sewer flows.
 - o **EF** = 15%
 - Exfiltration factor assumed to account for exfiltration through soil to DCR drainage system

Illicit ID 5

- > Location: 651 West Roxbury Parkway
- > Description: Direct connection from sanitary sewer lateral
- > Associated outfall ID: 27352.00
- Associated catchment ID: 978
- Method and date of discovery: CCTV inspection on 5/22/2024; confirmed by BWSC email on 5/30/2024
- > Date of elimination: 8/21/2024
- Date of confirmatory Dry Weather Screening: 9/4/2024
- Date of confirmatory Wet Weather Screening: Incomplete. Scheduled for Fall 2025 or Spring 2026
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: BWSC removed this illicit discharge by disconnecting the sanitary sewer lateral from the drainage system and reconnecting it to the adjacent sanitary sewer system main line.
- > Estimated volume of sewage removed: 290 gallons/day⁷

Illicit ID 6

- > Location: Storrow Drive, Boston
- > Description: Potential illicit input via groundwater infiltration (source unknown)
- > Associated outfall ID: 19326.00
- > Associated catchment ID: 538
- Method and date of discovery: A 11/8/2023 dry weather investigation found that groundwater containing potential non-stormwater flow was entering the drainage

 $^{^{\}rm 7}$ This estimate was provided by BWSC.



system via infiltration through the joints between pipes and drainage structures throughout the catchment. Since there are no sanitary sewer pipes in the vicinity of this catchment and previous DCR CCTV investigation found no direct illicit connections into the system, the origin of the potential illicit input in the groundwater is unknown.

- Date of elimination: Scheduled to be completed by Fall 2025 or Spring 2026
- Date of confirmatory Dry Weather Screening: Incomplete. Scheduled for Fall 2025 or Spring 2026
- Date of confirmatory Wet Weather Screening: Incomplete. Scheduled for Fall 2025 or Spring 2026
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: Illicit discharge is planned to be removed by sealing and grouting pipe connections into drainage structures throughout the catchment.
- > Estimated volume of sewage removed: To be determined. The illicit discharge has not yet been removed.

Illicit ID 7

- > Location: Mystic View Rd, Everett
- > Description: Potential illicit input via groundwater infiltration (source unknown)
- > Associated outfall ID: 27645.00
- > Associated catchment ID: 52
- Method and date of discovery: A 2020 CCTV investigation showed groundwater infiltration entering the system via pipe joints in the southern portion of the catchment. A 6/7/2021 dry weather sampling investigation discovered that this groundwater infiltration contained potential non-stormwater input. DCR dye tested adjacent businesses in April and May of 2022, which did not show any evidence of sanitary sewer infiltration into the stormwater system. As such, the origin of the potentially illicit input into the groundwater is unknown.
- > Date of elimination: 8/21/2024
- > Date of confirmatory Dry Weather Screening: September 2024
- Date of confirmatory Wet Weather Screening: November 2024
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: The illicit discharge was removed by lining pipes in the DCR stormwater system to prevent the infiltration of groundwater containing potential illicit input.
- > Estimated volume of sewage removed: N/A. Sewage was not confirmed as the source of the illicit discharge.

Illicit ID 9

> Location: Mystic Valley Parkway, Medford



- > Description: Potential illicit input via groundwater infiltration (source unknown)
- > Associated outfall ID: 22021.00
- > Associated catchment ID: 55
- Method and date of discovery: DCR conducted a dry weather investigation in 2022 that identified potential non-stormwater input into the drainage system. In 2023, two nearby MWRA sanitary sewer pipes were investigated and determined to be elevated significantly below the DCR drainage system and were ruled out as a source of the potential illicit input. Additionally, DCR investigated the drainage system of an adjacent, privately owned parking lot and determined that the system was not connected to DCR's drainage system. As such, the adjacent private drainage system was ruled out as a potential source as well. In December 2023, DCR dewatered several catch basins within the catchment and observed groundwater infiltration through the walls of the basins. This groundwater infiltration was sampled and was determined to contain potential illicit input. The origin of the potential illicit input into the groundwater is unknown.
- Date of elimination: On 3/15/2024 DCR lined the four catch basins identified as having groundwater infiltration. However, confirmatory screening showed that this did not fully eliminate the issue. In November 2024 DCR lined the pipes. Confirmatory screening shows the dry weather issue was resolved; however, wet weather confirmatory screening revealed a wet weather issue was present. It is unclear at this time if the wet weather non-stormwater flow is associated with the original dry weather non-stormwater flow. Follow-up work to conduct a wet weather catchment investigation is planned for Fall 2025.
- Date of confirmatory Dry Weather Screening: 4/17/2024. Results indicated that maintenance work did not successfully remove all illicit input into the system. After a second round of pipe and structure lining, follow-up confirmatory screening in 11/19/2024 showed the dry weather non-stormwater flow was eliminated.
- Date of confirmatory Wet Weather Screening: 3/24/25. Results indicate a wet weather non-stormwater flow remains.
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: DCR plans to conduct a wet weather investigation to inform the mitigation effort.
- > Estimated volume of sewage removed: To be determined. The illicit discharge has not yet been removed.

Illicit ID 10

- > Location: 480 Truman Parkway, Boston
- > Description: Septic System overflow from 480 Truman Parkway
- > Associated outfall ID: 17106.00
- > Associated catchment ID: 850
- > Method and date of discovery: DCR conducted dye testing at an adjacent residence to identify the source of non-stormwater flow at a DCR catch basin. Results were not



legal. DCR conducted CCTV and found that the catch basin was connected to the overflow of a residential septic system. DCR coordinated with BWSC on this matter who reached out to Boston Inspectional Services Department requesting they use their legal authority to mitigate the issue.

- Date of elimination: Scheduled to be completed by Boston Inspectional Services
- > Date of confirmatory Dry Weather Screening: Incomplete. Scheduled to occur after illicit discharge removal is completed.
- > Date of confirmatory Wet Weather Screening: Incomplete. Scheduled to occur after illicit discharge removal is completed.
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: DCR and BWSC have sent the Boston Inspectional Services Department a letter notifying them of the issue and requesting they use their legal authority to mitigate.
- > Estimated volume of sewage removed: To be determined. The illicit discharge has not yet been removed.



Appendix A – Problem and Highest Catchment Activities Following Permit 7

This Appendix details problem and highest priority catchment activities conducted since the conclusion of Permit Year 7, where illicit discharges have been identified and plans for removal have been developed by DCR.

Neponset River (MA73-04); Morrissey Boulevard, Dorchester Morrissey Boulevard 1 (OF21850) – Problem

During the first week of July 2025, DCR and BWSC conducted a joint investigation of both BWSC and DCR infrastructure in the area of 800 and 818 Morrissey Boulevard which included both CCTV and dye testing. This work identified an uncapped sewer lateral formally used for dewatering/bypass during initial construction, that was left in place and connected directly to an abandoned DCR drainage line. BWSC capped the lateral and plugged DCR's abandoned line to remove the issue.

Mystic River (MA71-03) O'Malley Memorial Park, Chelsea – Highest Priority

In July 2025, during a follow-up field investigation, DCR discovered that the northern trunkline, which DCR had previously believed ended at DCR MH 28374, continues north along Commandants Way in the City of Chelsea via a non-DCR owned stormwater main. DCR performed a CCTV investigation of the system to the north, updated mapping of the infrastructure, and isolated the source of the contaminated flow. The source of contamination was identified as originating from a privately owned pipe interconnecting into the non-DCR interconnecting drainage system from a residential apartment building at 300 Commandants Way.

DCR coordinated with the interconnecting MS4 system owner providing all screening results and formally requested the interconnection MS4 operator eliminate this illicit discharge on August 29, 2025.



Appendix B - Problem Catchment Investigation Summary Table



Receiving Water	Catchm	ent Investig	ation Status ¹		DCD's Nov4	
(ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³	
Nahant Bay (MA93-2	4); Stacey Bro	ook, Lynn and	d Swampscott			
Stacey Brook 1 (2 interconnections to MH-25416, 2 interconnections to CB-666668502, drains to Outfall 38017)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.	
Stacey Brook 2 (4 interconnections to MH-25418, 1 blind interconnection downstream of CB-666667101, drains to Outfall 37114.1)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.	



Receiving Water	Catchm	ent Investig	ation Status ¹	DCP's N		
(ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³	
Neponset River (MA7	73-04); Morri					
Morrissey Blvd 1 (OF-21850)	In Progress	Not Started	Investigation in Progress – Potential Non- stormwater Flow Detected ²	 Updated mapping of the catchment boundary to reflect the most up to date mapping. Reviewed the results of BWSC's historic screening and sampling data as well as historic dye testing results. BWSC had conducted a comprehensive dye testing effort in the catchment, did not find any indication of sewer connections or infiltration to the drainage system, and therefore DCR determined further dye testing was not necessary. Re-conducted a dry weather catchment investigation to confirm the source of potential illicit flow. Conducted CCTV in two locations where potential non stormwater flow was detected: in the north end of the catchment near 800 Morrissey Boulevard and in the south end near the intersection of Morrissey Boulevard and McKone Street; however no potential illicit input sources were observed. 	DCR will drain and CCTV the two areas where non-stormwater flow was detected to isolate the source(s).	
Tenean Beach 1 (OF-18257)	Complete	Not Required (No SVFs)	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.	
	T			ston Beach, Quincy		
Wollaston Beach 1 (OF-34509.3)	In Progress	Complete	Investigation in Progress – Potential Non- stormwater Flow Detected	 Updated catchment mapping to reflect previous CCTV investigations. Conducted dye testing at adjacent residences and businesses, but did not find any illegal connections to the drainage system. Rescreened OF-34509.3 taking lab samples for all parameters including bacteroides and identified potential non-stormwater flow. 	DCR will clean and CCTV the system to narrow down the source of potential illicit discharges.	



Receiving Water	Catchm	ent Investig	ation Status ¹		
(ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Wollaston Beach 8 (OF- 666667986)	In Progress	Not Started	Investigation in Progress – No Illicit Discharge Detected	 Updated catchment mapping to reflect previous CCTV investigations. Attempted to review previous CCTV investigation videos, but was unable to locate the records. Scheduled follow-up CCTV investigation work in this catchment. 	DCR will conduct a CCTV investigation to determine whether potential non-stormwater flow is present in the catchment.
Wollaston Beach 2 (OF-34507.3)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment is investigation complete.
Wollaston Beach 3 (4 interconnections to MH-34502.3, drains to OF-17661)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment is investigation complete.
Wollaston Beach 4 (3 interconnections to MH-34497.3, 1 interconnection to MH-34454.3, 1 blind interconnection from IN-2476 downstream of MH-34454.3, drains to OF-34500.3)	Complete	In progress	Investigation in Progress – No Illicit Discharge Detected	 Completed the Problem catchment investigation associated with structures MH-34497.3 and MH-34502.3 prior to Permit Year 7. Conducted wet weather screening at MH-34454.3 which did not show evidence of illicit flows. Acquired and reviewed plans to confirm mapping in the area given the blind interconnection previous discovered. No additional interconnections were found. Sampled the Quincy owned pipes upstream and downstream of DCR's blind interconnection to determine if flow from DCR's pipe had any signs of a potential illicit discharge. This work did not show evidence of illicit flows. 	DCR will wet weather screen the blind interconnection from Pipe 18076 at IN-2476.



Receiving Water	Catchm	ent Investig	ation Status ¹			
(ID), Area/ Town; Outfall	Dry Weather	· · · · · · · · · · · · · · · · · · ·		Permit Year 7 Investigation Actions	DCR's Next Steps ³	
Wollaston Beach 5 (MH-37223.1, MH-666667017 interconnects to OF-38020)	In Progress	In Progress	Investigation in Progress – Potential Non- stormwater Flow Detected	 Received and reviewed footage and results from a Permit Year 6 CCTV investigation of the system discharging to MH-37223.1 DCR confirmed no flow was present in the system discharging to MH-37223.1. DCR attempted wet weather screening of MH-37223.1, but standing water was present throughout the system during the time of screening. After attempting CCTV in previous permit years, DCR discovered that the system discharging to MH-666667017 had significant concrete within the main trunkline preventing CCTV investigation. Began work to remove concrete within the system; however, this operation has presented unique challenges in terms of acquiring the appropriate equipment for concrete removal, including equipment failures. In Permit Year 7, DCR worked with a subcontractor to identify the appropriate equipment for this pipe maintenance. 	DCR will return to wet weather screen the system discharging to MH-37223.1 during low-tide. DCR will clear concrete in the system discharging to MH-666667017 and complete CCTV investigation of the system to determine if potential non-stormwater flow is present.	
Wollaston Beach 6 (MH-37193 interconnects to OF-37221.1)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	Conducted wet weather screening, which did not show evidence of illicit flows.	Catchment investigation is complete.	
Wollaston Beach 7 (MH-37195.00, MH-6002.40 interconnects to OF-90000.1)	Complete	Not Started	Investigation in Progress – No Illicit Discharge Detected	Re-screened flow found from the interconnection from MH-37195.00 taking lab samples for ammonia and surfactants. During this follow-up screening no potential illicit flow was found.	DCR will conduct wet weather screening at the interconnection to MH-37195.00.	



Receiving Water (ID), Area/ Town; Outfall	Catchm	ent Investiga	ation Status ¹		DCR's Next Steps ³
	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	
Neponset River (MA7	73-02); Nepo	nset Valley Pa	arkway, Boston		
Neponset (OF- 17289)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
		Charles Rive	er (MA72-36); Wes	stern Avenue, Cambridge	
Western Ave 1 (OF- 19105)	Complete	Not Required (No SVFs)	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
Western Ave 2 (OF- 19377)	Complete	Not Required (No SVFs)	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Problem outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
Western Ave 4 (OF- 19379)	Not Started	Not Required (No SVFs)	Catchment Investigation Complete - No Illicit Discharge Detected	Prior to Permit Year 7, DCR developed plans to replace drainage infrastructure in the catchment and therefore held off on further investigation; however, to complete this problem catchment investigation in Permit Year 7, DCR conducted a routine catchment investigation in April 2025 and no flow was found.	Catchment investigation is complete.

Notes:

1 – Catchment Investigation Status descriptions:

Not Started: Investigation has not begun. **In Progress:** Investigation is on-going.

Complete: Investigation is complete and either no suspect flow has been identified or suspect flow has been identified and removed as a result of the investigation.

2 - Illicit Discharge Identification Status descriptions:





Catchment Investigation Complete - No Illicit Discharge Detected: Catchment investigation is complete and no illicit discharges were detected.

Investigation in Progress - Potential Non-stormwater Flow Detected: Potential non-stormwater flow was detected and identification of the source is still ongoing.

Investigation in Progress - No Illicit Discharge Detected: The catchment investigation is in progress and non-stormwater flow has not been detected to date.

Illicit Discharge Identified - Removal In Progress: An illicit discharge has been identified and mitigation measures are planned/are in progress.

Illicit Discharge Identified and Removed: An illicit discharge has been identified and removed.

3 – See Appendix A for details on catchment actions after Permit Year 7.



Appendix C – Highest Priority Catchment Investigation Summary Table



Receiving Water (ID), Area/ Town; Outfall Mystic River and Trib OF-22724	Dry Weather	Wet Weather 471-02 & MA71 Complete	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions arkway, Medford DCR completed the Highest priority outfall	DCR's Next Steps ³ Catchment
01 22721	Complete	Complete	Identified and Removed	catchment investigation prior to Permit Year 7.	investigation is complete.
OF-22021	Complete	In Progress	Investigation in Progress - Potential Non- stormwater Flow Detected	 Lined and sealed the entire system including all structures. Conducted dry weather confirmatory screening after several rain events flushed the system. During this follow-up screening a trickle was observed from the outfall, but did not exceed sewer input indicator thresholds. Therefore, it was determined the dry weather illicit discharge has been removed. Conducted wet weather screening and sampling results indicated the presence of potential non-stormwater flow. Further investigation is required to determine if this non-stormwater flow is different than the dry weather source previously addressed. 	DCR will complete a wet weather catchment investigation to identify sources of potential nonstormwater flow.
OF-22018	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	Conducted wet weather screening at OF-22018 and did not find any indication of an illicit discharge.	Catchment investigation is complete.
OF-21979	In Progress	Not Started	Investigation in Progress - Potential Non- stormwater Flow Detected	 Conducted four days of dye testing in this catchment and did not identify any illegal sanitary sewer connections to the drainage system. Coordinated with the City of Medford to obtain up to date sewer data to inform future actions. 	DCR will conduct further dye testing based on updated sewerage plans to locate the source of the potential non- stormwater flows.



Receiving Water		vestigation St	Illicit Discharge		
(ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Mystic River (MA71-				Fermit Tear 7 mivestigation Actions	DCK's Next Steps
OF-666667734	In Progress	Not Started	Investigation in Progress - Potential Non- stormwater Flow Detected ³	 Conducted a CCTV investigation in the catchment and identified multiple sources of infiltration into the catchment. Collected lab samples for ammonia, surfactants, and human bacteroides where potential non-stormwater flow was detected. Lined all pipes and structures along the northernmost trunkline in the catchment to prevent infiltration from contaminated groundwater. Performed confirmatory outfall screening after lining the system. Flow from OF 666667734 still exceeded MS4 sewer input indicators. Followed the flow upstream and determined that the non-stormwater flow originates from the northern trunkline and observed visual evidence of sewage in the flow. 	DCR will investigate the potential contaminated flow in the northern trunkline to identify the source.
Malden River (MA71	, ,	v Rd, Everett			
OF-27645	Complete	Complete	Illicit Discharge Identified and Removed	 Lined pipes throughout the catchment to prevent contaminated groundwater infiltration. Conducted confirmatory dry weather outfall screening and found no dry weather flow in the system. Completed wet weather screening and found no contamination. 	Catchment investigation is complete.
Neponset River (MA					
MH-17009 (interconnects to OF-666666991)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.



	Catchment Investigation Status ¹				
Receiving Water (ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
MH-666667147 (interconnects to OF-6666666991)	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
MH-17006 interconnects to OF-666666991	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
IN-2011 interconnects to OF-666666991	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
MH-17005 interconnects to OF-666666991	Complete	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
Lynn Harbor (MA93-		Reservation, Na			
OF-666667157	Complete	Complete	Illicit Discharge Identified and Removed	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.
Dorchester Bay (MA					
MH-17701	In Progress	Not Started	Investigation in Progress - Potential Non- stormwater Flow Detected	 Obtained dye testing results from BWSC and determined no further testing was needed. Conducted CCTV in pipes with potential non-stormwater input to identify potential issues within the pipe segments, but results were inconclusive. Updated catchment boundary based on CCTV. 	DCR will review CCTV in the catchment area and schedule additional CCTV work as needed.



	Catchment Investigation Status ¹				
Receiving Water (ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Neponset River (MA7	73-04)				
MH-666667098	In Progress	Not Started	Investigation in Progress – No Illicit Discharge Detected	Rescreened the interconnection to test potential influence of tidal patterns on the contamination. DCR screened pipe 15019 during low tide, just before high tide, and as the tide fell just below the invert of pipe 15019. Re-evaluated catchment and downgraded its IDDE priority to from Highest to High. The original screening that elevated the catchment to Highest priority sampled flow from a Municipal pipe to which the DCR pipe discharges. All subsequent sampling from the DCR pipes did not exceed sewer input indicator criteria. As such, DCR determined that this catchment is no longer highest priority and can be addressed in Permit Year 8.	DCR will continue catchment investigations to meet Permit Year 10 deadlines for high priority catchments.



	Catchment Ir	nvestigation St	ratus ¹		
Receiving Water (ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Neponset River (MA	73-03)				
MH-17106	In Progress	Not Started	Illicit Discharge Identified – Removal In Progress	 Conducted a routine dry weather catchment investigation in the catchment. Cleaned and dewatered CB1853, where a strong sewage odor in Permit Year 6 had been noted. Sampled infiltration into the catch basin and detected potential sewer input. DCR notified BWSC of the results of the investigation and BWSC shared information regarding possible illicit discharges they had identified further upstream in the system. Conducted a dye test at an adjacent residence. Results indicated a sewage connection from the adjacent sanitary sewer system as dye was visible in CB1853. DCR shared dye testing results with BWSC and requested additional information about BWSC investigation efforts in the area. Excavated, mapped, and inspected an abandoned system upstream of CB1853, and found that it was connected to the septic system of the adjacent residence via an overflow pipe. BWSC sent a letter to the Boston Inspectional Services Department notifying them of the issues found in the area requesting that they use their legal authority to fix the issue. 	DCR will coordinate/follow-up with Boston ISD regularly to ensure the illicit discharge removal occurs. DCR will conduct a wet weather investigation once Boston Inspectional Services Department confirms the discharge has been removed.



	Catchment Ir	nvestigation St	atus ¹		
Receiving Water (ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Illicit Discharge Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Unnamed Tributary	(MA72-38)		_		
MH-27352	Complete	Not Started	Illicit Discharge Identified and Removed	 BWSC capped the illicit sewer lateral entering DCR's drainage system from 651 West Roxbury Parkway and properly re-connected it to the sewer main in the street. BWSC performed confirmatory screening downstream of the fixed lateral, which did not show any evidence of sewage in the drain. BWSC confirmed via their own investigation that 647 West Roxbury Parkway was properly connected to the sewer main in the street. DCR capped old connections to the drainage system from 647 and 651 West Roxbury Parkway using short structural liner. DCR completed the dry weather catchment investigation throughout the catchment and confirmed that the illicit discharge has been eliminated. 	DCR will conduct wet weather screening on the discharge structure.
Benetts Pond Brook					
IN-4414	Not Needed	Complete	Catchment Investigation Complete - No Illicit Discharge Detected	DCR completed the Highest priority outfall catchment investigation prior to Permit Year 7.	Catchment investigation is complete.



	Catchment Investigation Status ¹				
Receiving Water (ID), Area/ Town;	Dry	Wet	Illicit Discharge Identification		
Outfall	Weather	Weather	Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Charles River (MA72-	38); Storrow Dr	ive			
OF-19326	In Progress	Not Started	Investigation in Progress – Potential Non- stormwater Flow Detected	 Conducted a confirmatory dry weather catchment investigation to determine if previous maintenance actions had eliminated non-stormwater flow, but still found evidence of contaminated groundwater in the system. Grouted and sealed additional structures within the catchment. Conducted additional confirmatory screening within the catchment and continued to find evidence of contaminated groundwater in the catchment. Conducted additional maintenance work in the catchment to ensure all structures and pipes were sealed to prevent groundwater infiltration. 	DCR will conduct confirmatory screening to determine if the most recent maintenance actions eliminated contaminated groundwater infiltration.



Receiving Water		nvestigation St	Illicit Discharge		
(ID), Area/ Town; Outfall	Dry Weather	Wet Weather	Identification Status ²	Permit Year 7 Investigation Actions	DCR's Next Steps ³
Winthrop Bay (MA70	1			,	
MH-36958	In Progress	Not Started	Illicit Discharge Identified – Removal in Progress	 Conducted dry weather screening at MH16874. Results exceeded sewer input indicator thresholds in the Permit, which elevated this catchment to Highest Priority. Completed a routine dry weather catchment investigation in the catchment, which identified several pipe segments in the western trunkline of the catchment that had potential nonstormwater flow. Reviewed available data and identified a nearby BWSC sanitary sewer main line running adjacent to the pipe segments with potential contamination. Conducted dye testing on nearby sanitary sewer lines. Results did not indicate a sanitary sewer connection as dye was not observed in the drainage system. Conducted additional testing to determine whether potential contamination originated from interconnected BWSC Pipe or from infiltration. DCR cleaned and jetted pipes in the catchment and plugged the outlet of the system. DCR observed the system and noted active infiltration. Sampled active infiltration and results indicated there was potential contamination in the infiltrating groundwater. 	DCR will line the pipes through which contaminated groundwater is infiltrating and conduct confirmatory screening.

Notes:

1 – Catchment Investigation Status descriptions:

Not Started: Investigation has not begun. **In Progress:** Investigation is on-going.

Complete: Investigation is complete and either no suspect flow has been identified or suspect flow has been identified and removed as a result of the investigation.

2 - Illicit Discharge Identification Status descriptions:





Catchment Investigation Complete - No Illicit Discharge Detected: Catchment investigation is complete and no illicit discharges were detected.

Investigation in Progress - Potential Non-stormwater Flow Detected: Potential non-stormwater flow was detected and identification of the source is still ongoing.

Investigation in Progress - No Illicit Discharge Detected: The catchment investigation is in progress and non-stormwater flow has not been detected to date.

Illicit Discharge Identified - Removal In Progress: An illicit discharge has been identified and mitigation measures are planned/are in progress.

Illicit Discharge Identified and Removed: An illicit discharge has been identified and removed.

3 – See Appendix A for details on catchment actions after Permit Year 7.



Appendix D – Removed Illicit Discharge Details

Illicit ID 1

- > Location: Community Rowing, Boston (Charles River)
- > Description: two sinks (hand washing basins) discharging into a catch basin
- > Associated outfall ID: 34414.10
- Associated catchment ID: 82
- > Method and date of discovery: catchment investigation on 5/19/2021
- > Date of elimination: 6/7/2021
- Date of confirmatory Dry Weather Screening: N/A⁸
- Date of confirmatory Wet Weather Screening: N/A⁹
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: DCR contacted the facility manager to inform him that the illicit sink drain must be disconnected from DCR's drainage system. The facility manager complied with the order and sent DCR photo evidence confirming that the illicit discharge had been removed.
- > Estimated volume of sewage removed: N/A. Sewage was not the source of the illicit discharge.

Illicit ID 2

- > Location: Lynn Shore Reservation, Nahant (Nahant Bay)
- Description: Non-stormwater flow originated from abandoned pipes in adjacent Sewer Manhole (SMH), which services the DCR Coastal Operations Building, that were not properly plugged. Abandoned pipes discharged into backfill/bedding material of drainage pipe 66669193 and infiltrated through first two pipe joints downstream of Manhole 666666941.
- > Associated outfall ID: 666667157.00
- > Associated catchment ID: 88
- Method and date of discovery: Dye testing on 12/14/2022
- > Date of elimination: 1/11/2023
- Date of confirmatory Dry Weather Screening: 11/3/2023

⁸ The structure at which this illicit discharge was discovered did not have flow nor did any structures in the catchment show signs of an illicit discharge before the illicit connection was removed. This illicit discharge was discovered incidentally during the investigation, rather than being located as the result of detection through dry weather flow screening/sampling. As such, confirmatory screening was deemed unnecessary.



- Date of confirmatory Wet Weather Screening: 3/7/20249
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: The illicit discharge was eliminated by removing and capping abandoned pipe stubs in adjacent sanitary sewer manhole (SMH) and installing cementitious lining to prevent exfiltration through SMH masonry. Dye testing completed after maintenance work confirmed the removal of the illicit discharge.
- > Estimated volume of sewage removed: 15 gallons/day
 - \circ Formula: P \times WWR \times ER = Volume of Sewage Removed (Gallons/Day)
 - **P** = 20 persons
 - Average daily occupancy DCR Coastal Operations Building
 - o **WWR** = 5 gallons/person/day
 - Assumed typical wastewater flow rates from DCR Coastal Operations Building
 - **ER** = 0.15 gallons of wastewater exfiltration from illicit discharge/gallons of wastewater flow to illicit discharge
 - DCR estimate based on dye test observations

Illicit ID 3

- > Location: Lynn Shore Reservation, Nahant (Nahant Bay)
- > Description: Exfiltration from adjacent cracked sanitary sewer line
- > Associated outfall ID: 666667157.00
- > Associated catchment ID: 88
- > Method and date of discovery: CCTV on 1/17/2023
- > Date of elimination: 10/11/2023
- > Date of confirmatory Dry Weather Screening: 11/3/2023
- Date of confirmatory Wet Weather Screening: 3/7/2024¹⁰
- Mitigation or enforcement action or planned corrected measures and schedule for completing the illicit discharge removal: DCR installed a Cured-in-Place-Pipe (CIPP) liner to seal the cracked sanitary sewer pipe and prevent any future sewage exfiltration.
- > Estimated volume of sewage removed: 15 gallons/day
 - Formula: P × WWR × ER = Volume of Sewage Removed (Gallons/Day)
 - P = 20 persons
 - Average daily occupancy DCR Coastal Operations Building

⁹ The Illicit Discharge was discovered and removed prior to the first wet weather screening and sampling event. As such, this wet weather screening satisfies both the standard and confirmatory wet weather screening requirements pursuant to the MS4 Permit sections 2.3.4.8.c.ii.2 and 2.3.4.8.e.ii, respectively.

¹⁰ The illicit discharge was discovered and removed prior to the first wet weather screening and sampling event. As such, this wet weather screening satisfies both the standard and confirmatory wet weather screening requirements pursuant to the MS4 Permit sections 2.3.4.8.c.ii.2 and 2.3.4.8.e.ii, respectively.



- o **WWR** = 5 gallons/person/day
 - Assumed typical wastewater flow rates from DCR Coastal Operations Building
- ER = 0.15 gallons of wastewater exfiltration from illicit discharge/gallons of wastewater flow to illicit discharge
 - DCR estimate based on dye test observations