

CITY OF SOMERVILLE, MASSACHUSETTS
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DEPARTMENT of INFRASTRUCTURE & ASSET MANAGEMENT
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SOMERVILLE IDDE INVESTIGATION – PERMIT YEAR 7 CATCHMENT INSPECTION

This Catchment Memo summarizes the key findings of inspections and recommendations for Task 1, Illicit Discharge, Detection, and Elimination (IDDE) Investigation: Data Management and Reporting. Woodard & Curran, along with their subcontractor, Stacey DePasquale Engineering, Inc (SDE), organized and performed the inspections described in this report. The inspection results summarized in this report, unless otherwise noted, took place between July 1, 2024 through June 30, 2025.

The City has been progressing through catchment investigations since Permit Year 3 (July 1, 2020 through June 30, 2021).

Catchments have been placed into the following categories:

- **Catchment Closed:** Catchments have been substantially investigated, and no potential likely sewer indicators were present. These catchments are considered cleared/complete with no further action needed.
- **Resolution in Progress:** All key junction manholes within the catchment have been investigated. Flow sampled from one or more pipes within the catchment exceeded the likely sewer indicator thresholds. Contamination has been isolated to the smallest segment of pipe possible. The source of contamination was located and work to abate the illicit is ongoing. Once abatement is completed, follow-up investigations will need to be conducted downstream of the issue to verify that there is no further contamination present.
- **Investigation Ongoing:** Catchment investigations have been initiated within the catchment but are not substantially complete. Continued investigation is required, either of key junction manholes or the contamination has been isolated and dye tests are planned or ongoing.
- **Contaminated Below MS4 Threshold:** All key junction manholes within the catchment have been inspected. Flow from one or more pipes within the catchment exceeded one or two of the likely sewer indicator thresholds but not all three. From a regulatory perspective, these catchments are completed. Follow up investigations within these catchments could take place, but not until after other higher priority catchments have been completed.

The status of all catchment investigations is summarized in Table 1.





TABLE 1: CATCHMENT INVESTIGATION SUMMARY

Catchment	Investigation Status
4	Catchment Closed
6	Catchment Closed
7	Resolution in Progress
8	Catchment Closed
9	Catchment Closed
10	Investigation Ongoing
11	Investigation Ongoing
12	Catchment Closed
14	Contamination Below MS4 Threshold
19	Catchment Closed
21	Catchment Closed
25	Contamination Below MS4 Threshold
26	Contamination Below MS4 Threshold
28	Resolution in Progress
29	Investigation Ongoing
31	Resolution in Progress
32	Investigation Ongoing

Investigation Approach

Field crews completed catchment investigations in the following catchments during this permit year:

- Catchment 7
- Catchment 10
- Catchment 11
- Catchment 29
- Catchment 31
- Catchment 32

Woodard & Curran conducted follow-up investigations of the pipe segments with high levels of contamination via building inspections, dye flushing of private infrastructure, dye flushing of public infrastructure, and mapping related field investigations. The areas for further investigation were identified during Permit Year 3 (July 1, 2020 – June 30, 2021) since this is when original pipe inspections were completed. The PY3 inspections resulted in contamination findings that the City is still working to address.

The building inspection effort is detailed in **Attachment A** (Somerville IDDE Investigation – Permit Year 7 Building Inspection Memo). Results from the building inspection effort are also included in this memo.

A summary of the investigations completed during Permit Year 7 and the recommendations for next steps are provided in the following sections.





CATCHMENT 7

Catchment 7 is located along Broadway from Clarendon Avenue, including Weston Avenue, to the Alewife Brook Parkway. The outfall for this catchment discharges into Alewife Brook. Contaminated storm drain manholes identified during Permit Year 3 are presented in Table 2.

TABLE 2: CONTAMINATED STORM DRAIN MANHOLES IN CATCHMENT 7

Manhole	Pipe	Street	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Meets Likely Sewer Indicators?
7-5827	7-5828 : 7-5827	Broadway at Farragut Street	1	0.25	Not Detected	No
7-6377	7-6376 : 7-6377	Broadway at Belknap Street	10	0.25	0.8	Yes
7-5833	UNK : 7-5833	Weston Avenue	2	3	0.61	Yes

The City determined the source of the illicit connection at storm drain manhole 7-6377 was located at 1241 Broadway in June 2022. The City provided the property owner with next steps to remove the illicit connection; however, a three-alarm fire broke out at the property. The City flagged this address in the permitting system so a new sewer connection will be required before a Certificate of Occupancy is issued. For these reasons the City considers this illicit connection to have been removed as of July 4, 2022. As of June 2024, the property has a new building permit. The conditions for the Certificate of Occupancy are as follows: *“The illicit sanitary connection must be cut and capped at the drain main, and a new connection made to the sanitary main.”* The City plans to conduct confirmatory dye testing at this location at the time the Certificate of Occupancy is issued and resample storm drains to confirm that no additional illicit connections exist in that segment of the pipe.

A post-correction manhole inspection was completed at manhole 7-6377 on May 9, 2023. The manhole was still found to be contaminated with an ammonia concentration of 3.00 milligrams per liter (mg/L) and a chlorine concentration of 0.05 mg/L. The results are below the combined likely sewer indicator thresholds; however, the ammonia concentration was high enough to warrant additional follow up. Woodard & Curran reviewed closed-circuit television (CCTV) footage of the storm drain and sanitary sewer pipes on Belknap Street and Broadway to look for possible sources of contamination and noticed several structural defects which may allow wastewater to infiltrate into the storm drain. Additionally, SMH A-61 at the intersection of Belknap Street and Broadway is likely contributing to the contamination by wastewater spilling over the weir or infiltration through old bricks.

Permit Year 7 Investigation

Over the past permit year, sanitary sewer rehabilitation in the Belknap Street area took place as part of the City’s ongoing West Somerville Sewer and Storm Rehabilitation project. The project scope includes full replacement of SMH A-61 and cured-in-place pipe lining of the sanitary sewer on Belknap Street. This





project is approaching the end of construction and is anticipated to be completed this summer. Post-construction sampling will be completed to ensure the problem is resolved.

The source of contamination at storm drain manhole 7-5827 has continued to be investigated, however field investigations have focused on 7-5833 near Weston Ave since this contamination is upstream of 7-5827 and may be causing the downstream contamination. As a follow up to extensive dye testing of adjacent properties and the pole camera inspection, closed-circuit television (CCTV) inspections were completed in November 2024 to document possible defects that could contribute to contamination in the storm drain. The CCTV inspections showed that the defects in the sanitary sewer and storm sewer are likely leading to a high likelihood for exfiltration of wastewater out of the sanitary sewer and into the City's MS4 drainage system. Please refer to **Attachment B** for a memo summarizing the inspections completed on Weston Ave to date and recommended next steps. It is recommended that the City rehabilitate the sanitary sewer and storm drain pipes on Weston Ave to prevent contamination from entering the drainage system. Follow up confirmatory sampling will be completed after rehabilitation is complete.

Next Steps

Catchment 7 is currently categorized as Resolution in Progress. There are no immediate next steps within Catchment 7 as rehabilitation measures are ongoing. Confirmatory sampling will be completed once the Weston Ave sewer rehabilitation is completed.





CATCHMENT 10

Catchment 10 is located in West Somerville and includes Sterling Street and Gordon Street. The original Permit Year 3 catchment investigation showed the presence of chlorine and E. coli at Outfall 10, but the results did not meet the likely sewer indicator criteria. Upstream key junction manhole inspections were conducted at the following drainage manholes: 10-6033, 10-6037, 10-6041, 10-5863, and 10-6044. There was one positive test kit at 10-6033 but it was below the likely sewer indicator threshold. No further follow-up inspections were necessary.

Permit Year 7 Investigation

During this permit year, the City undertook a project called the West Somerville Sewer Rehabilitation project in this area. During this work, suds were observed in the storm drain during a spot repair on Sterling Street. Suds are classified as visual evidence of sewage, which triggered additional catchment investigations. In response, SDE completed dye tests at adjacent properties on Sterling Street in July 2024. SDE located illicit connections at 12 Sterling Street, 16 Sterling Street, and 17 Sterling Street. A summary of the three illicit connections is provided in Table 3.

TABLE 3: CATCHMENT 10 ILLICIT CONNECTION SUMMARY

Address	Catchment Area	Date of Verification	Status
16 Sterling Street	10	7/10/2024	Abatement Complete, Confirmatory Sampling Pending
17 Sterling Street	10	7/22/2024	Abatement Complete, Confirmatory Sampling Pending
12 Sterling Street	10	7/30/2024	Abatement Complete, Confirmatory Sampling Pending

Additional information on these illicit connections is included in **Attachment A** (Somerville IDDE Investigation – Permit Year 7 Building Inspection Memo). Property owners abated the illicit connections and SDE completed confirmatory dye testing in October-November 2024. Confirmatory dye tests were legal, indicating that the illicit connections have been removed. However, SDE re-sampled drainage manhole 10-5504 in April 2025 and observed visual evidence of sewage. Although all adjacent properties have previously been tested, SDE is re-attempting building inspections along pipe segment 10-5503 : 10-5504 since there appears to be an additional illicit connection. As of June 30, 2025, the additional illicit connection has not been found, and investigations are ongoing.

Next Steps

Catchment 10 is categorized as Investigation Ongoing. The City sent notices to property owners of buildings adjacent to 10-5503 : 10-5504 to indicate the reason for additional dye testing. Residents have started to schedule appointments for dye testing. The City will follow up with property owners to ensure all properties are retested in a timely manner.





CATCHMENT 11

Catchment 11 is located in West Somerville and includes Woods Ave and Fairfax Street. The original Permit Year 3 catchment investigation showed the presence of E.coli and surfactants at Outfall 11, but the results did not meet the likely sewer indicator criteria. Follow-up inspections were conducted in November 2023 to confirm Catchment 11 can be closed out, however manhole inspections on Woods Ave resulted in surfactant and chlorine levels above the permit threshold and ammonia levels near the permit threshold. Dye tests were completed after the November 2023 inspections at all adjacent buildings to pipe segment 11-5865 : 11-5494, and all results were Legal.

Permit Year 7 Investigation

In an attempt to re-confirm where the contamination begins, additional samples were collected in June 2025 to gather updated data. A summary of the June 2025 sampling results is shown in Table 4. Note that although the November 2023 investigations resulted in detection of human bacteriodes, the June 2025 investigations did not detect any human bacteriodes.

TABLE 4: WOODS AVE MANHOLE SAMPLING RESULTS

Pipe ID	Inspection Date	Ammonia (mg/L)	Chlorine (mg/L)	Surfactants (mg/L)	Meets Likely Sewer Indicators ?	Total Bacteriodes (Cell Equivalents / 100 mL)	Human Bacteriodes (Cell Equivalents / 100 mL)
FIT-55 : 11-5864	6/24/25	0.3	0.06	2.0	No	None Detected	None Detected
	11/21/23	-	0.27	0.75	No	-	125
11-5864 : 11-5865	6/24/25	0.1	0.08	1.0	No	92	None Detected
	11/29/23	0.25	0.55	0.75	No	68,670	None Detected
11-5865 : 11-5494	6/24/25	0.1	0.25	1.0	No	None Detected	None Detected
	11/20/23	-	0.07	-	No	None Detected	42,238
	11/29/23	0.2	0.17	0.75	No	49,712	None Detected

Since all building inspections along 11-5865 : 11-5494 are Legal and the recent sample results show no detection of human bacteriodes, there is no evidence of sewage.

SDE completed follow up inspections at 11-5502 on Fairfax Street in May 2025 to complete inspections at all key junction manholes. The results are shown in Table 5.





TABLE 5: FAIRFAX STREET MANHOLE SAMPLING RESULTS

Pipe ID	Ammonia (mg/L)	Chlorine (mg/L)	Field Surfactants (mg/L)	Lab Surfactants ¹ (mg/L)	Meets Likely Sewer Indicators?	Total Bacteroides (Cell Equivalents / 100 mL)	Human Bacteroides (Cell Equivalents / 100 mL)
11-5498 : 11-5500	0.1	0	0.25	None Detected	No	9,132	None Detected
11-5500 : 11-5501	0.5	0.26	0.25	None Detected	No	25,897	None Detected
11-5501 : 11-5502	0.8	0.07	0.5	7.0	Yes	89,689	775

¹ Lab values used to determine if the sample meets sewer indicators where lab samples were taken

Based on the Fairfax Street sampling results, specifically the high value of surfactants and the presence of human bacteroides in pipe segment 11-5501 : 11-5502, there is likely an illicit connection in this area. Building inspections are in progress at properties adjacent to this pipe segment. As of June 30, 2025, four (4) buildings have been inspected and all results are Legal. There are eight (8) buildings remaining.

Next Steps

Catchment 11 is categorized as Investigation Ongoing. SDE will continue dye testing the remaining properties on Fairfax Street in an attempt to locate an illicit connection.





CATCHMENT 29

Catchment 29 accepts drainage from MassDOT along Fellsway (State Route 28). SDE completed pipe inspections throughout the catchment in May 2025. The May 2025 sample results are shown in Table 6.

TABLE 6: MAY 2025 CATCHMENT 29 PIPE INSPECTION SUMMARY

Access Location	Pipe	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Meets Likely Sewer Indicators?
Outfall 29	29-6461 : Outfall 29	1	1.5	0.03	Yes
S2-6352	S2-6351 : S2-6352	N/A – Standing Water			
29-6462	SW-CB-01940 : 29-6462	N/A – Standing Water			
29-6461	29-6462 : 29-6461	6	0.5	0.06	Yes
29-6462	S2-6352 : 29-6462	3	0.75	0.03	Yes
29-6462	SW-CB-03717 : 29-6462	N/A – Standing Water			
S2-6352	S2-6280 : S2-6352	0	0.75	0.08	No

Permit Year 7 Investigation

Based on the results in the table above, three of seven pipe inspections met the likely sewer indicators. Additionally, three of the pipe segments had standing water and were unable to be sampled. Note that both pipes with standing water leading to DMH 29-6462 were observed to be dry at the upstream catch basins, indicating that standing water originates within the pipe.

SDE returned to Catchment 29 for human and total bacteroides sampling at pipe segment 29-6462 : 29-6461 in June 2025, and both tests were non-detect. A sample was also collected for laboratory surfactants analysis. The results are shown Table 7.

TABLE 7: 29-6462 : 29-6461 JUNE 2025 SAMPLE RESULTS

Pipe ID	Ammonia (mg/L)	Chlorine (mg/L)	Field Surfactants (mg/L)	Lab Surfactants ¹ (mg/L)	Meets Likely Sewer Indicators?	Total Bacteroides (Cell Equivalents / 100 mL)	Human Bacteroides (Cell Equivalents / 100 mL)
29-6462 : 29-6461	6.0	0.06	0.5	0.32	Yes	None Detected	None Detected

¹ Lab values used to determine if the sample meets sewer indicators where lab samples were taken





This indicates that contaminated water may be entering this catchment; however, there is no evidence of sewage. The City plans to prioritize other areas of the MS4 drainage area where sewage may be entering the system, but will continue following up in Catchment 29 to address the contamination. The recommended next step is to dye test adjacent properties along Fellsway.

Next Steps

As of September 2025, Catchment 29 is categorized as Investigation Ongoing. On 7/28/2025 (after PY7), SDE identified an illicit connection at 218 Fellsway via dye testing. Note that this illicit connection is not included in **Attachment A** (Somerville IDDE Investigation – Permit Year 7 Building Inspection Memo) since it was found after PY7. The abatement of this illicit connection is ongoing. Follow up activities include filming the private sewer lateral and sewer mapping updates to confirm connectivity to City infrastructure along Fellsway.





CATCHMENT 31

Catchment 31 is located along Broadway from Boston Avenue to Bay State Avenue, it extends up Pearson Road, and covers the neighborhood and a portion of Tufts University campus west of Pearson Road. The “outfall” for this catchment is an interconnection manhole with the City of Medford, located on Pearson Road. Contaminated storm drain manhole identified during Permit Year 3 is presented in Table 8.

TABLE 8: CONTAMINATED STORM DRAIN MANHOLES IN CATCHMENT 31

Manhole	Pipe	Street	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Meets Likely Sewer Indicators?
31-6455	31-5005 : 31-6455	Broadway	10	0.75	0.54	Yes

The City has attempted building inspections, dye testing, and mapping investigations in areas adjacent to the manhole and associated pipe from in Table 8 during previous permit years.

During PY6, SDE completed follow-up manhole sampling on Mallet Street and Willow Ave. An inspection of DMH 31-5144 in November 2023 showed the presence of chlorine and lab surfactants. A previously unmapped drainage manhole, DMH-7000, was discovered during field investigations. Sampling of infiltration into this manhole showed the presence of chlorine (3.74 mg/L), ammonia (0.8 mg/L), lab surfactants (0.19 mg/L), and E. coli (10 MPN/100 mL). The chlorine and ammonia results were above permit thresholds, while the lab surfactants and E.coli were not. In attempts to determine the contamination source, building inspections were attempted on Willow Ave. In PY6, 20 properties along pipe segment 31-7000 : 31-5144 were inspected and all results were Legal.

Permit Year 7 Investigation

Since higher groundwater levels occur in the spring, SDE returned to DMH-7000 in April 2025 to see if infiltration was entering the structure, but it was observed to be dry. The City is working to address other contamination in Catchment 31 prior to further investigations on Willow Ave.

SDE returned to inspection drainage pipes on Broadway in Catchment 31 in PY7. This area had previously been investigated, but follow-up was on hold until a construction project in this area was completed. The PY7 follow up investigations completed in September 2024 yielded the results shown in Table 9.





TABLE 9: PY7 CATCHMENT 31 SAMPLING RESULTS

Manhole	Pipe	Street	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Meets Likely Sewer Indicators?
31-5999	31-5999 : 31-5004	BOSTON AVE	Not Detected	Not Detected	Not Detected	No
31-247	31-247 : 31-5004	ROGERS AVE	Not Detected	Not Detected	Not Detected	No
31-5005	31-5005 : 31-6455	BROADWAY	10	3	0.19	Yes
31-6455	31-6455 : 31-5012	BROADWAY	10	3	0.17	Yes
31-6457	31-6457 : 31-6455	JOSEPHINE AVE	Not Detected	Not Detected	Not Detected	No

As shown in Table 9, two of the five sample results warranted further investigation. SDE began dye tested properties on Broadway adjacent to pipe segments 31-5005 : 31-6455 and 31-6455 : 31-5012. These parcels are primarily commercial properties with retail and restaurant spaces on the lower floors and apartments on upper floors.

In October and November of 2024, two illicit connections were found at 691 Broadway (Neighborhood Produce) and 701 Broadway (Alpha Dental). A summary of these two illicit connections is provided in Table 10. Refer to Attachment A (Somerville IDDE Investigation – Permit Year 7 Building Inspection Memo) for additional details around these illicit connections.

TABLE 10: CATCHMENT 31 ILLICIT CONNECTIONS SUMMARY

Address	Catchment Area	Date of Verification	Status
691 Broadway	31	10/23/2024	Abatement Complete, Confirmatory Sampling Pending
701 Broadway	31	11/6/2024	Abatement Complete, Confirmatory Sampling Pending

Since two illicit connections were found among the commercial properties in this area, SDE continued dye testing all commercial properties along the two contaminated pipe segments on Broadway.

Next Steps

Catchment 31 is currently categorized as Resolution in Progress. SDE will conduct confirmatory sampling to ensure there is no remaining contamination in this area.

While additional investigations along Willow Avenue may be necessary in the future, the City is currently prioritizing efforts to address other sources of contamination within Catchment 31 before proceeding further in that area.





CATCHMENT 32

Catchment 32 is located at the Assembly Square neighborhood. The catchment is bordered by the Mystic River, the Massachusetts Bay Transportation Authority (MBTA) railroad, Mystic Avenue, Revolution Drive, and Grand Union Boulevard. The outfall for this catchment discharges to the Mystic River. Contaminated storm drain manholes identified during Permit Years 3 and 5 are presented in Table 11.

TABLE 11: CONTAMINATED STORM DRAIN MANHOLES IN CATCHMENT 32

Manhole	Pipe	Street	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Meets Likely Sewer Indicators?
32-6265 ¹	32-6267 : 32-6265	Revolution Drive	3	0.25	0.26	Yes
32-6425 ²	32-6425 : 32-6424	Revolution Drive	3	0.75	0.82	Yes
32-6424 ²	32-6424 : 32-6423	Revolution Drive	3	0.75	1.28	Yes
32-6389 ¹	32-6124 : 32-6389	Foley Street	0.8	0.25	0.09	Yes
32-6122 ¹	32-7001 : 32-6122	Canal Street	10	1.5	1.63	Yes
UNK ¹	UNK : 32-7012	Grand Union Blvd	0.2	Not Detected	1.51	No
1 – Inspection completed during Permit Year 3 2 – Inspection completed during Permit Year 5						

Catchment 32 is a highly interconnected catchment that also experiences tidal influence based on the location of the outfall. Due to tidal influence, the drain line has been observed flowing in reverse. For this reason, while there are multiple distinct areas of the catchment, the backflow characteristics make it hard to isolate contamination sources. The main regions within Catchment 32 (Canal Street, Foley Street, Revolution Drive, and Grand Union Boulevard) are shown in Figure 1.



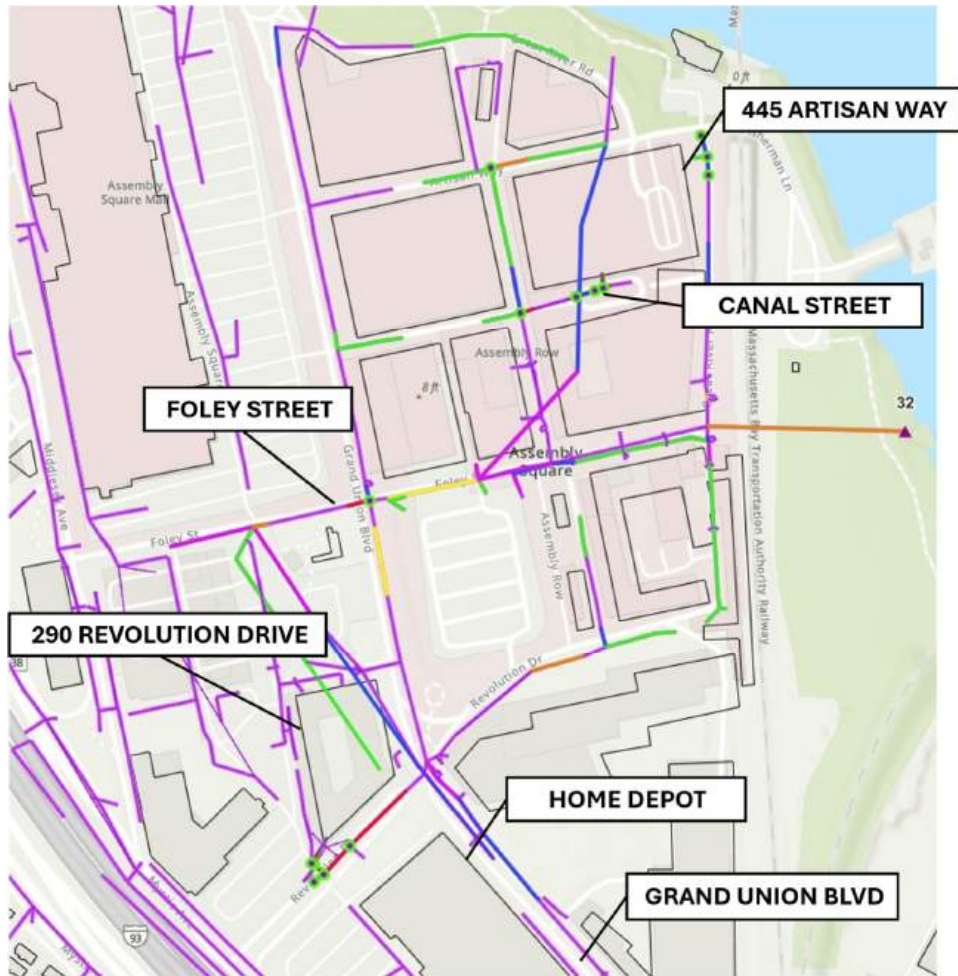


FIGURE 1: CATCHMENT 32 OVERVIEW

The major areas are generally broken down as follows:

Revolution Drive: Sampling results from December 2020 showed that pipe segment 32-6267 : 32-6265 on Revolution Drive met the likely sewer indicators threshold. The contaminated pipe is located in front of 290 Revolution Drive, which is a newly constructed building. Upstream sampling was completed in June 2023 to determine the source of contamination, and it was determined that contamination began in DMH 32-6425. Investigations from prior permit years near 290 Revolution Drive indicated that flow in DMH 32-6425 was associated with warmer weather, potentially caused by condensate from a HVAC unit discharging into a roof drain. This theory was suggested because all building dye tests were legal and the structure always observed dry during winter months. SDE was able to complete pipe inspections during warmer weather conditions in June 2025. When SDE re-visited this location in June 2025, a sample was taken for human and total bacteroides; however, both test results were non-detect. This indicates that some source of ammonia is getting into the drainage system in this area, but there is no evidence of sewage. There is a





perforated pipe connected to DMH 32-6425, so it is thought that groundwater may be allowing the ammonia into the system. The ammonia could also be condensate from the HVAC unit. There are other areas of Catchment 32 that have evidence of sewage contamination; therefore, the City will focus on areas that have a larger health and safety risk before completing any follow up investigations at 290 Revolution Drive.

Canal Street: The sampling results from December 2020 showed that pipe segment 32-7001 : 32-6122 on Canal Street met the likely sewer indicators threshold. This segment is located downstream of 445 Artisan Way, which is a large retail/commercial/apartment complex. The pipe segment (32-7000 : 32-6443) had a sewage odor and visual evidence of sewage present during an April 2023 inspection. CCTV was completed on Canal Street in September 2023 of pipes on the eastern side of DMH 31-6122. The CCTV inspections showed an unmapped inlet in DMH 32-6442. The inlet was observed to have waste and toilet paper entering the drainage manhole. The camera went 54.8' into the property of 445 Artisan Way (this property is an apartment complex also known as 450 Canal Street) and could not move around the bend, however more toilet paper was seen coming from that direction. This is a suspected illicit connection from the apartment complex. As mentioned previously, there was also potential waste/visual evidence observed in DMH 32-7000 in April 2023. There could potentially be multiple issues here as this is not in line with the unmapped inlet to 32-6442.

Permit Year 7 Investigation

In attempts to verify the suspected illicit connection at 445 Artisan Way, SDE has completed two rounds of dye tests at the AVA Apartments located at this address, with at least two tests per vertical sanitary sewer stack. SDE has also completed dye tests at each commercial property at street level, under the AVA Apartment complex. As of June 30, 2025, there are no reasonable dye tests remaining that should fall under the responsibility of the City. There is visual evidence of an illicit connection coming from 445 Artisan Way, and the City has taken the investigations as far as possible. At this point, the City plans to mandate the property owner abate the illicit connection using their own resources.

Next Steps

Catchment 32 is categorized as Investigation Ongoing. Based on the investigations completed during Permit Year 7, the City did not verify any infrastructural issues or illicit connections in the City's infrastructure in the previously identified contaminated areas. However, there is a suspected illicit connection at 445 Artisan Way. The contamination from 445 Artisan Way could be impacting other locations throughout the catchment. The City plans to enforce the City of Somerville Ordinance 2020-11 Section 11-176 to ensure the property owner removes the illicit connection. The contaminated storm pipe on Canal Street is the highest priority pipe for investigations in Catchment 32, so field efforts will focus on this area before completing further inspections.





ATTACHMENT A: PERMIT YEAR 7 BUILDING INSPECTION MEMO



MEMORANDUM



TO: Stephanie Alimena, City of Somerville, Stormwater Program Manager
CC: Todd Prokop, Woodard & Curran
Colin Brown, SDE
FROM: Garrett Bergey, James Sherrard Jr, and Emily Nealon – Woodard & Curran
DATE: September 16, 2025
RE: Somerville IDDE Investigation – Permit Year 7 Building Inspection Memo

This Building Inspection Memo summarizes the key findings of inspections and recommendations for building inspections related to Illicit Discharge, Detection, and Elimination (IDDE) Investigation efforts. Woodard & Curran, along with their subcontractor, Stacey DePasquale Engineering, Inc (SDE), organized and performed the inspections described in this report. The inspection results summarized in this report took place between July 1, 2024 through June 30, 2025.

Investigation Approach

Field crews completed building inspections in the following catchments:

- Catchment 7
- Catchment 10
- Catchment 11
- Catchment 31
- Catchment 32

Woodard & Curran conducted follow-up investigations of the pipe segments with high levels of contamination identified during Permit Year 3 via building inspections and dye flushing. Where continued contamination was identified, additional investigations were completed to isolate the origin of the contamination. Buildings adjacent to these pipes were targeted for building inspections. Woodard & Curran assisted the City with letter generation and distribution to the building addresses. Further description of these activities and results are presented in the next section.

Dye testing and visual inspection of private sewer infrastructure was part of the building inspection procedure. After the dye test was completed, a crew member looked for confirmation of dye in both sewer and stormwater manholes to determine which system the building sewer service is connected to. The crew also performed a visual inspection of the services leaving the building to determine if there are one or more discharges and decide on the number of necessary dye tests. The results of the building inspections can be categorized as the types described below.

- *Legal:* Dye test result is Legal if dye is observed in sewer system only. This result confirms that an illicit connection does not exist at this property.



- *Not Legal:* Dye test result is Not Legal if dye is observed in stormwater system only. This result confirms that an illicit connection does exist at this property.
- *Dye in Both:* Dye test result is Dye in Both if dye is observed in sewer system and storm drain. This result is considered inconclusive but typically occurs when there is a leaking sewer lateral.
- *No Dye Found:* Dye test result is No Dye Found if dye is observed in neither the sewer system nor the storm drain. This result is inconclusive and further inspection of the infrastructure in the area should be completed.

Building Investigation Results

156 dye tests were completed during this reporting period at 32 unique buildings. **Table 1** shows a summary of the building inspection results and current building status. Refer to **Attachment 1** for the complete building inspection data. **Attachment 2** includes maps of the building locations and the building status.

TABLE 1: SUMMARY OF DYE TEST RESULTS

Status	# of Dye Tests
Legal	148
Dye in Both	4
Not Legal	2
No Dye Observed	2
Total	156

148 of 156 dye tests were Legal, while four (4) resulted in dye in both the sanitary sewer and storm systems. There were an additional two (2) dye tests that had a result of Not Legal, indicating that dye was only seen in the stormwater system. A total of five (5) illicit connections were discovered through these dye tests. The verified illicit connections are summarized in **Table 2**. Additional detail and action items associated with the notification and abatement schedule are provided in **Attachment 3**.



TABLE 2: VERIFIED ILLICIT CONNECTIONS AS OF JUNE 30, 2025

Address	Catchment	Date of Verification	Status
16 Sterling Street	10	7/10/2024	Abatement Complete, Confirmatory Sampling Pending
17 Sterling Street	10	7/22/2024	Abatement Complete, Confirmatory Sampling Pending
12 Sterling Street	10	7/30/2024	Abatement Complete, Confirmatory Sampling Pending
691 Broadway	31	10/23/2024	Abatement Complete, Confirmatory Sampling Pending
701 Broadway	31	11/6/2024	Abatement Complete, Confirmatory Sampling Pending

Two dye tests were inconclusive with a result of No Dye Found. One of the No Dye Found results was at 707 Broadway, where there are two discharge stacks and one is capped with a temporary cap. SDE removed the temporary cap and completed the dye test. No dye was observed after two hours. The City of Somerville intends to mandate that the property owner install a permanent cap on this discharge stack to identify any potential illicit connection in the future in the event that someone connects a fixture to this discharge stack. The second No Dye Found result was a restaurant at 445 Artisan Way. There was no access to the basement of this property. SDE tested the restaurant dishwater, which is located close to the grease separator, and no dye was observed.

Next Steps



There are 10 remaining buildings planned for inspection, which represent all known building inspections to date. As investigations continue, additional building dye tests may become necessary. These properties are located in Catchment 11, Catchment 31 and Catchment 32. The properties to be inspected in Catchment 11 are on Fairfax Street and Alewife Brook Parkway, adjacent to contaminated pipe segment 11-5501 : 11-5502. Building inspections at these properties have been attempted but not yet completed. In Catchment 31, there is one remaining business (Somerville Cleaners and Tailors) that needs to be tested at 717 Broadway. Similarly, Muse Paint Bar is the only remaining business that needs to be tested at 445 Artisan Way in Catchment 32. Pending the outcome of remaining investigations at 445 Artisan way, additional building dye tests may be required within Catchment 32. Coordination with these businesses to schedule a dye test is ongoing.

TABLE 3: PLANNED BUILDING INSPECTIONS

Catchment	Building Address	Contaminated Manhole
11	60 Fairfax Street	11-5502
11	62 Fairfax Street	11-5502
11	61 Fairfax Street	11-5502
11	63 Fairfax Street	11-5502
11	73 Fairfax Street	11-5502
11	79 Fairfax Street	11-5502
11	357 Alewife Brook Pkwy	11-5502
11	353 Alewife Brook Pkwy	11-5502
31	717 Broadway	31-6455
32	445 Artisan Way	32-6122

Additional building inspections are expected to be completed in Permit Year 8. The City will follow up with property owners as needed to ensure resident cooperation with planned dye tests.



ATTACHMENT 1: BUILDING INSPECTION DATA

Survey Inspection Date	Building Address	Unit Apt Suite Number	Test Results	Inspection Notes	Catchment ID
7/1/2024	228 WILLOW AVE	Apt. 2	Legal	N/A	31
7/10/2024	18 STERLING ST	N/A	Legal	N/A	10
7/10/2024	18 STERLING ST	N/A	Legal	N/A	10
7/10/2024	66 WOODS AVE	N/A	Legal	N/A	11
7/10/2024	16 STERLING ST	N/A	Dye in Both	Downspout also into ground	10
7/16/2024	10 STERLING ST	8	Legal	N/A	10
7/16/2024	7 STERLING ST	7	Legal	N/A	10
7/22/2024	17 STERLING ST	N/A	Dye in Both	Dye intensity equal in drain and sewer	10
7/22/2024	17 STERLING ST	N/A	Dye in Both	One stack into ground. Equal dye in both	10
7/29/2024	12 STERLING ST	A	Legal	Building also has downspouts into ground.	10
7/29/2024	12 STERLING ST	A	Legal	Dye in drain picture attached. Building also has downspouts into ground.	10
7/30/2024	55 WOODS AVE	55	Legal	Could only see half basement need to access other side (#57) to see if any more stacks	11
7/30/2024	12 STERLING ST	N/A	Dye in Both	N/A	10
7/31/2024	11 STERLING ST	11	Legal	N/A	10
8/14/2024	71 WOODS AVE	N/A	Legal	One stack into floor but cannot see if basement fixtures connect due to partial walls	11
8/14/2024	71 WOODS AVE	N/A	Legal	One stack into floor visible, partially finished. Bathroom sink tested since toilet wasn't flushing	11
8/20/2024	61 WOODS AVE	N/A	Legal	Inspected by Samuel Brunzell	11
8/28/2024	15 WESTON AVE	N/A	Legal	Laundry room toilet. Bagged drain and checked for dye after 3 hours, clear	7
8/28/2024	15 WESTON AVE	808	Legal	Put sandbag in drain. Clear after 3 hours. Also, the profile view is on the 8th floor, not the 4th.	7
8/28/2024	15 WESTON AVE	N/A	Legal	Put sandbag in MH. Clean after 3 hours. Profile view is in the 8th floor men's room, not floor 4.	7
8/28/2024	15 WESTON AVE	409	Legal	4th floor unit 409 toilet. Bagged and clear drain water after 3 hours	7
8/28/2024	15 WESTON AVE	N/A	Legal	Kitchen sink in community room on floor 8. Bagged drain and clear after 3 hours	7
8/28/2024	15 WESTON AVE	N/A	Legal	Bagged drain and clear after 3 hours. This test was a kitchen like sink	7
8/28/2024	15 WESTON AVE	N/A	Legal	Drain bagged and water clear after 3 hours. Basement single bathroom	7
9/3/2024	51 WOODS AVE	N/A	Legal	N/A	11
10/14/2024	12 STERLING ST	N/A	Legal	Post correction dye test, basement sink tested legal. Resident had a plumber install an ejector pump to connect the basement sink to the main stack.	10
10/14/2024	12 STERLING ST	N/A	Legal	N/A	10
10/23/2024	701 BROADWAY	691 Broadway, Neighborhood Produce	Not Legal	A slop sink in 701 Broadway (691 Neighborhood Produce) was tested. Dye arrived to the drain with full intensity after 5 minutes and was not seen in the sewer for thirty minutes. The discharge pipe the sink connects to seems like the roof drain	31
10/23/2024	701 BROADWAY	691 Broadway Neighborhood Produce	Legal	A basement toilet in 701 Broadway (691 Neighborhood Produce) was tested. No dye was seen after an hour. The toilet does not seem to connect to the illicit stack. The basement fixtures are both in a bathroom and likely connect. Likely drains to Medford	31
10/23/2024	701 BROADWAY	691 Broadway Neighborhood Produce	Legal	A washing sink in 701 Broadway (691 Neighborhood Produce) was tested. No dye was seen after an hour. The fixture is near the back of the building, which is next to Medford. It seems likely there is a stack that drains to Medford	31
10/23/2024	701 BROADWAY	691 Broadway Neighborhood Produce	Legal	A first floor toilet in 701 Broadway (691 Neighborhood Produce) was tested. No dye was seen after an hour. The fixture is near the back of the building, which is next to Medford. It seems likely there is a stack that drains to Medford	31
10/23/2024	701 BROADWAY	697 Broadway Upper level apartments	Legal	Able to test back restrooms in the upper level, but unable to enter the actual units. A toilet in a unit would be suspect due to its proximity to the illicit stack from Neighborhood Produce. These toilets likely drain to Medford.	31
10/23/2024	701 BROADWAY	697 Broadway Upper level apartments	Legal	Able to test back restrooms in the upper level, but unable to enter the actual units. A toilet in a unit would be suspect due to its proximity to the illicit stack from Neighborhood Produce. These toilets likely drain to Medford.	31
10/23/2024	692 BROADWAY	674 Broadway, Kelly's Diner	Legal	This was a test for 674 Broadway (Kellys Diner), at 692 Broadway. All pipes connected in the building.	31
10/23/2024	692 BROADWAY	682 Broadway, The Pub	Legal	Test done at 682 Broadway (The Pub), which is labeled 692 Broadway on the GIS. All pipes drained into a locked office in the basement, which staff did not have access to. A sink behind the bar was tested	31
10/23/2024	692 BROADWAY	682 Broadway, The Pub	Legal	Test done at 682 Broadway (The Pub), which is labeled 692 Broadway on the GIS. All pipes drained into a locked office in the basement, which staff did not have access to. A men's room toilet was tested	31
10/23/2024	692 BROADWAY	682 Broadway, The Pub	Legal	Test done at 682 Broadway (The Pub), which is labeled 692 Broadway on the GIS. All pipes drained into a locked office in the basement, which staff did not have access to. A women's room toilet was tested	31
10/23/2024	692 BROADWAY	682 Broadway, The Pub	Legal	Test done at 682 Broadway (The Pub), which is labeled 692 Broadway on the GIS. All pipes drained into a locked office in the basement, which staff did not have access to. An open pipe (conveying flow from sinks full of ice behind the bar) was tested	31
10/23/2024	692 BROADWAY	688 Broadway, Ciao Somerville	Legal	This test was for 688 Broadway (Ciao Somerville), which is labeled as 692 Broadway on the GIS. Unable to determine connectivity of fixtures. Tested upstairs toilet	31
10/23/2024	692 BROADWAY	688 Broadway, Ciao Somerville	Legal	This test was for 688 Broadway (Ciao Somerville), which is labeled as 692 Broadway on the GIS. Unable to determine connectivity of fixtures. A sink behind the stove was tested	31
10/23/2024	692 BROADWAY	688 Broadway, Ciao Somerville	Legal	This test was for 688 Broadway (Ciao Somerville), which is labeled as 692 Broadway on the GIS. Unable to determine connectivity of fixtures. A sink behind the front desk was tested	31
10/23/2024	692 BROADWAY	688 Broadway, Ciao Somerville	Legal	This test was for 688 Broadway (Ciao Somerville), which is labeled as 692 Broadway on the GIS. Unable to determine connectivity of fixtures. A sink behind the trash can where the espresso maker drains was tested	31
10/23/2024	692 BROADWAY	690 Broadway, Blue River	Legal	This test was done at 690 Broadway (Blue River), which is labeled as 692 Broadway on GIS. Only partial access to the basement, but all potential fixtures were tested. A men's room toilet was tested	31
10/23/2024	692 BROADWAY	690 Broadway, Blue River	Legal	This test was done at 690 Broadway (Blue River), which is labeled as 692 Broadway on GIS. Only partial access to the basement, but all potential fixtures were tested. A slop sink was tested	31
10/23/2024	692 BROADWAY	690 Broadway, Blue River	Legal	This test was done at 690 Broadway (Blue River), which is labeled as 692 Broadway on GIS. Only partial access to the basement, but all potential fixtures were tested. A kitchenette sink was tested	31
10/30/2024	701 BROADWAY	697 Broadway Upper level apartments Suite 3	Legal	This test is for 697 Broadway (Upper Level Apartments) at 701 Broadway. The unit is an office with one sink. No dye found after waiting for one hour. Discharge is likely going to sewer past the Medford line.	31
11/6/2024	701 BROADWAY	701 Broadway, Alpha Dental	Legal	This test was conducted in 701 Broadway (Alpha Dental, 701 Broadway). A staff toilet tested NDF after an hour. The discharge pipe goes into the floor on the Medford side of the building. The illicit pipes leave the building at a higher point in the wall.	31

Survey Inspection Date	Building Address	Unit Apt Suite Number	Test Results	Inspection Notes	Catchment ID
11/6/2024	701 BROADWAY	701 Broadway, Alpha Dental	Not Legal	This test was conducted in 701 Broadway (Alpha Dental, 701 Broadway). A toilet towards the front tested not legal after 20 minutes. The discharge pipe leaves the front of the building and comes down into the basement roughly where the toilet is. There seems to be another connection to this stack	31
11/13/2024	717 BROADWAY	715/717 Broadway True Grounds	Legal	Tested True Grounds Coffee House which is 715/717 Broadway. The sanitary pipes likely all connect but was unable confirm connection. Sanitary pipes go into the ground near the front of the building.	31
11/13/2024	717 BROADWAY	715/717 Broadway True Grounds	Legal	Tested True Grounds Coffee House which is 715/717 Broadway. The sanitary pipes likely all connect but was unable confirm connection. Sanitary pipes go into the ground near the front of the building.	31
11/13/2024	717 BROADWAY	715/717 Broadway True Grounds	Legal	Tested True Grounds Coffee House which is 715/717 Broadway. The sanitary pipes likely all connect but was unable confirm connection. Sanitary pipes go into the ground near the front of the building.	31
11/13/2024	704 BROADWAY	704 Broadway, Sound Bites Cafe	Legal	Dye tested Sound Bites Cafe which is 704 Broadway. There is likely only one sanitary discharge but tested multiple fixtures. Two discharge pipes leave the front of the building, one seems to be a drain (presumed roof drain).	31
11/13/2024	704 BROADWAY	704 Broadway, Sound Bites Cafe	Legal	Dye tested Sound Bites Cafe which is 704 Broadway. There is likely only one sanitary discharge but tested multiple fixtures. Two discharge pipes leave the front of the building, one seems to be a drain (presumed roof drain).	31
11/13/2024	704 BROADWAY	704 Broadway, Sound Bites Cafe	Legal	Dye tested Sound Bites Cafe which is 704 Broadway. There is likely only one sanitary discharge but tested multiple fixtures. Two discharge pipes leave the front of the building, one seems to be a drain (presumed roof drain).	31
11/13/2024	717 BROADWAY	719 Broadway The Blue Elephant	Legal	Dye Tested The Blue Elephant, which is 719 Broadway. Two discharge pipes leave the right side wall of the building.	31
11/13/2024	717 BROADWAY	719 Broadway The Blue Elephant	Legal	Dye Tested The Blue Elephant, which is 719 Broadway. Two discharge pipes leave the right side wall of the building.	31
11/13/2024	717 BROADWAY	711 Broadway Taco Party	Legal	Dye tested Taco Party which is 711 Broadway. Basement pipes seem to connect and leave out the back of the building, but are not fully visible.	31
11/13/2024	717 BROADWAY	719 Broadway The Blue Elephant	Legal	Dye Tested The Blue Elephant, which is 719 Broadway. Two discharge pipes leave the right side wall of the building.	31
11/14/2024	445 ARTISAN WAY	353	Legal	Tested unit 353 near stack 3	32
11/14/2024	445 ARTISAN WAY	380	Legal	Tested unit 380 near stack 9. John Davis assisted in facilitating these tests and can be reach at 617-388-2998	N/A
11/14/2024	445 ARTISAN WAY	371	Legal	Tested unit 371 near stack 4. John Davis assisted in facilitating these tests and can be reach at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	371	Legal	Tested unit 371 near stack 4. This test is for a second bathroom in the unit. John Davis assisted in facilitating these tests and can be reach at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	370	Legal	Tested unit 370 near stack 4. John Davis assisted in facilitating these tests and can be reach at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	352	Legal	Tested unit 352 near stack 3. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	361	Legal	Tested unit 361 near stack 6. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	336	Legal	Tested unit 336 near stack 2. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	366	Legal	Tested unit 366 near stack 5. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	384	Legal	Tested unit 384 near stack 9. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	325	Legal	Tested unit 325 near stack 7. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	305	Legal	Tested unit 305 near stack 8. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	305	Legal	Tested unit 305 near stack 8. This was for the other toilet in the unit (to the right of the door). John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/14/2024	445 ARTISAN WAY	307	Legal	Tested unit 307 near stack 8. John Davis assisted in facilitating these tests and can be reached at 617-388-2998	32
11/21/2024	17 STERLING ST	N/A	Legal	PC dye test. Retested the kitchen sink. Dye was observed in the sewer after 5 minutes. Dye was not observed in the drain after 45 minutes.	10
11/21/2024	17 STERLING ST	N/A	Legal	PC dye test. Retested the toilet. Dye was observed in the sewer after 5 minutes. Dye was not observed in the drain after 45 minutes.	10
11/21/2024	21 STERLING ST	N/A	Legal	Washing machine discharge goes into ground next to the sanitary stack which also goes into the ground. Dye from washing machine was seen in 1 minute. No dye observed at the drain after 30 min.	10
11/21/2024	21 STERLING ST	N/A	Legal	Washing machine discharge goes into ground next to the sanitary stack which also goes into the ground. Dye from the toilet was seen in 1 minute. No dye observed at the drain after 30 min.	10
11/21/2024	43 WOODS AVE	N/A	Legal	All sanitary pipes connect and go into the basement floor. Dye from the toilet was seen at the sewer in 5 minutes. No dye was observed in the drain after 30 min	11
11/26/2024	445 ARTISAN WAY	338	Legal	Dye tested the toilet on the right side of unit 338, near stack 2	32
11/26/2024	445 ARTISAN WAY	338	Legal	Dye tested the toilet on the left side of unit 338, near stack 2	32
11/26/2024	445 ARTISAN WAY	369	Legal	Dye tested the toilet on the left side of unit 369, near stack 5. Access granted by mother of homeowner who was at work. She asked us to leave before we could test the right side toilet	32
11/26/2024	445 ARTISAN WAY	313	Legal	Dye tested only toilet in 313, near stack 10	32
11/26/2024	445 ARTISAN WAY	332	Legal	Dye tested the toilet on the left side of unit 332, near stack 1	32
11/26/2024	445 ARTISAN WAY	332	Legal	Dye tested the toilet on the right side of unit 332, near stack 1	32
11/26/2024	445 ARTISAN WAY	323	Legal	Dye tested only toilet in 323, near stack 7	32
11/26/2024	445 ARTISAN WAY	322	Legal	Dye tested only toilet in 322 near stack 6	32
11/26/2024	445 ARTISAN WAY	326	Legal	Dye tested toilet on the right side of 326, near stack 1	32
11/26/2024	445 ARTISAN WAY	326	Legal	Dye tested toilet on the left side of 326, near stack 1	32
11/26/2024	445 ARTISAN WAY	314	Legal	Dye tested only fixture in 314, near stack 10	32
11/26/2024	445 ARTISAN WAY	369	Legal	Dye tested the toilet on the left side of unit 369, near stack 5. Access granted by mother of homeowner who was at work. She asked us to leave before we could test the right side toilet. Able to renter and tested right side toilet	32
11/26/2024	445 ARTISAN WAY	370	Legal	Dye tested only toilet in 370 near stack 4	32
12/3/2024	55 WOODS AVE	57	Legal	55 and 57 have separate basements. Each unit (in their half of the basement) has their own discharge stack that goes into floor. Unable to confirm if these stacks are connected.	11
12/5/2024	445 ARTISAN WAY	Garage Level Public Restroom	Legal	Tested the public womens bathroom in the garage. All toilet fixtures lined up.	32
12/5/2024	GIS ID: 701 BROADWAY	691 Broadway - Neighborhood Produce	Legal	Retest of a previous NDF now that we have access to Medford sewer. Dye came to sewer in 3 minutes.	31
12/5/2024	GIS ID: 701 BROADWAY	691 Broadway - Neighborhood Produce	Legal	Retest of a previous NDF now that we have access to Medford sewer. Dye came to sewer in 3 minutes.	31
12/5/2024	GIS ID: 701 BROADWAY	691 Broadway - Neighborhood Produce	Legal	Retest of a previous NDF now that we have permission to access Medford sewer. Dye came to sewer in 6 minutes.	31

Survey Inspection Date	Building Address	Unit Apt Suite Number	Test Results	Inspection Notes	Catchment ID
12/5/2024	GIS ID: 701 BROADWAY	691 Broadway - Neighborhood Produce	Legal	Hand washing only sink. No dye found after 1hr. Potentially saw dye in sewer around the 10min mark but color was more dark brown than red. Poured extra dye down but observed no color. Sewer was flowing fast with excessive steam making it difficult to see. No dye observed in drains.	31
12/5/2024	GIS ID: 701 BROADWAY	701 Broadway - Alpha Dental	Legal	Retest of a previous NDF now that we have access to Medford sewer. Dye came to sewer in 3 minutes.	31
12/5/2024	GIS ID: 705 BROADWAY	705 Broadway - JP Flooring Services	Legal	Dye tested only bathroom in JP flooring. Bathroom toilet discharges into wall opposite of bathroom sink. Dye came to sewer in 3 minutes.	31
12/5/2024	GIS ID: 705 BROADWAY	705 Broadway - JP Flooring Services	Legal	Dye tested only sink JP flooring. Discharge pipe goes into finished wall separate from the toilet. Dye came to sewer in 3 minutes.	31
12/9/2024	GIS ID: 701 BROADWAY	697 Broadway - Upper Level Apartments	Legal	Retest of a NDF in a mens restroom located in lobby	31
12/9/2024	GIS ID: 701 BROADWAY	697 Broadway - Upper Level Apartments	Legal	Retest of previous NDF. Tested womens restroom in lobby.	31
12/9/2024	GIS ID: 708 BROADWAY	708 Broadway, Ball Square Cafe	Legal	One main discharge stack exiting out through the front wall.	31
12/9/2024	GIS ID: 711 BROADWAY	707 Broadway Cordima Chiropractor	Legal	2 discharge stacks. One is capped with nothing above connected to it while the other that has the upstairs fixtures connected to it appears to lead to JP flooring.	31
12/9/2024	GIS ID: 711 BROADWAY	707 Broadway Cordima Chiropractor	Legal	2 discharge stacks. One is capped with nothing above connected to it while the other that has the upstairs fixtures connected to it appears to lead to JP flooring. Basement toilet test attempted but toilet is inactive and broken. Water would not drain.	31
12/9/2024	GIS ID: 704 BROADWAY	698 Broadway - Ball Square Smoke Shop	Legal	N/A	31
12/9/2024	GIS ID: 704 BROADWAY	698 Broadway - Ball Square Smoke Shop	Legal	Tested the smoke shop only.	31
12/9/2024	111 BEACON ST	699, 701, 703 & 705	Legal	No access to basement. Office area only had one bathroom.	N/A
12/10/2024	GIS ID: 717 BROADWAY AVE	106 Bristol Road Lindsay Griffin and Co and 110 Bristol Road Stinky's Kittens	Legal	This test is for 106 and 11 Bristol Road (717 Broadway). Two large sanitary stacks connect beneath the basements of Lindsay Griffin + Co and the Stinky's Cat and Bristol. Somerville Dry Cleaners also likely connects but cannot confirm. The only tests needed for upper level apartments are on the far left.	31
12/10/2024	GIS ID: 717 BROADWAY	725 Broadway - Princess Nails	Legal	This test is for Princess Nails 725 Broadway. Tested the sink before the entrance to the back room	31
12/10/2024	GIS ID: 717 BROADWAY	725 Broadway - Princess Nails	Legal	This test is for Princess Nails 725 Broadway. Tested the sink in the back room	31
12/10/2024	GIS ID: 704 BROADWAY	716 Broadway: the Tasting Station, Fine Wine and Upper Level Apartments	Legal	All discharge pipes for Fine Wines, Tasting Station and the Upper Level Apartments connect. This is a legal	31
12/10/2024	GIS ID: 701 BROADWAY	697 Broadway, Cohn Legal	Legal	Dye appeared in A-056 after 5 minutes with full intensity. Dye appeared in 31-5012 thirty minutes later with equal intensity. There was no access to the basement below Cohn Legal	31
12/10/2024	445 ARTISAN WAY	Mens restroom in garage	Legal	Tested men's room in the garage	32
12/11/2024	701 BROADWAY	697 Broadway, Cohn Legal	Legal	Dye did not show up in the drain despite previous dye test results. Less water was sent during this test	31
12/12/2024	701 BROADWAY	697 Broadway, Cohn Legal	Legal	This test was completed at 697 Broadway Upper Level Apartments which is 701 Broadway on GIS. This was a retest to confirm contamination. Dye was not observed in the sewer manhole	31
12/12/2024	701 BROADWAY	703 Broadway Skyline Dry Line Dry Cleaners (Closed)	Legal	This test was completed at 703 Broadway Skyline Dry Cleaners, which is 701 Broadway on GIS. The unit is being redone. Discharge pipes from Cohn Legal are not visible here.	31
12/12/2024	701 BROADWAY	691 Broadway Neighborhood Produce	Legal	This test was completed at 691 Broadway Neighborhood Produce, which is 701 Broadway on GIS. No dye was seen previously. The fixture is near the back of the building and is connected to large commercial sinks. Dye arrived in the sewer in Medford after three minutes.	31
12/18/2024	701 BROADWAY	697 Broadway, Upper Level Apartments	Legal	Retest i-sine	31
1/13/2025	63 WOODS AVE	Basement	Legal	Basement had a washer and a sink that connected and then connected to the main stack. No sump observed.	11
1/13/2025	445 ARTISAN WAY	N/A	Legal	No access to basement. One set of bathrooms in the store back to back with each other, tested one toilet.	32
1/13/2025	445 ARTISAN WAY	N/A	Legal	No access to basement, one bathroom tested	32
1/15/2025	701 BROADWAY	697 Broadway - Upper Level Apartments - Unit 5	Legal	Tested unit 5 in upper level apartments for 697 Broadway. Ran sink for 30 minutes. Dye came to Medford sewer A-056 after four minutes. No dye was seen in sewer M-3140 or drains 31-6455 and 31-5012.	31
2/3/2025	38 WOODS AVE	36	Legal	One stack to the ground	11
2/4/2025	445 ARTISAN WAY	N/A	Legal	No basement.	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	No basement.	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	No basement.	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	No basement.	32
2/4/2025	445 ARTISAN WAY	N/A	No Dye Observed	No basement. Tested restaurant dishwasher. Located close to the grease separator.	32
2/4/2025	445 ARTISAN WAY	Splash and Dash	Legal	File done as if buildinv is stand alone but it is below Ava condos	32
2/4/2025	445 ARTISAN WAY	Splash and Dash	Legal	Large dog washing sink tested. File done as if buildinv is stand alone but it is below Ava condos	32
2/4/2025	445 ARTISAN WAY	Splash and Dash	Legal	Hand washing sink next to dog washing sink tested. File done as if buildinv is stand alone but it is below Ava condos	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/4/2025	445 ARTISAN WAY	N/A	Legal	N/A	32
2/6/2025	22 STERLING ST	N/A	Legal	Two washing machines and a basement sink connect and the stack goes into the basement floor. A second basement sink connects to the main sanitary stack that goes into the floor. DS to foundation pipe goes into the basement floor. Dye from the sink seen in sewer after 1 min. No dye observed at drain manholes after 35 min.	10
2/6/2025	22 STERLING ST	N/A	Legal	Two washing machines and a basement sink connect and the stack goes into the basement floor. A second basement sink connects to the main sanitary stack that goes into the floor. DS to foundation pipe goes into the basement floor. Dye from the toilet seen in sewer after 1 min. No dye observed at drain manholes after 35 min.	10
2/6/2025	22 STERLING ST	N/A	Legal	Two washing machines and a basement sink connect and the stack goes into the basement floor. A second basement sink connects to the main sanitary stack that goes into the floor. DS to foundation pipe goes into the basement floor. Dye from the sink seen in sewer after 1 min. No dye observed at drain manholes after 35 min.	10
2/6/2025	22 STERLING ST	N/A	Legal	Two washing machines and a basement sink connect and the stack goes into the basement floor. A second basement sink connects to the main sanitary stack that goes into the floor. DS to foundation pipe goes into the basement floor. Dye from the toilet seen in sewer after 1 min. No dye observed at drain manholes after 35 min.	10
2/12/2025	701 BROADWAY	697 Broadway, Cohn Legal	Legal	Retested Cohn sink. Dye arrived to Medford sewer after 6 minutes with full intensity. No dye was seen in M-3140. No dye was seen in either drainmanhole after an hour constant observation, and periodic checks up to 90 minutes after the test	31
2/20/2025	701 BROADWAY	701 Broadway, Alpha Dental	Legal	Tested by JC/SB. PC test for alpha dental	31

Survey Inspection Date	Building Address	Unit Apt Suite Number	Test Results	Inspection Notes	Catchment_ID
2/20/2025	701 BROADWAY	691 Broadway, Neighborhood Produce	Legal	PC Test of slop sink	31
3/6/2025	704 BROADWAY	716 Broadway, Upper Level Apartments Above Smoke Shop	Legal	One main stack. Resident is unsure if basement is shared with smoke shop. No fixtures in basement. Dye observed in sewer after 3 minutes.	31
5/7/2025	711 BROADWAY	707 Broadway Cordima Chiropractor	No Dye Observed	2 discharge stacks, one is capped. Previously tested two fixtures that were legal, returned to test capped pipe. NDF after two hours. A large volume of dye was used as well as 15gallons of water. The capped pipe flows towards Medford.	31
6/10/2025	77 FAIRFAX ST	N/A	Legal	Accessed through first floor unit with half basement access. Tested basement washing machine and first floor toilet. No access to apartment in half of the basement or second floor unit. -DM	11
6/10/2025	67 FAIRFAX ST	N/A	Legal	Accessed through the first floor unit. Basement had a single stack discharge out of the front of the building. No basement fixtures. -DM	11
6/10/2025	77 FAIRFAX ST	N/A	Legal	Accessed through first floor unit with half basement access. Tested basement washing machine and first floor toilet. No access to apartment in half of the basement or second floor unit. -DM	11
6/10/2025	56 FAIRFAX ST	N/A	Legal	Single discharge visible, basement washing machine tested.	11
6/10/2025	57 FAIRFAX ST	N/A	Legal	single discharge, including basement washing machine.	11
6/17/2025	18 STERLING ST	N/A	Legal	Basement sink connected to a pipe that went to the ground. Washing machine in basement connected to main sewer stack. Only one stack observed. Tested basement sink, 1st floor sink and toilet. Unable to test 3rd floor washing machine due to it being built into the wall.	10
6/17/2025	18 STERLING ST	N/A	Legal	Basement sink connected to a pipe that went to the ground. Washing machine in basement connected to main sewer stack. Only one stack observed. Tested basement sink, 1st floor sink and toilet. Unable to test 3rd floor washing machine due to it being built into the wall.	10
6/17/2025	18 STERLING ST	N/A	Legal	Basement sink connected to a pipe that went to the ground. Washing machine in basement connected to main sewer stack. Only one stack observed. Tested basement sink, 1st floor sink and toilet. Unable to test 3rd floor washing machine due to it being built into the wall.	10



ATTACHMENT 2: BUILDING INSPECTION STATUS MAP

Figure Exported: 9/11/2025 By: poregan Using: \\woodardcurran.net\shared\Projects\Somerville_MSA4_FieldMaps_Deployment_2024.aprx Layout: Standard 11x17 L_Sci1

Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7

Catchment 7



Status: Resolution in Progress

Legend

- IDDE Pipe Investigation Status**
- Visual/Olfactory Evidence of Illicit Discharge
 - Suspected Illicit Discharge
 - Positive Detection Below Permit Threshold
 - Cleared
 - Standing Water
 - Partial Inspection
 - Upstream Contamination
 - Not Inspected

- IDDE Building Inspection Status**
- Test Results**
- Legal
 - Not Legal
 - Dye in SMH and DMH
 - No Dye Observed
 - No Fixtures
 - Corrected
 - Planned
 - Has Not Been Tested
 - Other - Needs Review

- Storm Gravity Mains**
- Abandoned
 - Active
 - Archive
 - Proposed
 - Storm Manholes
 - Catch Basins
 - ▲ Outfalls
 - Somerville Storm Water Catchments

0 0.5 1 2 Miles



Project #: 0234621.08
Map Created: August 2025

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. **Data Sources:**

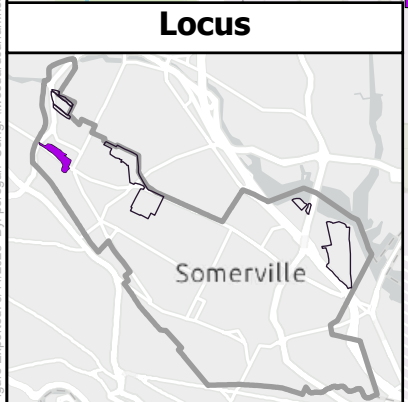
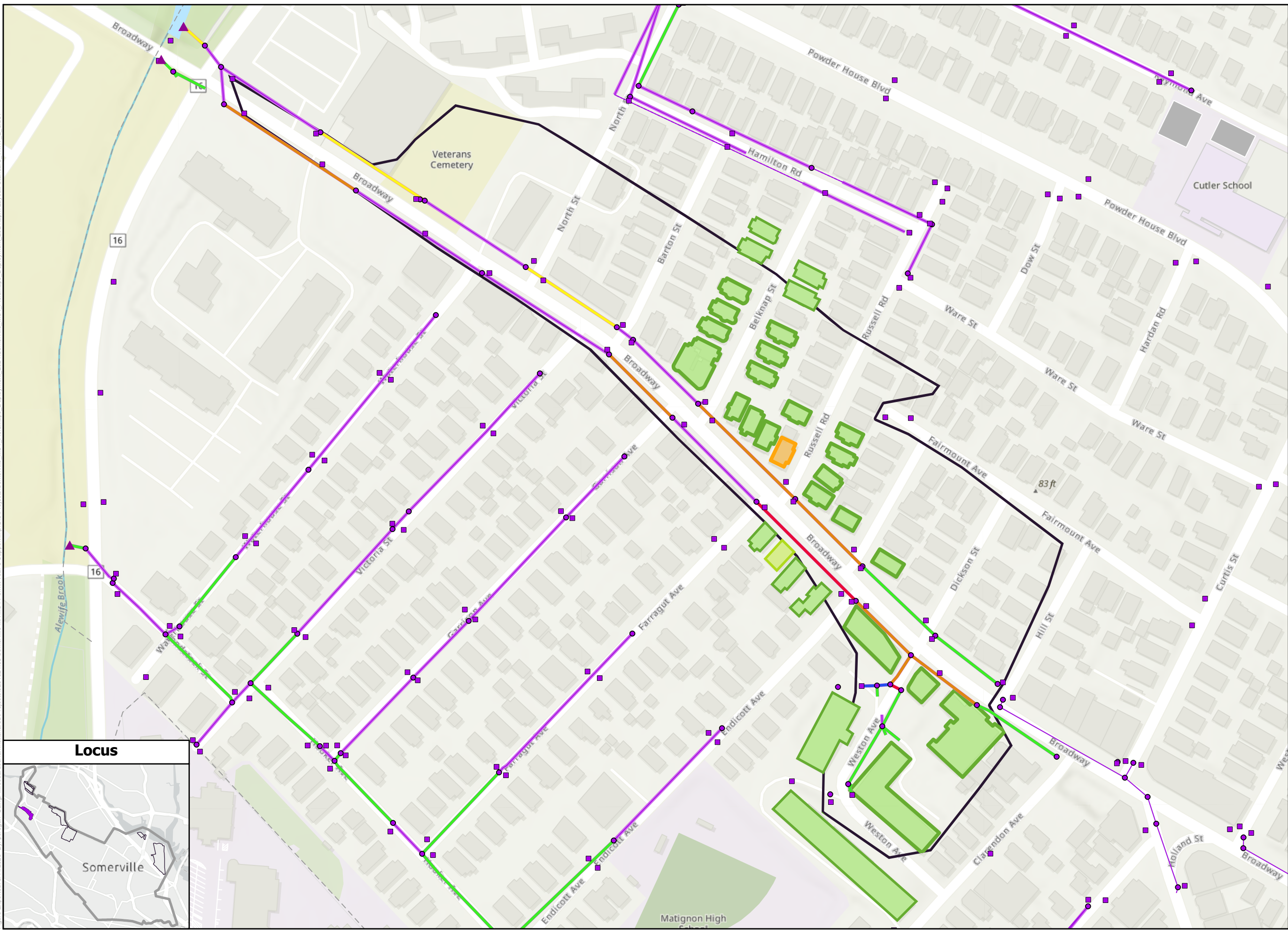
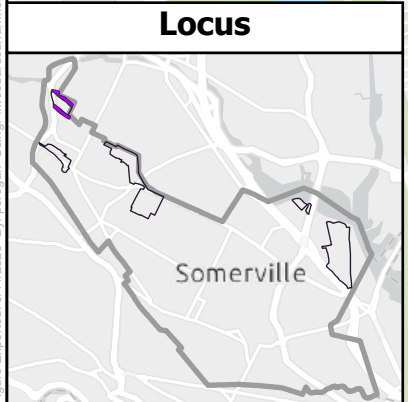
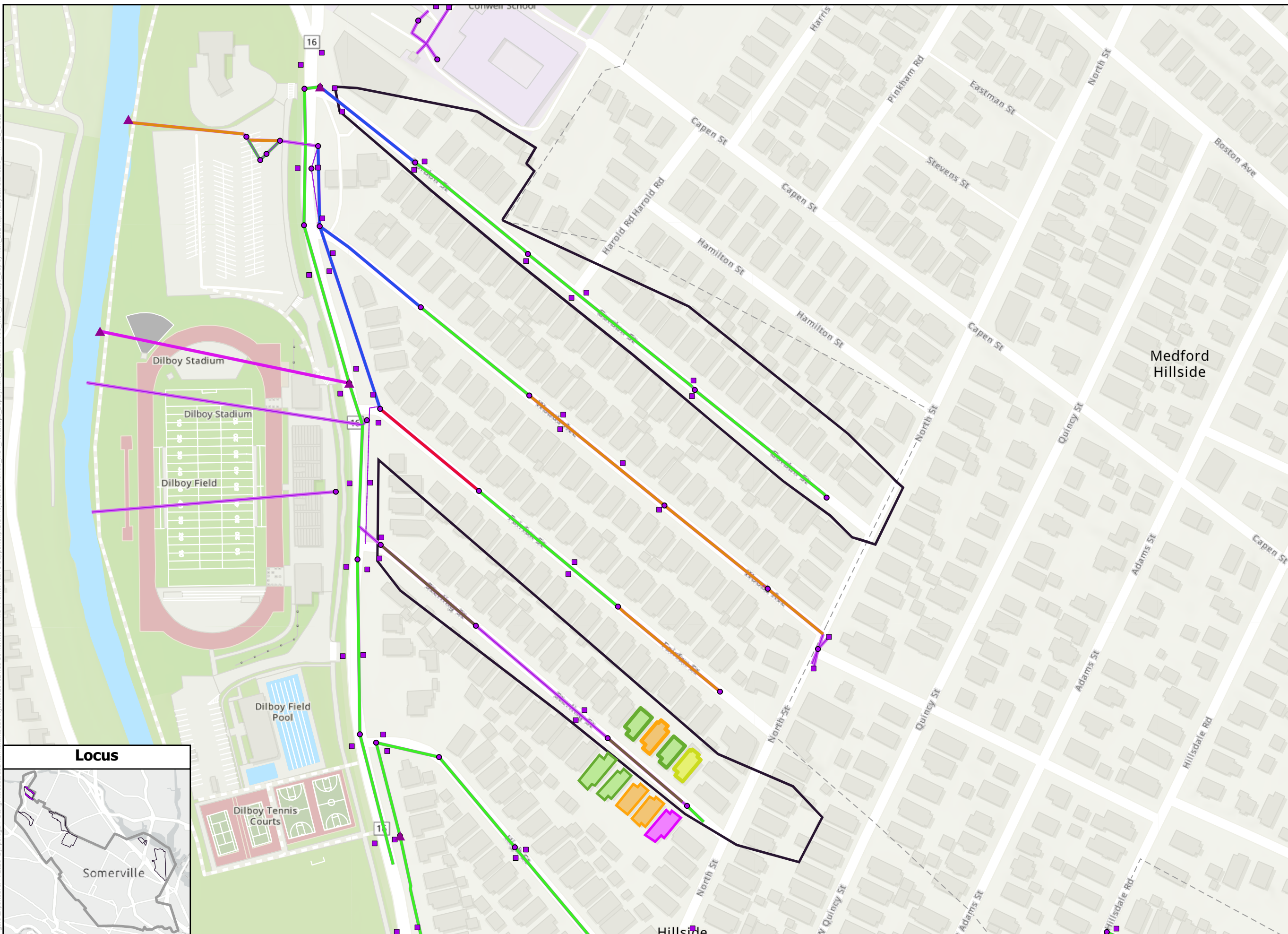


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Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7
Catchment 10

Status: Dye Test Planned

Legend

IDDE Pipe Investigation Status

- Visual/Olfactory Evidence of Illicit Discharge
- Suspected Illicit Discharge
- Positive Detection Below Permit Threshold
- Cleared
- Standing Water
- Partial Inspection
- Upstream Contamination
- Not Inspected

IDDE Building Inspection Status

Test Results

- Legal
- Not Legal
- Dye in SMH and DMH
- No Dye Observed
- No Fixtures
- Corrected
- Planned
- Has Not Been Tested
- Other - Needs Review

Storm Gravity Mains

- Abandoned
- Active
- Archive
- Proposed

- Storm Manholes
- Catch Basins
- Outfalls
- Somerville Storm Water Catchments

0 0.5 1 2 Miles

Project #: 0234621.08
Map Created: August 2025

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Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7

Catchment 11



Status: Dye Test Planned

Legend

IDDE Pipe Investigation Status

- Visual/Olfactory Evidence of Illicit Discharge
- Suspected Illicit Discharge
- Positive Detection Below Permit Threshold
- Cleared
- Standing Water
- Partial Inspection
- Upstream Contamination
- Not Inspected

IDDE Building Inspection Status

Test Results

- Legal
- Not Legal
- Dye in SMH and DMH
- No Dye Observed
- No Fixtures
- Corrected
- Planned
- Has Not Been Tested
- Other - Needs Review

Storm Gravity Mains

- Abandoned
- Active
- - - Archive
- Proposed
- Storm Manholes
- Catch Basins
- ▲ Outfalls
- Somerville Storm Water Catchments

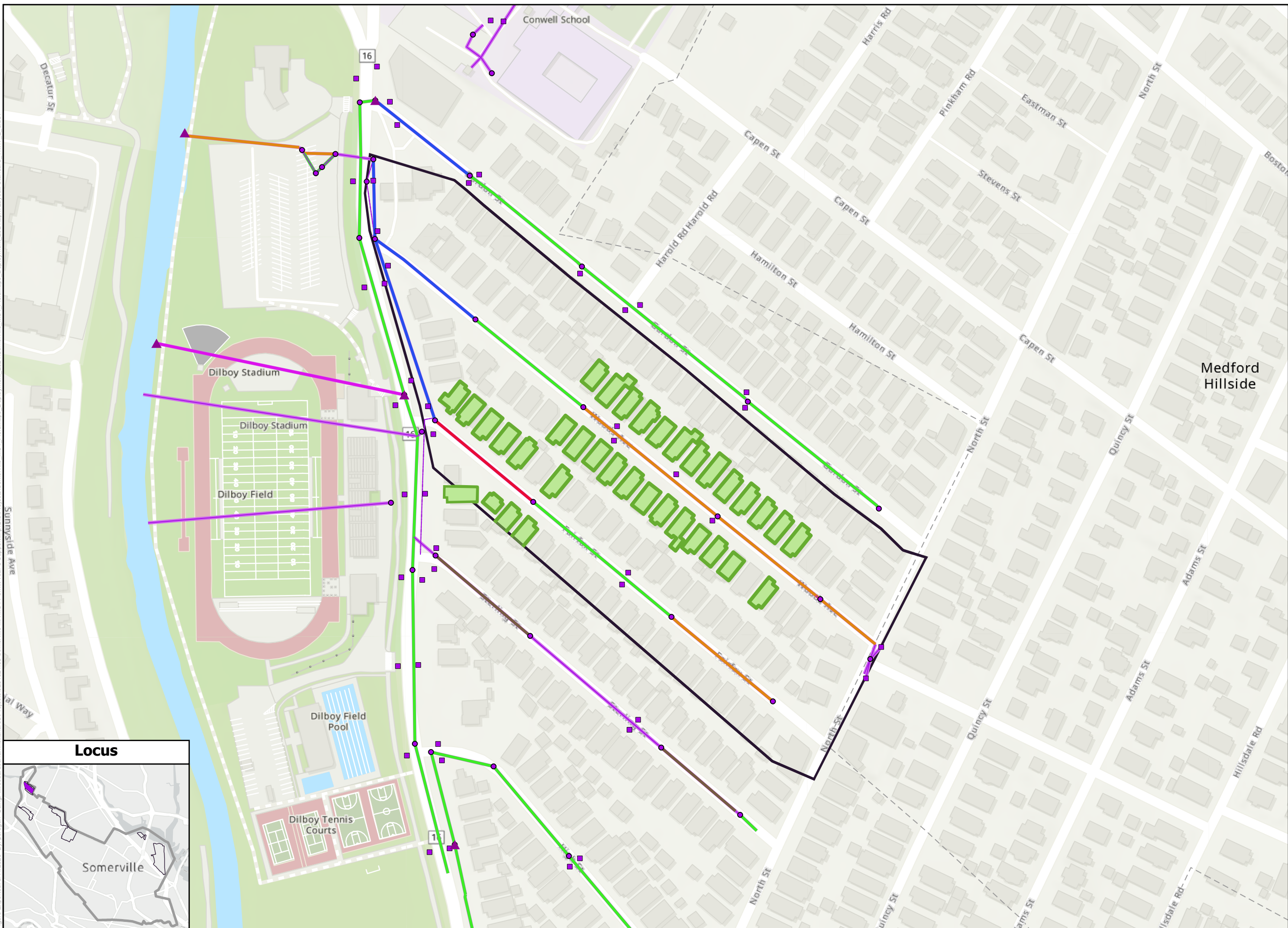
0 0.5 1 2 Miles



**Woodard
& Curran**

Project #: 0234621.08
Map Created: August 2025

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Locus

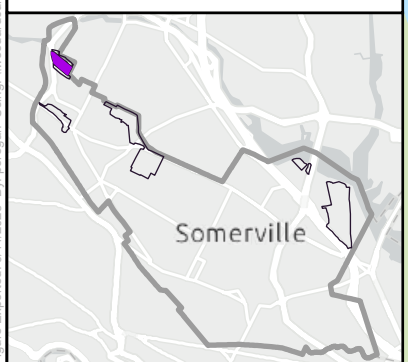


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Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7

Catchment 28



Status: Resolution in Progress

Legend

- IDDE Pipe Investigation Status**
- Visual/Olfactory Evidence of Illicit Discharge
 - Suspected Illicit Discharge
 - Positive Detection Below Permit Threshold
 - Cleared
 - Standing Water
 - Partial Inspection
 - Upstream Contamination
 - Not Inspected

- IDDE Building Inspection Status**
- Test Results**
- Legal
 - Not Legal
 - Dye in SMH and DMH
 - No Dye Observed
 - No Fixtures
 - Corrected
 - Planned
 - Has Not Been Tested
 - Other - Needs Review

- Storm Gravity Mains**
- Abandoned
 - Active
 - - - Archive
 - Proposed
 - Storm Manholes
 - Catch Basins
 - ▲ Outfalls
 - ▭ Somerville Storm Water Catchments

0 0.5 1 2 Miles



Project #: 0234621.08
Map Created: August 2025

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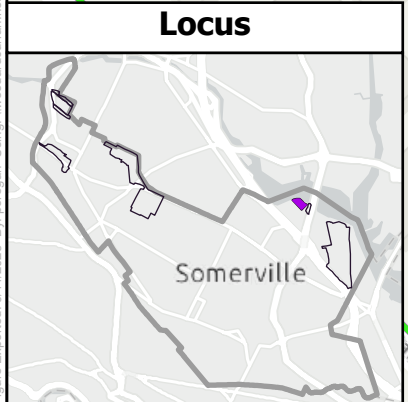


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Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7

Catchment 29



Status: Resolution in Progress

Legend

IDDE Pipe Investigation Status

- Visual/Olfactory Evidence of Illicit Discharge
- Suspected Illicit Discharge
- Positive Detection Below Permit Threshold
- Cleared
- Standing Water
- Partial Inspection
- Upstream Contamination
- Not Inspected

IDDE Building Inspection Status

Test Results

- Legal
- Not Legal
- Dye in SMH and DMH
- No Dye Observed
- No Fixtures
- Corrected
- Planned
- Has Not Been Tested
- Other - Needs Review

Storm Gravity Mains

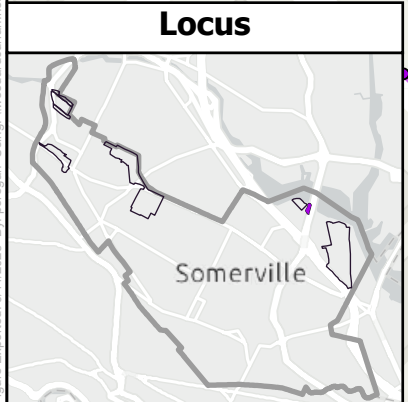
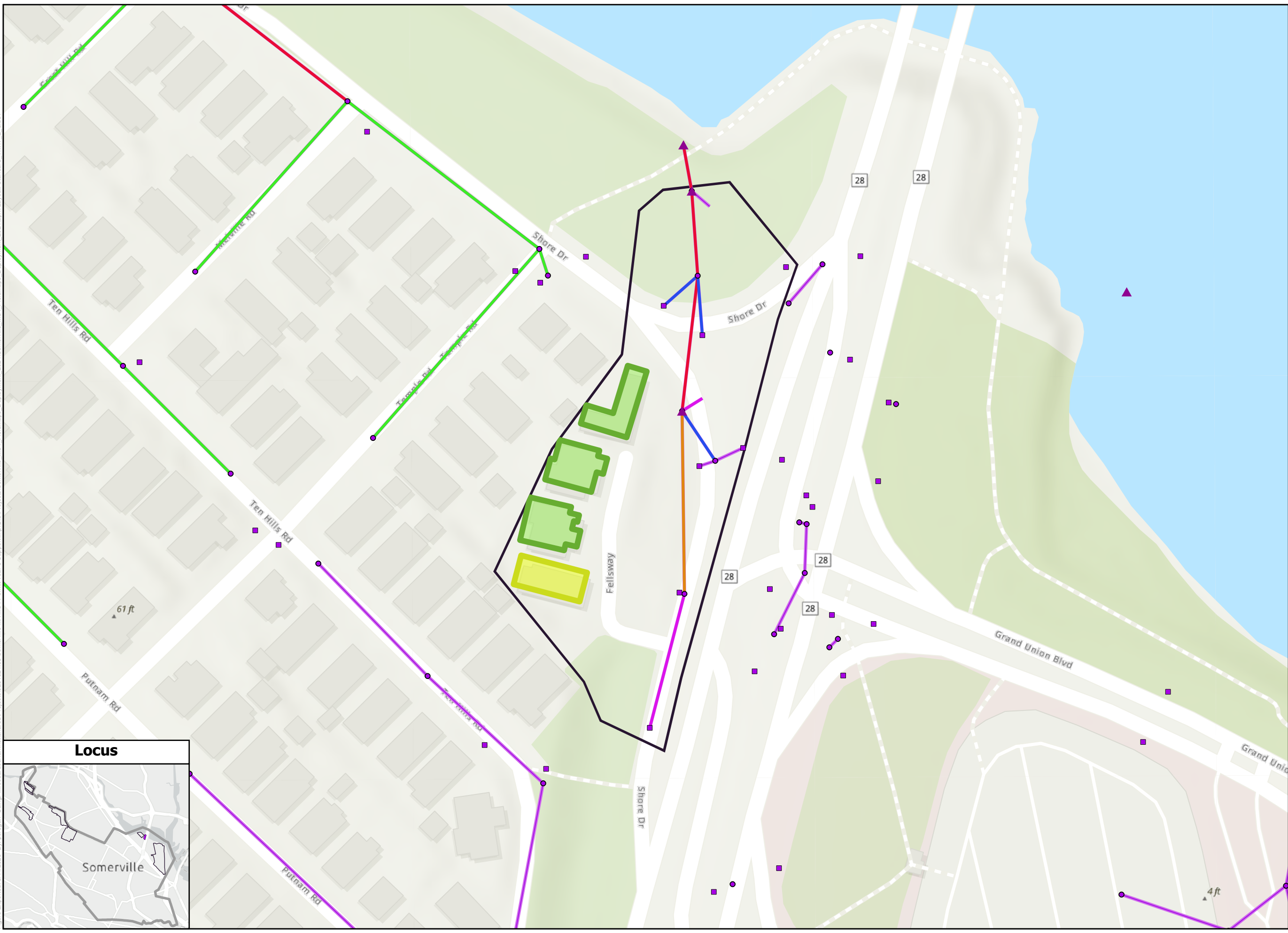
- Abandoned
- Active
- Archive
- Proposed
- Storm Manholes
- Catch Basins
- Outfalls
- Somerville Storm Water Catchments

0 0.5 1 2 Miles



Project #: 0234621.08
Map Created: August 2025

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Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7

Catchment 31



Status: Dye Test Planned

Legend

IDDE Pipe Investigation Status

- Visual/Olfactory Evidence of Illicit Discharge
- Suspected Illicit Discharge
- Positive Detection Below Permit Threshold
- Cleared
- Standing Water
- Partial Inspection
- Upstream Contamination
- Not Inspected

IDDE Building Inspection Status

Test Results

- Legal
- Not Legal
- Dye in SMH and DMH
- No Dye Observed
- No Fixtures
- Corrected
- Planned
- Has Not Been Tested
- Other - Needs Review

Storm Gravity Mains

- Abandoned
- Active
- Archive
- Proposed
- Storm Manholes
- Catch Basins
- Outfalls
- Somerville Storm Water Catchments

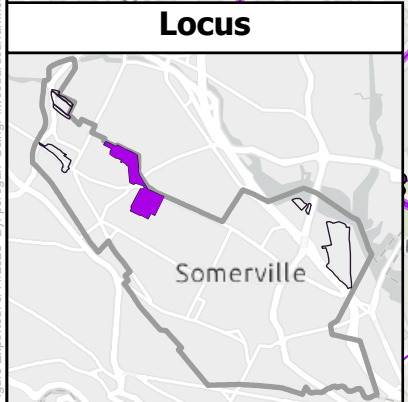
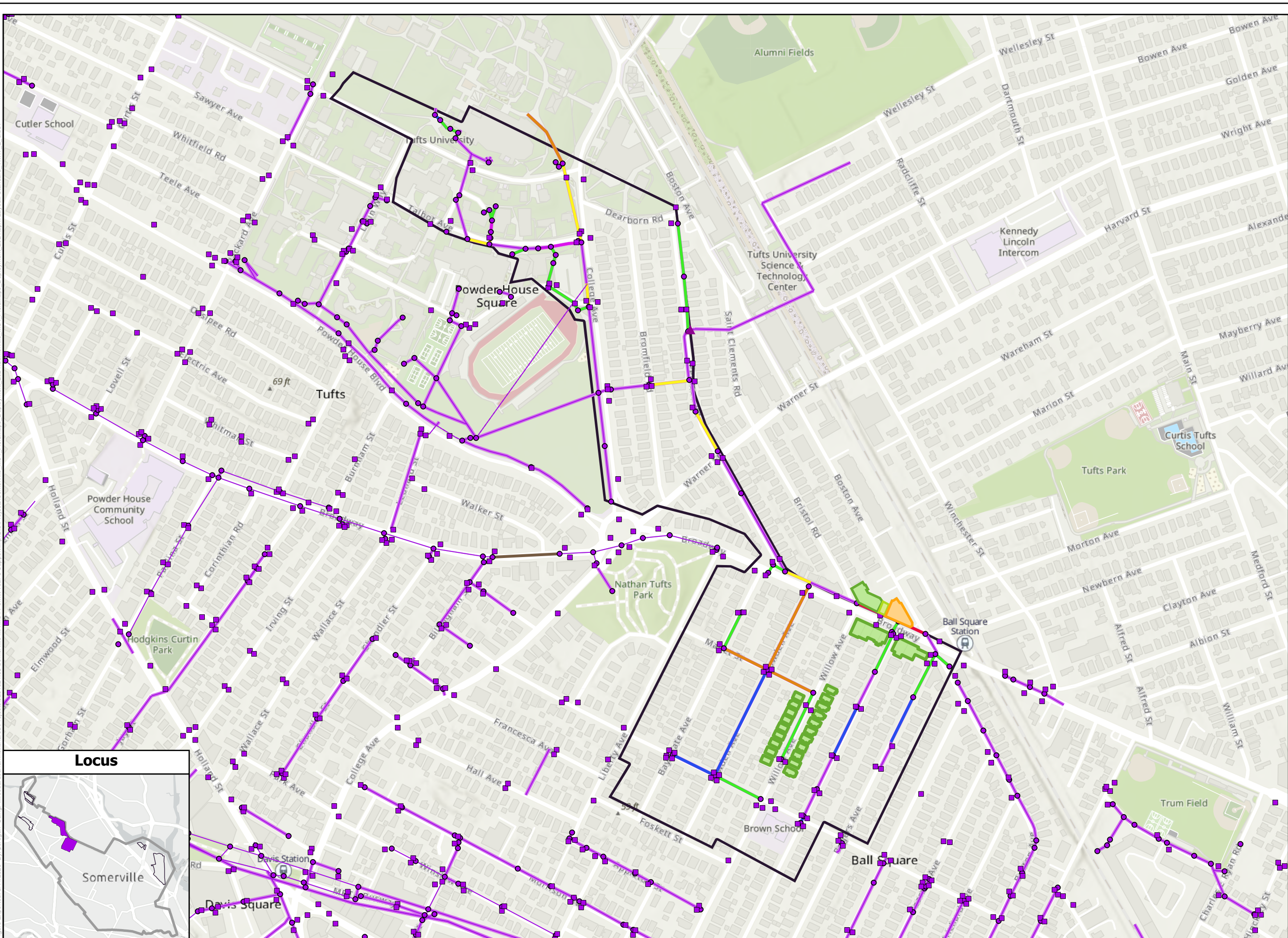
0 0.5 1 2 Miles



Project #: 0234621.08
Map Created: August 2025

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Catchment Investigation Status Map

City of Somerville, MA
Permit Year 7

Catchment 32



Status: Investigation Opened

Legend

- #### IDDE Pipe Investigation Status
- Visual/Olfactory Evidence of Illicit Discharge
 - Suspected Illicit Discharge
 - Positive Detection Below Permit Threshold
 - Cleared
 - Standing Water
 - Partial Inspection
 - Upstream Contamination
 - Not Inspected

- #### IDDE Building Inspection Status
- Test Results
- Legal
 - Not Legal
 - Dye in SMH and DMH
 - No Dye Observed
 - No Fixtures
 - Corrected
 - Planned
 - Has Not Been Tested
 - Other - Needs Review

- #### Storm Gravity Mains
- Abandoned
 - Active
 - Archive
 - Proposed
 - Storm Manholes
 - Catch Basins
 - Outfalls
 - Somerville Storm Water Catchments



Project #: 0234621.08
Map Created: August 2025

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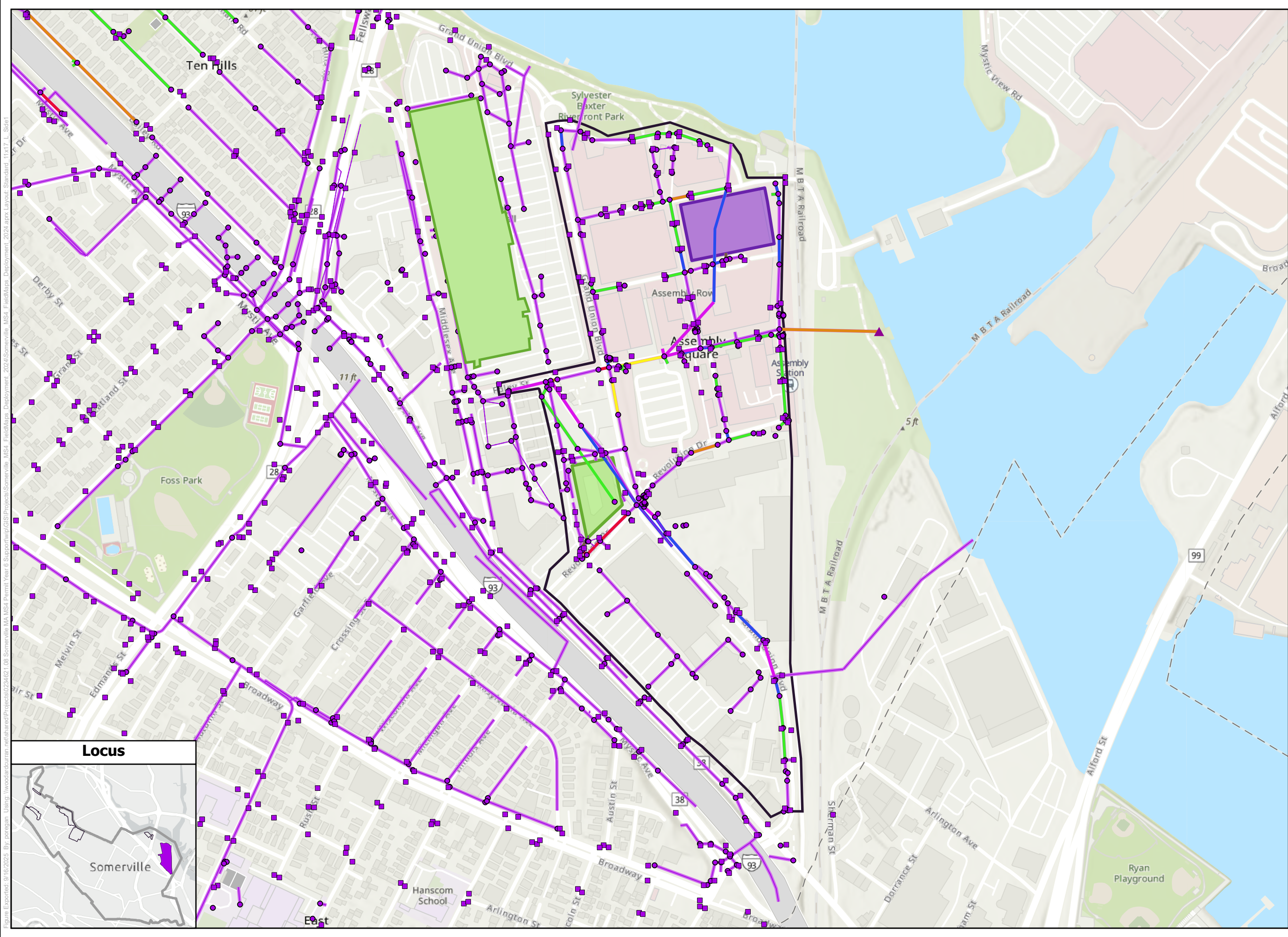
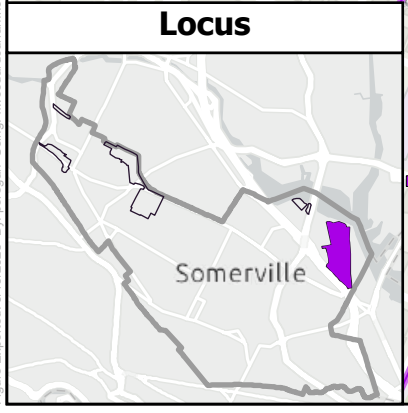


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ATTACHMENT 3: SUMMARY OF ILLICIT CONNECTIONS

Verified Direct Illicit Connections

Illicit Discharge Unique ID	Code	Illicit Discharge Status	Type of Discharge	Street Name	Street No.	Catchment Area	Watershed	Estimated Flow (gpd)	Verification Date	Verification Method	30-d from DoV (deadline for City to send initial notice)	60-d from DoV (deadline for City's legal dept. to send notice if abatement is not complete)	210-d from DoV	270-d from DoV	1st Notice Date	1st Notice Deadline	2nd Notice Date	Call Back	2nd Notice Deadline	3rd Notice Date	Removal Date	# Days from Verification to Removal	# Days Outstanding (if not removed)	Alt. Schedule?	Alt. Schedule - Contractor Selection Deadline	Deadline for Confirmatory Outfall Sampling	Comments	Abatement Notice Date
1	AC-SP	Abatement Complete, Confirmatory Sampling Pending	3-Family Residential - Leaking Lateral	Broadway	1241	7	Alewife Brook	165	6/6/2022	Dye Test	7/6/2022	8/5/2022			6/14/2022	7/14/2022	6/24/2022		7/24/2022		7/4/2022	28	0	Yes		9/2/2022	SDE completed dye test in Unit 2 on 6/6/2022. The result was dye in both storm and sewer. The dye was first seen in the sewer and then seen in the drain about 10 minutes later. Two notices were sent to the owner. On July 4, 2022, a three-alarm fire broke out at the property and the three-apartment house has been uninhabitable since. The City has flagged this address in the permitting system: when a demolition permit comes through the conditions on that permit will be to cut and cap all existing utilities at their respective mains when a building permit comes through the applicant will be required to create a new sewer connection before a Certificate of Occupancy is issued. For these reasons, the City considers that this illicit connection has been removed as of July 4th, 2022. As of June 2024, the property has a new building permit. The conditions for the Certificate of Occupancy are as follows: "The illicit sanitary connection must be cut and capped at the drain main, and a new connection made to the sanitary main." The City plans to conduct confirmatory dye testing at this location at the time the Certificate of Occupancy is issued, additional dye testing in the upstream and downstream sewer manholes and resample storm drains to confirm that no additional illicit connections exist in that segment of the pipe.	
2	AC-SP	Abatement Complete, Confirmatory Sampling Pending	2-Family Residential - Basement Fixture Connection	Sterling Street	16	10	Alewife Brook	10	7/10/2024	Dye Test	8/9/2024	9/8/2024	2/5/2025	4/6/2025	7/29/2024			8/1/2024				8/22/2024	43			8/22/2025	Active suds were observed in the storm drain during a spot repair on Sterling Street as part of the West Somerville Sewer Rehab project. In response, SDE completed dye tests at properties on Sterling Street. SDE completed the first two dye tests at 16 Sterling St on June 26, 2024. A basement sink was dye tested and seen with full intensity in DMH A-5504. After approximately 10 minutes, dye was seen with less intensity in SMH A-3105. SDE also dye tested a toilet on the second floor but could not confirm which fixture the dye was from. SDE returned on July 10, 2024 to retest the second floor toilet and it was found to be legal. As of July 10, 2024 it is confirmed that the basement sink is an illicit connection that is believed to be directly connected into the storm drain and is leaking into the sanitary sewer. The owner called the City on 8/12/2024 to say the basement sink has been disconnected. SDE confirmed the sink was removed and the pipe was capped on 8/22/24.	
3	AC-SP	Abatement Complete, Confirmatory Sampling Pending	2-Family Residential - Leaking Lateral	Sterling Street	17	10	Alewife Brook	10	7/22/2024	Dye Test	8/21/2024	9/20/2024	2/17/2025	4/18/2025	8/5/2024			8/7/2024 (contact nr. 740-274-1756)			11/21/2024	122			11/21/2025	On 7/22/2024, SDE conducted dye tests at 17 Sterling Street. A second floor toilet was tested first. Dye was observed in sewer manhole A-3105 at full intensity and was observed in storm drain manhole A-5504 at full intensity approximately one minute after it was seen in the sewer. The brightness was equal, not diluted, in both manholes. SDE then tested a kitchen sink on the second floor. Similar to the first dye test, dye was observed in sewer manhole A-3105 at full intensity and was observed approximately one minute later in storm drain manhole A-5504. The dye brightness was equal in both manholes, as it was in the first test. The first notice was sent to the owner on August 5, 2024 and the City heard back from the owner on August 8, 2024. Confirmatory dye testing took place 11/21/2024 and the results were legal.		
4	AC-SP	Abatement Complete, Confirmatory Sampling Pending	2-Family Residential - Basement Fixture Connection	Sterling Street	12	10	Alewife Brook	10	7/30/2024	Dye Test	8/29/2024	9/28/2024			8/16/2024			8/27/2024 (contact nr. 617-495-1939)			10/14/2024	76			10/14/2025	Active suds were observed in the storm drain during a spot repair on Sterling Street as part of the West Somerville Sewer Rehab project. In response, SDE completed dye tests at properties on Sterling Street. SDE completed dye tests at 12B Sterling Street (right front door) on July 29, 2024. A first-floor toilet was tested first and was legal. A basement sink was tested next, and dye was observed in sewer manhole A-3105 and drain manhole A-5504. The dye appeared with full brightness in both the drain and sewer approximately five minutes after dye was added to the basement sink. Dye appeared in both manholes at the same time. It should be noted that 12A and 12B share the same basement and there is only one sink. On 7/30/2024, SDE conducted two dye tests at 12A Sterling Street (front left door). A second-floor toilet tested legal. SDE then dye tested the basement sink (same fixture tested on 7/29), which was noted by the field crew to be connected to a washing machine. The dye from this test was observed in both sewer manhole A-3105 and drain manhole A-5504 with full brightness approximately 5 minutes after dye was added to the sink. Dye appeared in both manholes at the same time, as it did in the first test the prior day. SDE completed post-correction dye test on 10/14/2024 and confirmed the old pipe has been capped and the sink now discharges into an ejector pump, which connects to the main stack. The basement sink tested legal, with dye being seen in SMH A-3105 and not in DMH A-5504.		
5	AC-SP	Abatement Complete, Confirmatory Sampling Pending	Commercial (Neighborhood Produce, First Floor Slop Sink)	Broadway	691	31	Mystic River	75	10/23/2024	Dye Test	11/22/2024	12/22/2024	5/21/2025	7/20/2025	11/18/2024			11/21/2024			2/20/2025	120			2/20/2026	First floor slop sink at Neighborhood Produce tested not legal with dye coming into DMH 31-6455 with full intensity after 3 minutes. Dye was not seen in SMH M-3140 after 30 minutes. The slop sink was connected to the only visible discharge pipe in the basement, which is suspected to be a roof drain. Additional fixtures in the building resulted in No Dye Found and require follow-up investigations. City spoke with property owner in November 2024 and they were working on fixing basement plumbing connections. SDE completed confirmatory dye test on February 20, 2025 on the slop sink in Neighborhood Produce. The test was legal with dye appearing in sewer MH M-349 after 5 minutes with full intensity. No dye was seen in drainage MH 31-5012 or 31-6455 after 40 minutes.		
6	AC-SP	Abatement Complete, Confirmatory Sampling Pending	Commercial (Alpha Dental, First Floor Toilet)	Broadway	701	31	Mystic River	70	11/6/2024	Dye Test	12/6/2024	1/5/2025	6/4/2025	8/3/2025	11/21/2024			11/21/2024			2/20/2025	106			2/20/2026	First floor toilet at Alpha Dental tested not legal with dye coming into 31-5012 at medium intensity after 15 minutes. Dye was not seen in SMH M-349 after 50 minutes. The discharge pipe for this toilet left from the front of the building toward Broadway. A first floor toilet in the back of the building tested No Dye Found and requires follow up investigations. City spoke with property owner in November 2024 and they were working on fixing basement plumbing connections. SDE completed confirmatory dye test on February 20, 2025 in the guest bathroom at Alpha Dental. The test was legal with dye appearing in sewer MH M-349 after 5 minutes with full intensity. No dye was seen in drainage MH 31-5012 or 31-6455 after 40 minutes.		
<p>Notes:</p> <p>1) DoV = Date of Verification</p> <p>2) For residential properties, flow is estimated based on 310 CMR 15.003 "System Sewage Flow Design Criteria" of 110 gallons per day per bedroom</p> <p>Codes:</p> <p>V = Illicit Connection Verified, Responsible Party to be Notified</p> <p>P = Responsible Party Notified, Abatement Pending</p> <p>P-OD = One or More Abatement Deadlines is Overdue</p> <p>AC-SP = Abatement Complete, Confirmatory Sampling Pending</p> <p>AC = Abatement Complete, Confirmatory Sampling Complete or Not Required</p> <p>AS = Responsible Party Notified, Abatement on Alternate Schedule</p>																												



ATTACHMENT B: WESTON AVE SUMMARY MEMO



MEMORANDUM



TO: Brian Postlewaite, City of Somerville, MA
FROM: Garrett Bergey, Emily Nealon, James Sherrard; Woodard & Curran
DATE: January 23, 2025
RE: Outfall 7: 16-42 Weston Avenue, Somerville – Suspected Illicit Discharge
Somerville, MA Year 7 MS4 Support

The purpose of this memorandum is to summarize investigations conducted by the City of Somerville, Massachusetts (City) in support of the MS4 General Permit (Permit) Illicit Discharge Detection and Elimination (IDDE) requirements. This memorandum describes the IDDE activities conducted to locate a suspected illicit connection located in Catchment 7 on Weston Avenue and recommended next steps.

CATCHMENT 7 OUTFALL MONITORING DATA

On October 14, 2020, Stacey DePasquale Engineering, Inc. (SDE) conducted a dry weather field inspection of the outfall and performed a field screening from flow exiting the outfall. Screening results are summarized below. The City identified the outfall and catchment as a priority outfall for further investigation due to elevated results for bacteria.

Field Screening Results:

- Ammonia – None Detected
- Chlorine – 0.11 mg/L
- Surfactants – 0.25 mg/L
- Conductivity – 535 μ S/cm
- Temperature – 17.0°C

Laboratory Results:

- E. Coli– 1,607 CFU/100 mL

FOLLOW-UP INVESTIGATIONS

On October 19, 2020, a dry weather field screening was performed at Weston Avenue drainage manhole 7-5833. A previously unmapped pipe, UNK : 7-5833, which enters the manhole from the southeast direction, had unidentified white floatables in the water sample. SDE did not conduct any full-scale residential dye tests from Fall 2020 through Spring 2022 due to Covid-19. SDE was able to conduct 16 dye tests at 16-42 Weston Avenue and four dye tests at 19 Weston Avenue in Spring and Summer 2022. All of these tested legal, except for two, which resulted in no dye observed in the sanitary sewer or storm drain.



Additional investigations were completed on September 13, 2022, when a sample from drain manhole 7-5833 was analyzed. At the time of the sample collection, the crew noted that it was raining but no runoff was observed. The sample results included an ammonia level of 0.6 mg/L, chlorine level of 0.33 mg/L, and surfactant level of 2.0 mg/L. These values exceed the permit threshold values of a potential illicit sewer connection, and therefore additional investigations were planned.

National Water Main Cleaning Co. (NWMCC) completed closed-circuit television (CCTV) inspections on Weston Avenue on February 14, 2023, which targeted the suspected pipe in MH 7-5833. The inspection was only able to proceed 17.5 feet before encountering a bend, which the camera could not proceed through.

Dye tests were conducted at 16-42 Weston Avenue on June 16, 2023, in an attempt to find an illicit connection leading to DMH 7-5833. All units within the condominium complex were dye tested and were determined to be legal, with dye only going to the sanitary sewer and not to the storm drain.

The sprinkler system was being tested at the same time as dye testing at 16-42 Weston Avenue, which led to a possible indication of a sump pump connection leading into the French Drain, which then leads into the storm drain pipe. SDE completed a dye test of the French Drain on September 12, 2023, to confirm the French Drain connection to the storm system. Dye was observed in DMH 7-5833 after approximately 15 minutes. The dye was seen entering the manhole in the lower pipe inlet. The presence of dye confirmed the French Drain connection to the stormwater system.

Additional dry and wet weather samples were taken from drain manhole 7-5833 and laboratory sampling was completed to measure surfactants and bacteria (E.coli). The lab results from this sample showed an E.coli measurement of 175 MPN/100 mL and a surfactant measurement of <0.12 mg/L. Although bacteria was present in the sample, it was not at the level of violation (swimming standard = 410 MPN/100 mL).

During Permit Year 6 field investigations, an additional inlet into DMH 7-5831 was found. The additional inlet appears to come from the parking lot of 15 Weston Avenue. To clear this pipe segment, dye testing was completed at 15 Weston Avenue. All dye tests completed at 15 Weston Avenue were legal with dye appearing in the sanitary sewer but not the storm drain, therefore this is not anticipated to be the source of contamination.

Additional manhole sampling completed by SDE in March 2024 resulted in narrowing down the contamination starting point to be within pipe segment 7-6459 : 7-5831. The storm drain segments upstream of DMH 7-6459 were cleared, while pipe segment 7-6459 : 7-5831 remained contaminated with presence of surfactants and bacteria. Total and human Bacteroides samples were taken on March 20, 2024. The results of these samples showed the presence of human Bacteroides in segment 7-6459 : 7-5831, as shown in bold in Table 1. EPA has taken the presence of human Bacteroides above threshold of 105 CEs/100mL to indicate the presence of bacteria specifically associated with human feces.



TABLE 1: BACTERIOIDES SAMPLE RESULTS

Sample ID	Human Bacteroides (CEs / 100 mL)	Total Bacteroides (CEs / 100 mL)
7-5831 (SE)	1,250	4,776
7-5829 (SE)	88	123
7-5829 (SW)	327	Not Detected

Since the problem pipe segment was believed to be 7-6459 : 7-5831, Woodard & Curran completed a pole camera inspection of sanitary sewer and storm drain pipes on Weston Avenue in May 2024 to try and gather additional information. Footage showed possible infiltration points in segment 7-6459 : 7-5831. There also appeared to be an increase in flow approximately halfway through this pipe segment, which further supports the possibility of infiltration. There was also observed to be a possible offset joint approximately where the sanitary sewer pipe crosses over the storm drain pipe.

SDE dye tested the sanitary sewer infrastructure on Weston Avenue in June 2024, but no dye was seen in the storm drain after one hour and a half.

Additional CCTV inspections were conducted in November 2024 in order to document possible defects in the storm sewer and sanitary sewer systems that could contribute to contamination in the storm drain.

One of the most notable defects was a large offset in the sanitary sewer pipe A-3076 : A-47, where water appears to be exfiltrating out of the sanitary sewer pipe. This is shown in **Figure 1** below.



FIGURE 1: JOINT OFFSET IN SANITARY SEWER MAIN A-3076 : A-47

The CCTV inspection for 7-6459 : 7-5831 had some signs of infiltration and standing water at the start of the inspection from DMH 7-5831 as shown in **Figure 2** below. The dark stains around the edge of the joint indicate the potential for water to enter the pipe.

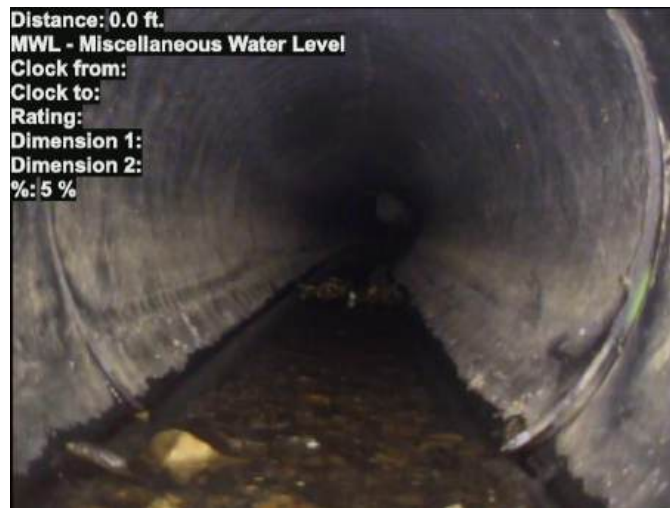


FIGURE 2: STORM DRAIN 7-6459 : 7-5831 (VIEW FROM DMH 7-5831)



The joint approximately 15 feet from DMH 7-5831 also appears to have some separation, as shown in **Figure 3** below.



FIGURE 3: JOINT SEPARATION IN STORM DRAIN 7-6459 : 7-5831



CCTV inspections also showed infiltration stains on joints and throughout entire storm drain pipe 7-5831 : 7-5829. This is the furthest downstream storm drain pipe on Weston Avenue, before the pipes tie into Broadway. Photos of infiltration locations are included in **Figure 4** below.

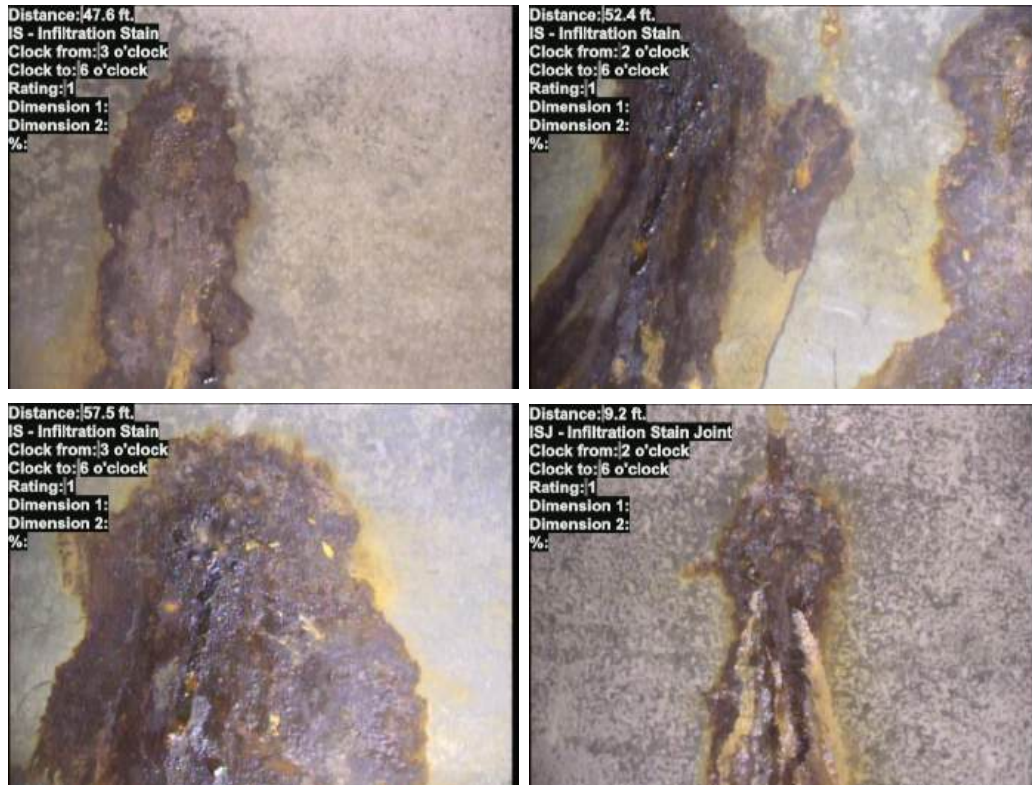


FIGURE 4: INFILTRATION IN STORM DRAIN 7-5831 : 7-5829



Segment 7-5831 : 7-5829 also was observed to have a separated joint with evidence of infiltration, proving that water is able to infiltrate into the storm drainage system. Since wastewater appears to be exfiltrating out of the sanitary sewer system, it has the capacity to infiltrate into the City's MS4 drainage system. The separated joint with infiltration is shown in **Figure 5** below.



FIGURE 5: JOINT SEPARATION WITH INFILTRATION IN STORM DRAIN 7-5831 : 7-5829



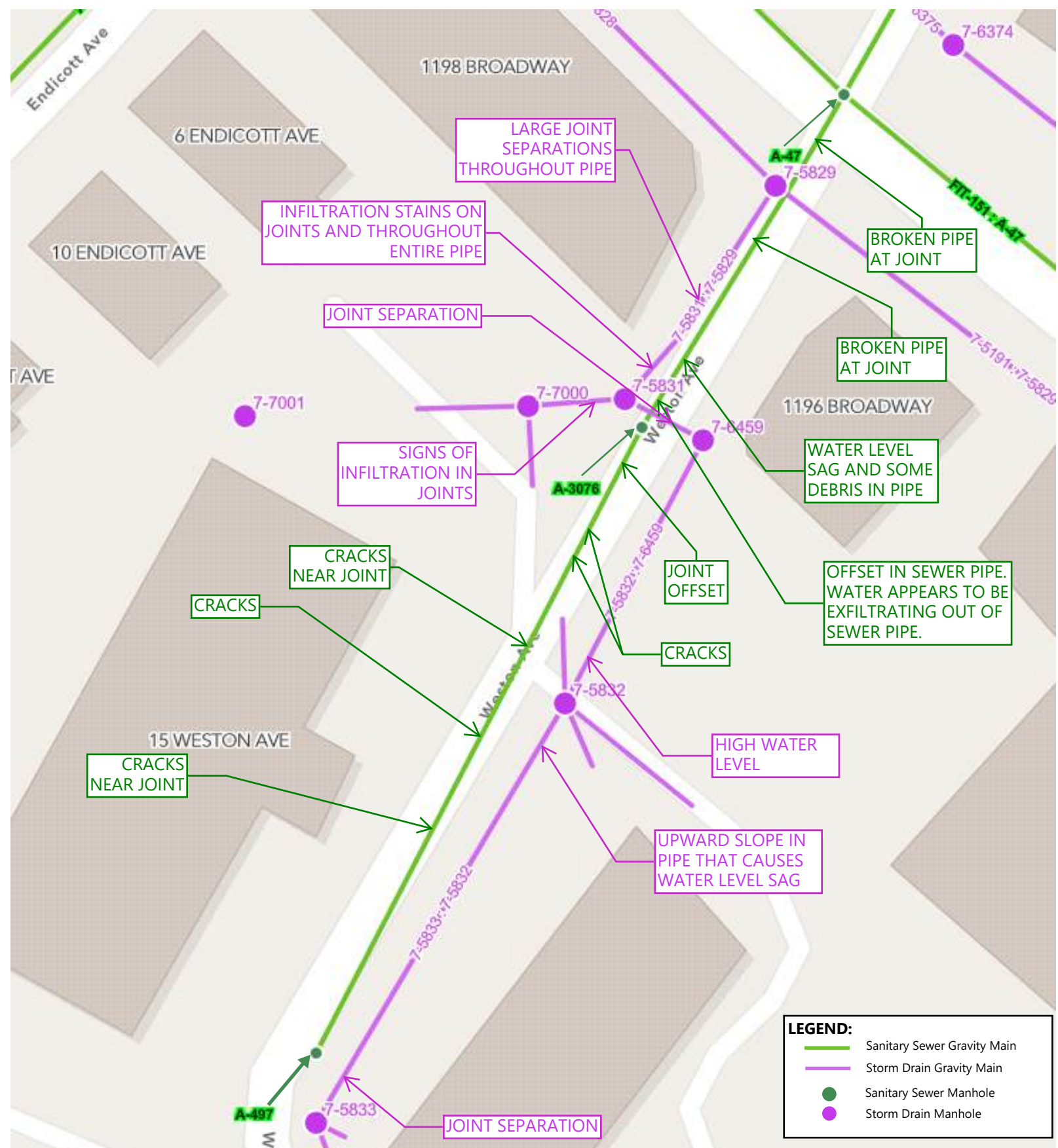
RECOMMENDATIONS

As described above, A-3076 : A-47 has a high chance for exfiltration and it is clear that water is infiltrating into both storm drain segments on Weston Avenue (7-6459 : 7-5831 and 7-5831 : 7-5829). Therefore, there is a high probability that wastewater is exiting the sanitary sewer system and entering the MS4 drainage system.

It is important to rehabilitate the sanitary sewer and storm drain pipes on Weston Avenue to prevent contamination from entering the drainage system and protect nearby waterbodies. Recommendations for rehabilitation to prevent illicit connections are summarized in the table below. While cured in place pipe (CIPP) lining will address illicit connections, for those segments with documented sags full replacement should be considered to both address illicit connections and reestablish full flow capacity.

Pipe Segment	System	Diameter (in)	Material	Length (ft)	Notes	Recommendation
7-5833 : 7-5832	Storm	12	HDPE	124	Joint Separation Upward Slope/Water Level Sag	Replace or CIPP
7-5832 : 7-6459	Storm	12	HDPE	76	Water Level Sag	No Action or CIPP
7-6459 : 7-5831	Storm	12	HDPE	24	Joint Separation	Replace or CIPP
7-5831 : 7-5829	Storm	12	VCP	65	Infiltration Statins Joint Separation	Replace or CIPP
A-497 : A-3076	Sanitary	8	VCP	179	Cracks Offset Joint	Replace or CIPP
A-3076 : A-47	Sanitary	8	VCP	98	Broken Pipe at Joints Offset Joint (with exfiltration)	Replace

Attachment: Weston Ave CCTV Summary Permit Year 7 Figure



LEGEND:

- Sanitary Sewer Gravity Main
- Storm Drain Gravity Main
- Sanitary Sewer Manhole
- Storm Drain Manhole

Pipe Segment	System	Diameter (in)	Material	Length (ft)	Notes	Recommendation
7-5833 : 7-5832	Storm	12	HDPE	124	Joint Separation Upward Slope/Water Level Sag	Replace or CIPP
7-5832 : 7-6459	Storm	12	HDPE	76	Water Level Sag	No Action or CIPP
7-6459 : 7-5831	Storm	12	HDPE	24	Joint Separation	Replace or CIPP
7-5831 : 7-5829	Storm	12	VCP	65	Infiltration Stains Joint Separation	Replace or CIPP
A-497 : A-3076	Sanitary	8	VCP	179	Cracks Offset Joint	Replace or CIPP
A-3076 : A-47	Sanitary	8	VCP	98	Broken Pipe at Joints Offset Joint (with exfiltration)	Replace

**Weston Ave CCTV
Summary
Permit Year 7**

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Project #: 0234631.08
Date: January 2025

