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REPORT

May 2018

CITY OF

Somerville

MASSACHUSETTS

IDDE Drainage Areas 7, 9 and 31
Investigations

May 3, 2018

Richard E. Raiche, PE, PMP
Director of Engineering
City of Somerville
Somerville, MA
1 Franey Road
Somerville, MA 02145

Re: IDDE Drainage Areas 7, 9, and 31 Investigations

Dear Mr. Raiche:

In accordance with our agreement, Weston & Sampson Engineers, Inc. is pleased to submit our report for the Illicit Discharge Detection and Elimination (IDDE) Drainage Areas 7, 9, and 31 Investigations. The report presents our findings for work completed under this evaluation, including inventory of existing conditions, cleaning and television inspection, dye testing, and dry weather stormwater sampling. The report also includes recommendations for rehabilitation and further investigation.

BACKGROUND

The City of Somerville has been under a Unilateral Administrative Order (UAO) from MassDEP (UAO-NE-10-1N004) since September 13, 2010. The UAO was issued due to discharges from the city's outfalls to surface waters that violated water quality standards under the Clean Water Act. Data collected by MassDEP, USEPA, and the Mystic River Watershed Association (MyRWA) indicated that stormwater outfalls tributary to Alewife Brook (Outfalls 7 and 9) and the Mystic River (Outfall 31) were contributing contamination to surface waters. Under the UAO, the city was required to perform IDDE work. The purpose of the IDDE work is to identify and remove illicit (wastewater) connections to the storm drain system.

Weston & Sampson reviewed previous IDDE investigation reports by Wright-Pierce, dated November 24, 2010, August 30, 2013, and April 29, 2014. Previous investigations included cleaning and television inspection; smoke testing; dye testing; manhole inspections; and storm water sampling. Based on findings from previous IDDE work, Weston & Sampson performed further investigations in drainage areas 7, 9, and 31.

DRAINAGE AREA #7

Drainage Area #7 consists of 4,301 linear feet of storm drains on Broadway from Teele Square to Alewife Brook, tributary to Outfall #7. Outfall #7 discharges to Alewife Brook downstream of the Broadway bridge. The storm drains in Area #7 are generally deeper than the sewer and underdrain and therefore sewer exfiltration into the storm drain is possible. Eight (8) of the sewer manholes (SMH) have open underdrain access points, which are recommended for rehabilitation as part of Somerville – CIP Project 1 Rehabilitations.

Television Inspection / Field Investigation

Television inspection was performed on 3,654 linear feet of storm drains and 157 linear feet of sanitary sewers in Drainage Area #7 on November 7, 8, 13, and 15, 2017. Television inspection results are presented in Table 1, Television Inspection Summary. The inspection results and major findings are also presented on the IDDE Investigations Map, Figure 1, included as Appendix A.

Fine, moderate, and heavy roots were identified at several locations. Moderate and heavy roots were removed from storm drain pipes, during the investigation, using a hydraulic root cutter. Heavy cleaning was performed on 997 linear feet of storm drain.

Television inspection identified one (1) sewer segment and 14 drain segments with structural defects. These defects include multiple cracks, fractures, and holes. Weston & Sampson recommends rehabilitating these pipe segments using trenchless methods. These defects are indicated on the IDDE Investigations Map and are included in Table 1, Television Inspection Summary.

Television inspection identified two (2) locations in the storm drain with multiple fractures and a defective point repair, and one (1) location in the sewer with broken pipe. Defects at these locations are too severe to be rehabilitated with trenchless methods and are recommended to be repaired with open cut point repairs. These defects are indicated on the IDDE Investigations Map and are included in Table 2, Open Cut Point Repairs. Photographs of these defects are included in Appendix B, Photos 1-3.

Television inspection of the storm drain identified four (4) suspect drain lateral connections. These lateral connections appeared to originate from adjacent buildings and had observed dry weather flow. Weston & Sampson performed dye tests at these locations to confirm whether these are illicit connections.

Dye Testing

Suspect lateral drain connections with dry weather flow were observed at the following locations: 1188 Broadway, 1269 Broadway, 1305 Broadway (LA Market), and 105 Alewife Brook Parkway (Stop & Shop). Dye tests were performed at these locations to confirm illicit connections to the storm drain.

- **1188 Broadway:** The suspect lateral connection in pipe segment 7-5191 to 7-5829 is coming from the direction of 1188 Broadway. There are drainage structures in the parking area of 1188 Broadway in-line with this connection. Dyed water was introduced to the drainage structures, but was not observed in the storm drain mainline. Inspection of this lateral connection using a lateral launcher is recommended to determine the source of dry weather flow.
- **1269 Broadway:** The suspect lateral connection in pipe segment 7-6377 to 7-6378 is coming from the direction of 1269 Broadway. Dyed water was flushed down two (2) toilets in this building, but not observed in the storm drain. The building was inspected with the owner's plumber, and no sump pump, roof, or area drainage structures were observed. Inspection of this lateral connection using a lateral launcher is recommended to determine the source of dry weather flow.
- **1305 Broadway (LA Market):** The suspect lateral connection in pipe segment 7-6379 to 7-6380 is coming from 1305 Broadway. Dyed water was poured down the bathroom sink and was observed entering the storm drain (Appendix B, Photo 4). However, a subsequent dye test was performed and dye was also observed in the sanitary sewer and underdrain cavern in sewer manhole A-336 (Appendix B, Photos 5-6). Based on the dye test results, the building either has both a sanitary sewer and storm drain building connection or sewage from the sewer connection is exfiltrating into the storm drain connection. Weston & Sampson recommends inspecting the building plumbing to determine whether this building has a direct or indirect connection to the storm drain system. Inspecting the building connection(s) from the mainline storm drain and/or sewer using a lateral launcher may also be required.
- **105 Alewife Brook Parkway (Stop & Shop):** The suspect lateral connection in pipe segment 7-6383 to 7-5435 is coming from the direction of the Stop & Shop parking lot on the corner of Broadway and Alewife Brook Parkway. Dyed water was flushed down the toilet of the Stop & Shop, but was not observed in the storm drain. No drainage structures were observed in the parking lot proximal to the incoming connection. Inspection of this lateral connection using a lateral launcher is recommended to determine the source of dry weather flow.

Dry Weather Sampling

Dry weather sampling was not performed in Area #7.

DRAINAGE AREA #9

Drainage Area #9 consists of 7,350 linear feet of storm drains in west Somerville from Curtis Street to Alewife Brook Parkway tributary to Outfall #9. Outfall #9 discharges to Alewife Brook behind Dilboy Field. The sewers are generally deeper than the storm drains in this area. Record drawings indicate an underdrain under the sewer coming from Powder House Boulevard; however, no underdrain access points were observed.

Television Inspection / Field Investigation

Television inspection was performed on 3,311 linear feet of storm drains and 1,067 linear feet of sanitary sewers in Drainage Area #9 on November 1, 6, 9, 13, and 15, 2017. Television inspection results are presented in Table 1, Television Inspection Summary. The inspection results and major findings are also presented on the IDDE Investigations Map, Sheets 2-3, included as Appendix A.

Fine, moderate, and heavy roots were identified in several locations. Moderate and heavy roots were removed from the storm drain and sanitary sewer pipes, during the investigation, using a hydraulic root cutter. Heavy cleaning was performed on 733 linear feet of storm drain and 823 linear feet of sanitary sewer.

Television inspection identified four (4) sewer segments and twelve (12) drain segments with structural defects. These defects include multiple cracks, fractures, and holes. Weston & Sampson recommends rehabilitating these pipe segments using trenchless methods. These defects are indicated on the IDDE Investigations Map and are included in Table 1, Television Inspection Summary.

Television inspection identified two (2) storm drain locations and one (1) sanitary sewer location with multiple fractures, a severe offset joint, and collapsed pipe. Defects at these locations are too severe to be rehabilitated with trenchless methods and are recommended to be repaired with open cut point repairs. These defects are indicated on the IDDE Investigations Map and are included in Table 2, Open Cut Point Repairs. Photographs of these defects are included in Appendix B, Photos 7-9.

Television inspection identified a broken sanitary sewer lateral wye connection at one (1) location. The condition of the wye connection is too severe to be rehabilitated with trenchless rehabilitations. Weston & Sampson recommends replacing the sewer service in this location. This repair is indicated on the IDDE Investigations Map and is included in Table 3, Replacement of Service Connection Wyes. A Photograph of this defect is included in Appendix B, Photo 10.

Sewer service connections with open joints at the mainline connection were identified in three (3) locations. Open joints in these locations may allow sewer flow to exfiltrate into the ground. Weston & Sampson recommends sealing these connections with lateral liners. Photographs of these defects are included in Appendix B, Photos 11-13.

Dye Testing

Television inspection of the storm drain identified one (1) suspect drain lateral connection adjacent to 287 Alewife Brook Parkway. The lateral connection appears to originate from the adjacent building, but did not have observed dry weather flow. Weston & Sampson performed one (1) dye test at this location to confirm whether this connection is illicit. Dye was observed in the downstream sewer manhole (A-418), confirming that the sewer service is not connected to the storm drain.

Dry Weather Sampling

Weston & Sampson performed dry weather sampling at Outfall #9 and drain manholes (DMH) 9-6460, DMH 9-5874, and DMH 9-5875 on March 29, 2018. Sampling was performed at these locations due to observed dry weather flow and previous sampling data (performed by Wright-Pierce) that indicated elevated E. coli (8,200 cfu/100mL, December 2013) at Outfall #9. The samples were analyzed by Rhode Island Analytical for E. coli,

surfactants, and ammonia. The results indicated that each sample was below the MassDEP and 314 CMR 4.00 thresholds for Class B surface waters, except for the ammonia concentration from DMH 9-5874. The ammonia concentration in this sample was equal to the MassDEP threshold of ≥ 0.50 mg/L. Complete sampling results are included in Table 4, Dry Weather Sampling.

Based on the sampling results, Weston & Sampson did not confirm elevated E. coli levels at Outfall #9, identified during the previous investigation. The drain pipe between DMH 9-5874 and Outfall #9 is located below Dilboyl Field and has one (1) catch basin connection in the field. During field investigation, geese (approximately 60) were observed in the vicinity of the catch basin and there were also several locations where fecal matter was visible on the field. Fecal matter (animal) was also visible on the bench inside DMH 9-5866. In addition, television inspection of the tributary drains did not identify a source of dry weather flow and it is likely that the flow is from snow melt runoff and groundwater infiltration. It is possible that the previous elevated E. coli sample at Outfall #9 was caused by runoff from the field.

DRAINAGE AREA #31

Drainage Area #31 consists of 12,706 linear feet of storm drains in Ball Square. The storm drain discharges to the Mystic River via the City of Medford's storm drain system. The storm drains are generally deeper than the sanitary sewers on Broadway from Boston Avenue to Pearson Road; at the intersection of Warner Street the sanitary sewer becomes deeper than the storm drain. According to record drawings, there are underdrains below the sanitary sewer on Broadway, Boston Avenue, Rogers Avenue, Lowden Avenue, Willow Avenue, and Josephine Avenue.

Television Inspection / Field Investigation

Television inspection was performed on 2,984 linear feet of storm drains and 1,483 linear feet of sanitary sewers in Drainage Area #31 on November 2, 14, and 15, 2017. Television inspection results are presented in Table 1, Television Inspection Summary. The inspection results and major findings are also presented on the IDDE Investigations Map, Figure 4-5, included as Appendix A.

Fine, moderate, and heavy roots were identified at several locations. Moderate and heavy roots were removed from the storm drain and sanitary sewer pipes, during the investigation, using a hydraulic root cutter. Heavy cleaning was performed on 366 linear feet of storm drain and 257 linear feet of sanitary sewer.

Television inspection identified five (5) sewer segments and eight (8) drain segments with structural defects. These defects include multiple cracks, fractures, and holes. Weston & Sampson recommends rehabilitating these pipe segments using trenchless methods. These defects are indicated on the IDDE Investigations Map and are included in Table 1, Television Inspection Summary.

Television inspection identified broken sanitary sewer lateral wye connections at two (2) locations. The condition of each wye connection is too severe to be rehabilitated with trenchless rehabilitations. Weston & Sampson recommends replacing the sewer services at these locations. These defects are indicated on the IDDE Investigations Map and are included in Table 3, Replacement of Service Connection Wyes. Photographs of these defects are included in Appendix B, Photos 14-15.

A shared manhole was identified on Rogers Avenue, SMH M-246. The storm drain is higher than the sewer main and is separated with a baffle wall (Appendix B, Photo 16). During surcharged conditions, it is possible that sewage could overflow into the storm drain; however, there is no evidence of previous surcharge in this manhole.

The Rogers Avenue storm drain from SMH M-246 discharges to DMH 31-5004 at Broadway. There is a bulkhead, inside of DMH 31-5004, that contains the underdrain from Rogers Avenue and an abandoned drain from Broadway (in the direction of Josephine Road). The underdrain (inside the bulkhead) discharges directly to the adjacent sewer manhole, M-248; however, if the underdrain overflowed out of the bulkhead, it would flow

directly to the storm drain. The underdrain flow may be contaminated due to possible sewer exfiltration on Rogers Avenue. Weston & Sampson recommends the bulkhead be completely sealed. We also recommend plugging the Rogers Avenue underdrain connection, as this is a significant source of I/I to the sewer system. Prior to plugging the underdrain, sewers on Rogers Avenue Should be lined to prevent damage from backwater conditions resulting sealing the underdrain.

An open underdrain access port was observed on the bench of SMH M-265, allowing sewer to flow into the underdrain and the underdrain to flow into the sewer. Capped underdrain connections were also observed in DMH 31-5003 and DMH 31-5012. These connections were not leaking during the IDDE investigation; however, these connections were observed to be leaking to the storm drain during the CIP Project 1 Manhole Inspection Project (spring 2017). These capped underdrain connections may be a source of contamination to the storm drain. Weston & Sampson recommends sealing the access port in SMH M-265 (included in CIP Project 1 Manhole Rehabilitations) and completely sealing the underdrain connections in DMH 31-5003 and DMH 31-5012. Photographs of these underdrain connections are included in Appendix B, Photos 17-19. In addition, sewers over underdrains in these locations should be lined to prevent sewer exfiltration into the underdrain.

A weir wall (approximately 6-inches tall) was identified in drain manhole 31-5015 on Pearson Road. The weir wall redirects dry weather flow to a 2-inch PVC pipe that is connected to the adjacent sewer manhole (M-3337). Inspection of manhole 31-5015 indicated the 2-inch pipe was clogged, allowing contaminated dry weather flow to continue downstream. Although this connection diverts contaminated flow during dry weather, it also provides a source of Inflow and Infiltration (I/I) into the sewer system. This connection should be abandoned once the source of upstream contamination is eliminated. Photographs of the 2-inch PVC connection are included in Appendix B, Photos 20-21.

Dye Testing

Television inspection of the storm drain identified six (6) suspect drain lateral connections. Dye testing was performed at Crowley's Liquor Store, Kelly's Diner, Lyndell's Bakery, Sky Line Dry Cleaning, Alpha Dental Somerville, and on a roof leader at 124 Rogers Avenue. These locations were dye tested due to their proximity to the incoming laterals. No dyed water was observed in the storm drain from any of these locations. No dry weather flow was observed entering the storm drain from these locations either.

Dry Weather Sampling

Weston & Sampson performed dry weather sampling at drain manholes 31-5003, 31-5005, 31-5012, and 31-5015 on March 29, 2018. Sampling was performed at these locations due to observed dry weather flow and previous sampling data (performed by Wright-Pierce). Sampling results from DMH 31-5005, 31-5012, and 31-5015 indicated concentrations greater than the MassDEP and 314 CMR 4.00 threshold levels for E. Coli, surfactants, and ammonia. The sample taken from DMH 31-5003 was below the threshold for E. coli; however, concentrations of surfactants and ammonia were both greater than the threshold levels. This sample was of dry weather flow from the storm drain on Lowden Avenue. Complete sampling results are included in Table 4, Dry Weather Sampling.

The sampling results at DMH 31-5005 indicated that the E. coli count exceeds 241,960 MPN/100 mL (limit is 235 cfu/100 mL). The source of dry weather flow upstream of this manhole from a drain connection approximately 98 linear feet upstream of DMH 31-5005 was confirmed through television inspection. Based on the field investigation it appears this drain connection is from the Boston Avenue underdrain. The inspection identified visible evidence of sanitary sewer, such as solids and toilet paper, as well as sewer odors from the drain.

The Boston Avenue underdrain is below sewer segment M-393 to M-248, which has multiple sections of broken pipe; many of which are along the invert of the pipe (Appendix B, Photo 22). In addition, there is a large hole in the invert of SMH M-248 (Appendix B, Photo 23). It is likely that sewage exfiltration from this sewer segment is migrating to the underdrain and is the source of the contamination in the storm drain. Weston & Sampson recommends television inspection of the remaining sewer on Boston Avenue. Dye tests should be performed on

adjacent buildings, as necessary, to confirm that all sewer services are connected to the sewer (and not the underdrain). Once additional investigations are complete, Weston & Sampson recommends lining sewers that are over underdrains on Boston Avenue and sealing SMH M-248 to prevent further sewage exfiltration into the underdrain.

RECOMMENDATIONS FOR FURTHER INVESTIGATION

Weston & Sampson recommends the following for further investigation:

Area #7

- Perform a building inspection at 1305 Broadway (LA Market) of the internal plumbing. Inspect sewer and drain laterals with lateral launcher to confirm connectivity and source of dye in the drain.
- Inspect confirmed sources of dry weather flow in 7-6377 to 7-6378, 7-6383 to 7-5435, and 7-5191 to 7-5829 with a lateral launcher to determine sources of flow.
- Clean and inspect sanitary sewers on Broadway, from A-47 to A-3129, and all sewer-drain crossings tributary to this sewer to identify any structural defects that may allow sewer to exfiltrate into the storm drain.

Area #9

- Monitor storm water outfall #9 with routine dry-weather sampling for signs of contamination.

Area #31

- Clean and television inspect sanitary sewers on Boston Avenue from M-385 to M-393 to identify structural defects that may allow sewer exfiltration to the underdrain. Dye test adjacent buildings as necessary to confirm all buildings are connected to the sewer and not the underdrain.

RECOMMENDED REHABILITATIONS

Weston & Sampson recommends the following sewer and drain rehabilitations:

Area #7 - Sewer

Install manhole to manhole liner in 157 linear feet of 10-inch diameter sewer.

Estimated Cost	\$	11,775
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Open cut repair at one (1) location.

Estimated Cost	\$	25,000
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Subtotal	\$	36,775
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Area #7 - Drain

Install manhole to manhole liners in 1,052 linear feet of 12-inch and 1,947 linear feet of 15-inch diameter drains.

Estimated Cost	\$	348,575
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Open cut repairs at two (2) locations.

Estimated Cost	\$	74,400
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Cut one (1) protruding service connection.

Estimated Cost	\$	600
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Subtotal	\$	423,575
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Area #7 Total	\$	460,350
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Area #9 - Sewer

Install manhole to manhole liners in 1,036 linear feet of 8-inch diameter sewer.

Estimated Cost	\$	51,800
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Install three (3) lateral liners.

Estimated Cost	\$	21,000
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Open cut repair at one (1) location.

Estimated Cost	\$	25,000
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Replace one (1) wye connection to the mainline sanitary sewer.

Estimated Cost	\$	15,000
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Cut three (3) protruding service connections.

Estimated Cost	\$	1,800
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Subtotal	\$	114,600
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Area #9 - Drain

Install manhole to manhole liners in 737 linear feet of 10-inch, 160 lf of 15-inch, and 1,548 lf of 21-inch diameter drains.

Estimated Cost	\$	338,435
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Install manhole to manhole structural liners in 174 linear feet of 21-inch and 192 lf of 24-inch diameter drains.

Estimated Cost	\$	75,300
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Open cut repairs at two (2) locations.

Estimated Cost	\$	50,000
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Cut four (4) protruding service connections.

Estimated Cost \$ 2,400

Subtotal \$ 466,135

Area #9 Total \$ 580,735

Area #31 - Sewer

Install manhole to manhole liners in 1,970 linear feet of 8-inch diameter sewers.

Estimated Cost \$ 98,500

Install manhole to manhole structural liners in 257 linear feet of 8-inch diameter sewers.

Estimated Cost \$ 14,135

Replace two (2) wye connections to the mainline sanitary sewer.

Estimated Cost \$ 30,000

Build one (1) bench and invert.

Estimated Cost \$ 1,200

Line one (1) manhole (includes invert sealing, exterior grouting, and interior sealing).

Estimated Cost \$ 1,890

Subtotal \$ 145,725

Area #31 - Drain

Install manhole to manhole liners in 455 linear feet of 10-inch and 1,552 lf of 24-inch diameter drains.

Estimated Cost \$ 344,525

Install manhole to manhole structural liners in 432 linear feet of 12-inch diameter drains.

Estimated Cost \$ 47,520

Cut two (2) protruding service connections.

Estimated Cost \$ 1,200

Seal two (2) underdrain access ports.

Estimated Cost \$ 3,000

Seal one (1) bulkhead in 31-5004 and plug underdrain from Rogers Avenue.

Estimated Cost \$ 4,000

Subtotal	\$ 400,245
Area # 31 Total	\$ 545,970
COST ESTIMATE SUMMARY	
Area # 7 Subtotal	\$ 460,350
Area # 9 Subtotal	\$ 580,735
Area # 31 Subtotal	\$ 545,970

IDDE AREAS 7, 9 AND 31 REHABILITATION TOTAL **\$ 1,587,055**

A Rehabilitation Unit Cost table is included as Appendix C. Recommended rehabilitations and further investigations are also presented on the IDDE Investigations Map - Recommendations, included as Appendix D.

The rehabilitations listed above include recommendations to remove sources of contamination in the storm drain, to repair structural defects in the drain and sewer, and to remove sources of I/I in the sewer. After additional investigations are complete, additional rehabilitations will be recommended and an updated cost estimate will be provided. Weston & Sampson will work with the city to prioritize these repairs.

Weston & Sampson recommends including proposed manhole rehabilitations with the CIP Project 1 Manhole Rehabilitation Project (fall 2018) and proposed storm drain and sewer main rehabilitations with the CIP Project 2 Pipeline Rehabilitation Project (spring/summer 2019).

Weston & Sampson would like to thank the City of Somerville for the opportunity to complete this project and is available at your earliest convenience to discuss this report. We look forward to future opportunities to provide environmental services for the city.

Very Truly Yours,

WESTON & SAMPSON ENGINEERS, INC.

5/3/2018

X



David M. Elmer, PE
Program Manager, Vice President
Signed by: David M. Elmer, PE

Cc: Robert T. King, PE, Director of Capital Projects and Planning

TABLES

TABLE 1
TELEVISION INSPECTION SUMMARY

TABLE 1 TELEVISION INSPECTION SUMMARY

IDDE DRAINAGE AREAS 7, 9 AND 31 INVESTIGATIONS - SOMERVILLE, MA

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5434	7	5435	STORM	VC	12	69	69	3	0	2
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 7-5434				
	069	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	069	MANHOLE				12	0	0	DOWNSTREAM - 7-5435				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5823	7	5824	STORM	VC	12	279	279	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-5823								
043	ROOTS - FINE	05	0	0	FINE - JOINT								
045	ROOTS - MEDIUM	08	0	0	MEDIUM - JOINT - START								
054	ROOTS - MEDIUM	09	0	0	MEDIUM - JOINT - END								
067	ROOTS - MEDIUM	05	0	0	MEDIUM - JOINT								
072	CRACK - LONGITUDINAL	12	0	0	LIGHT								
074	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
078	FRACTURE - MULTIPLE	12	0	0	MODERATE - POOR REPAIR - START								
084	FRACTURE - MULTIPLE	12	0	0	MODERATE - POOR REPAIR - END								
115	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
127	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
152	CRACK - LONGITUDINAL	12	0	0	LIGHT								
194	ROOTS - MEDIUM	03	0	0	MEDIUM - JOINT - START								
213	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
215	TAP - FACTORY MADE - CAPPED	08	0	0	FACTORY - CAPPED								
222	CRACK - MULTIPLE	12	0	0	LIGHT								
253	CRACK - LONGITUDINAL	12	0	0	LIGHT								
259	CRACK - LONGITUDINAL	12	0	0	LIGHT								
262	CRACK - LONGITUDINAL	12	0	0	LIGHT								
266	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED - ROOTS								
268	CRACK - LONGITUDINAL	12	0	0	LIGHT								
273	ROOTS - MEDIUM	03	0	0	MEDIUM - JOINT - END								
279	MANHOLE	12	0	0	DOWNSTREAM - 7-5824								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5824	7	5434	STORM	VC	15	291	291	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-5824								
002	ROOTS - MEDIUM	07	0	0	MEDIUM - JOINT - START								
081	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
091	CRACK - MULTIPLE	12	0	0	LIGHT - START								
094	CRACK - MULTIPLE	12	0	0	LIGHT - END								
178	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
191	CRACK - LONGITUDINAL	06	0	0	LIGHT - START								
191	CRACK - LONGITUDINAL	12	0	0	LIGHT								
195	CRACK - LONGITUDINAL	06	0	0	LIGHT - END								
206	CRACK - LONGITUDINAL	06	0	0	LIGHT								
254	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
265	CRACK - MULTIPLE	12	0	0	LIGHT								
291	MANHOLE	12	0	0	DOWNSTREAM - 7-5434								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5825	7	5823	STORM	VC	12	277	277	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-5825								
005	MINERAL DEPOSITS	03	0	0	MODERATE - JOINT - START								
017	MINERAL DEPOSITS	09	0	0	MODERATE - WALL - START								
025	MINERAL DEPOSITS	09	0	0	MODERATE - WALL - END								
035	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
077	MINERAL DEPOSITS	03	0	0	MODERATE - JOINT - END								
100	ROOTS - MEDIUM	09	0	0	MEDIUM - JOINT - START								
103	CRACK - MULTIPLE	12	0	0	LIGHT								
109	ROOTS - MEDIUM	03	0	0	MEDIUM - JOINT - END								
113	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
117	FRACTURE - CIRCUMFERENTIAL	05	0	0	LIGHT								
168	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
209	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
269	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
277	MANHOLE	12	0	0	DOWNSTREAM - 7-5823								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5827	7	5826	STORM	VC	12	219	219	3	288	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-5827								
037	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
057	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
081	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
082	CRACK - MULTIPLE	12	0	0	MODERATE - START								
085	CRACK - MULTIPLE	03	0	0	MODERATE - END								
094	CRACK - LONGITUDINAL	12	0	0	LIGHT								
097	CRACK - LONGITUDINAL	12	0	0	LIGHT								
107	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
117	ROOTS - FINE	12	0	0	FINE - JOINT - START								
120	ROOTS - FINE	12	0	0	FINE - JOINT - END								
130	CRACK - LONGITUDINAL	12	0	0	LIGHT								
139	CRACK - LONGITUDINAL	12	0	0	LIGHT								
149	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
153	MINERAL DEPOSITS	09	0	0	LIGHT - JOINT								
168	MINERAL DEPOSITS	09	0	0	LIGHT - JOINT								
183	MINERAL DEPOSITS	03	0	0	LIGHT - JOINT								
186	MINERAL DEPOSITS	03	0	0	LIGHT - JOINT								
190	JOINT - INFILTRATION	02	288	0	INFILTRATION RUNNER								
197	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
202	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
219	MANHOLE	12	0	0	DOWNSTREAM - 7-5826								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5828	7	5827	STORM	VC	12	261	238	3	0	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-5828								
002	CRACK - MULTIPLE	12	0	0	LIGHT - START								
008	CRACK - MULTIPLE	12	0	0	LIGHT - END								
015	CRACK - MULTIPLE	12	0	0	LIGHT - START								
018	CRACK - MULTIPLE	12	0	0	LIGHT - END								
039	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
052	ROOTS - MEDIUM	03	0	0	MEDIUM - JOINT - START								
071	POINT REPAIR - PATCH	12	0	0	DEFECTIVE REPAIR PATCH								
071	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - DEFECTIVE REPAIR - FROM US								
094	GENERAL OBSERVATION	12	0	0	NO TV STA 0+71 TO STA 0+94								
094	ROOTS - MEDIUM	12	0	0	MEDIUM - JOINT								
094	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - ROOTS - FROM DS								
101	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT								
103	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
121	CRACK - LONGITUDINAL	12	0	0	LIGHT								
126	CRACK - LONGITUDINAL	12	0	0	LIGHT								
130	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
153	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
156	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
158	CRACK - CIRCUMFERENTIAL	12	0	0	MODERATE								
162	CRACK - CIRCUMFERENTIAL	12	0	0	MODERATE								
166	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
166	CRACK - MULTIPLE	12	0	0	MODERATE								
170	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
186	TAP - FACTORY MADE - CAPPED	11	0	0	FACTORY - CAPPED								
201	CRACK - MULTIPLE	12	0	0	MODERATE								
203	CRACK - MULTIPLE	12	0	0	MODERATE								
206	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
210	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
216	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
233	CRACK - MULTIPLE	12	0	0	LIGHT - START								

239	CRACK - MULTIPLE	12	0	0	LIGHT - END
241	CRACK - LONGITUDINAL	12	0	0	LIGHT
246	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE
250	CRACK - LONGITUDINAL	12	0	0	LIGHT - START
253	CRACK - LONGITUDINAL	12	0	0	LIGHT - END
261	MANHOLE	12	0	0	DOWNSTREAM - 7-5827

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5829	7	5191	STORM	VC	12	152	152	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 7-5829								
023	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT								
038	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
054	CRACK - MULTIPLE	12	0	0	MODERATE - START								
056	HOLE - SOIL VISIBLE	06	0	0	MODERATE - 6" DIAMETER								
058	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
060	CRACK - MULTIPLE	12	0	0	MODERATE - END								
060	MATERIAL CHANGE	12	0	0	VC TO PVC								
062	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
064	MATERIAL CHANGE	12	0	0	PVC TO VC								
086	CRACK - LONGITUDINAL	09	0	0	LIGHT - START								
089	CRACK - LONGITUDINAL	09	0	0	LIGHT - END								
096	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
118	TAP - BREAK IN - INTRUDING	03	0	288	BREAK IN - INTRUDING 2" - RUNNING								
131	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
152	MANHOLE	12	0	0	UPSTREAM - 7-5191								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	5829	7	5828	STORM	VC	12	143	143	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-5829								
002	CRACK - MULTIPLE	12	0	0	LIGHT - START								
005	CRACK - MULTIPLE	12	0	0	LIGHT - END								
011	CRACK - CIRCUMFERENTIAL	01	0	0	LIGHT								
017	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT								
023	CRACK - LONGITUDINAL	12	0	0	LIGHT								
037	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
044	MINERAL DEPOSITS	07	0	0	LIGHT - JOINT - START								
053	MINERAL DEPOSITS	07	0	0	LIGHT - JOINT - END								
056	CRACK - LONGITUDINAL	12	0	0	LIGHT								
056	MINERAL DEPOSITS	08	0	0	MODERATE - JOINT								
064	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
068	CRACK - MULTIPLE	12	0	0	LIGHT								
068	MINERAL DEPOSITS	08	0	0	MODERATE - JOINT								
086	CRACK - MULTIPLE	12	0	0	LIGHT								
095	CRACK - CIRCUMFERENTIAL	02	0	0	LIGHT								
096	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
115	CRACK - LONGITUDINAL	09	0	0	LIGHT								
126	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - APPEARS CAPPED								
136	TAP - FACTORY MADE - ACTIVE	06	0	0	FACTORY - ACTIVE - DROP CONNECTION TO 7-5828								
143	MANHOLE	12	0	0	DOWNSTREAM - 7-5828								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6374	7	6375	STORM	VC	15	185	185	3	0	5
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6374								
009	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
013	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
015	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
019	CRACK - LONGITUDINAL	12	0	0	LIGHT								
033	TAP - FACTORY MADE - ACTIVE	02	0	0	FACTORY - ACTIVE - CRACKED								
039	FRACTURE - MULTIPLE	12	0	0	SEVERE - START								
064	GENERAL OBSERVATION	12	0	0	REVERSAL OVERLAP POINT								
064	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - FRACTURED PIPE								
070	CRACK - MULTIPLE	12	0	0	MODERATE - START								
070	FRACTURE - MULTIPLE	12	0	0	SEVERE - END								
078	CRACK - MULTIPLE	12	0	0	MODERATE - END								
091	CRACK - MULTIPLE	12	0	0	MODERATE - START								
112	CRACK - MULTIPLE	12	0	0	MODERATE - END								
131	TAP - FACTORY MADE - CAPPED	01	0	0	FACTORY - CAPPED								
165	CRACK - MULTIPLE	06	0	0	LIGHT								
173	CRACK - LONGITUDINAL	12	0	0	LIGHT								
176	CRACK - LONGITUDINAL	04	0	0	LIGHT								
182	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
185	MANHOLE	12	0	0	DOWNSTREAM - 7-6375								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6375	7	6376	STORM	VC	15	177	177	3	0	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6375								
009	TAP - FACTORY MADE - CAPPED	01	0	0	FACTORY - CAPPED								
015	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
018	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
033	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
041	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
045	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
048	ROOTS - FINE	03	0	0	FINE - JOINT								
060	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
073	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
076	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
080	CRACK - MULTIPLE	12	0	0	LIGHT - START								
088	CRACK - MULTIPLE	12	0	0	LIGHT - END								
097	ROOTS - FINE	12	0	0	FINE - JOINT								
098	CRACK - MULTIPLE	06	0	0	LIGHT - START								
105	CRACK - MULTIPLE	12	0	0	LIGHT - END								
112	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
112	ROOTS - FINE	12	0	0	FINE - CRACK								
118	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
118	CRACK - MULTIPLE	12	0	0	MODERATE - START								
118	ROOTS - FINE	12	0	0	FINE - CRACKS								
127	CRACK - MULTIPLE	12	0	0	MODERATE - END								
175	TAP - FACTORY MADE - ACTIVE	11	0	0	FACTORY - ACTIVE								
177	MANHOLE	12	0	0	DOWNSTREAM - 7-6376								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6376	7	6377	STORM	VC	15	253	253	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6376								
014	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
017	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
017	CRACK - MULTIPLE	12	0	0	LIGHT - START								
023	CRACK - MULTIPLE	12	0	0	LIGHT - END								
029	CRACK - MULTIPLE	12	0	0	LIGHT - START								
035	CRACK - MULTIPLE	12	0	0	LIGHT - END								
043	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT								
043	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE - CRACKED								
061	CRACK - MULTIPLE	12	0	0	LIGHT								
077	CRACK - MULTIPLE	12	0	0	LIGHT - START								
077	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
098	CRACK - MULTIPLE	12	0	0	LIGHT - END								
102	CRACK - LONGITUDINAL	12	0	0	LIGHT								
108	CRACK - LONGITUDINAL	09	0	0	LIGHT								
111	ROOTS - FINE	07	0	0	FINE - JOINT								
114	ROOTS - FINE	03	0	0	FINE - JOINT								
121	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
122	CRACK - LONGITUDINAL	12	0	0	LIGHT								
124	ROOTS - FINE	09	0	0	FINE - JOINT - START								
154	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
164	ROOTS - FINE	12	0	0	FINE - JOINT - END								
167	ROOTS - MEDIUM	12	0	0	MEDIUM - JOINT								
170	ROOTS - FINE	12	0	0	FINE - JOINT - START								
194	CRACK - MULTIPLE	10	0	0	LIGHT								
196	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
201	ROOTS - FINE	23	0	0	FINE - JOINT - END								
213	TAP - FACTORY MADE - ACTIVE	10	0	0	FACTORY - ACTIVE								
238	CRACK - LONGITUDINAL	12	0	0	LIGHT								
253	MANHOLE	12	0	0	DOWNSTREAM - 7-6377								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6377	7	6378	STORM	VC	15	167	167	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6377								
008	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
028	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
029	CRACK - LONGITUDINAL	12	0	0	LIGHT								
048	TAP - FACTORY MADE - ACTIVE	03	0	432	FACTORY - ACTIVE								
085	CRACK - LONGITUDINAL	12	0	0	LIGHT								
093	CRACK - LONGITUDINAL	12	0	0	LIGHT								
099	CRACK - LONGITUDINAL	12	0	0	LIGHT								
110	CRACK - MULTIPLE	12	0	0	LIGHT - BUGS AT CRACKS								
114	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
119	CRACK - LONGITUDINAL	12	0	0	LIGHT								
147	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
151	ROOTS - FINE	03	0	0	FINE - JOINT								
154	CRACK - LONGITUDINAL	04	0	0	LIGHT								
158	ROOTS - FINE	04	0	0	FINE - JOINT								
165	TAP - FACTORY MADE - ACTIVE	12	0	0	FACTORY - ACTIVE								
166	CRACK - MULTIPLE	12	0	0	MODERATE								
167	MANHOLE	12	0	0	DOWNSTREAM - 7-6378								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6378	7	6379	STORM	VC	15	38	38	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6378								
038	GENERAL OBSERVATION	12	0	0	NO DEFECTS								
038	MANHOLE	12	0	0	DOWNSTREAM - 7-6379								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6380	7	6379	STORM	VC	15	203	203	3	144	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 7-6380								
033	CRACK - MULTIPLE	12	0	0	LIGHT								
039	TAP - FACTORY MADE - ACTIVE	02	0	0	FACTORY - ACTIVE								
049	CRACK - MULTIPLE	12	0	0	LIGHT								
055	CRACK - MULTIPLE	12	0	0	LIGHT								
061	ROOTS - FINE	08	0	0	FINE - JOINT								
076	TAP - BREAK IN - ACTIVE	10	0	288	BREAK IN - ACTIVE - SEWER CROSS CONNECTION								
078	JOINT - INFILTRATION	10	144	0	INFILTRATION DRIPPER								
092	ROOTS - MEDIUM	07	0	0	MEDIUM - JOINT								
099	ROOTS - FINE	07	0	0	FINE - JOINT								
102	CRACK - LONGITUDINAL	12	0	0	LIGHT								
107	ROOTS - FINE	07	0	0	FINE - JOINT								
132	CRACK - MULTIPLE	12	0	0	LIGHT								
139	CRACK - LONGITUDINAL	12	0	0	LIGHT								
151	ROOTS - FINE	04	0	0	FINE - JOINT								
160	ROOTS - MEDIUM	04	0	0	MEDIUM - JOINT								
180	CRACK - LONGITUDINAL	03	0	0	LIGHT								
181	ROOTS - MEDIUM	07	0	0	MEDIUM - JOINT								
203	MANHOLE	12	0	0	UPSTREAM - 7-6379								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6380	7	6381	STORM	VC	15	224	224	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6380								
002	POINT REPAIR - PATCH	07	0	0	BRICK REPAIR AT JOINT								
021	ROOTS - MEDIUM	08	0	0	MEDIUM - JOINT								
027	ROOTS - FINE	04	0	0	FINE - JOINT								
063	CRACK - MULTIPLE	10	0	0	LIGHT								
093	ROOTS - FINE	08	0	0	FINE - JOINT - START								
114	ROOTS - FINE	07	0	0	FINE - JOINT - END								
117	ROOTS - MEDIUM	07	0	0	MEDIUM - JOINT - START								
210	CRACK - SPIRAL	02	0	0	LIGHT								
224	MANHOLE	12	0	0	DOWNSTREAM - 7-6381								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6381	7	6383	STORM	VC	15	230	230	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6381								
023	CRACK - LONGITUDINAL	09	0	0	LIGHT								
065	ROOTS - FINE	03	0	0	FINE - JOINT								
071	ROOTS - FINE	03	0	0	FINE - JOINT								
082	CRACK - LONGITUDINAL	12	0	0	LIGHT								
084	CRACK - LONGITUDINAL	12	0	0	LIGHT								
099	CRACK - LONGITUDINAL	12	0	0	LIGHT								
110	CRACK - LONGITUDINAL	03	0	0	LIGHT								
110	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
112	CRACK - LONGITUDINAL	12	0	0	LIGHT								
121	CRACK - MULTIPLE	12	0	0	LIGHT								
136	TAP - BREAK IN - ACTIVE	03	0	0	BREAK IN - ACTIVE								
174	CRACK - LONGITUDINAL	03	0	0	LIGHT								
175	ROOTS - FINE	11	0	0	FINE - JOINT								
197	ROOTS - FINE	07	0	0	FINE - JOINT								
210	CRACK - LONGITUDINAL	09	0	0	LIGHT								
215	CRACK - LONGITUDINAL	09	0	0	LIGHT								
219	MATERIAL CHANGE	12	0	0	VC TO PVC								
222	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
225	MATERIAL CHANGE	12	0	0	PVC TO VC								
230	MANHOLE	12	0	0	DOWNSTREAM - 7-6383								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	7	6383	7	5435	STORM	VC	15	219	219	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 7-6383								
004	CRACK - MULTIPLE	11	0	0	LIGHT								
007	HOLE - SOIL VISIBLE	10	0	0	SEVERE - 8" DIAMETER								
018	CRACK - SPIRAL	09	0	0	LIGHT								
047	CRACK - LONGITUDINAL	12	0	0	LIGHT								
052	CRACK - MULTIPLE	12	0	0	MODERATE - START								
067	CRACK - MULTIPLE	12	0	0	MODERATE - END								
076	CRACK - MULTIPLE	12	0	0	LIGHT - START								
080	CRACK - MULTIPLE	12	0	0	LIGHT - END								
103	CRACK - MULTIPLE	03	0	0	MODERATE - START								
103	TAP - BREAK IN - ACTIVE	03	0	432	BREAK IN - ACTIVE								
107	CRACK - MULTIPLE	12	0	0	MODERATE - END								
140	CRACK - MULTIPLE	12	0	0	MODERATE - START								
143	CRACK - MULTIPLE	12	0	0	MODERATE - END								
176	CRACK - LONGITUDINAL	12	0	0	LIGHT								
189	CRACK - MULTIPLE	12	0	0	LIGHT - START								
192	CRACK - MULTIPLE	12	0	0	LIGHT - END								
194	CRACK - LONGITUDINAL	12	0	0	LIGHT								
198	CRACK - MULTIPLE	12	0	0	MODERATE - START								
216	CRACK - MULTIPLE	12	0	0	MODERATE - END								
219	MANHOLE	12	0	0	DOWNSTREAM - 7-5435								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	7	A	3129	A	332	SEWER	VC	10	157	157	3	144	4
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - A-3129				
	005	TAP - BREAK IN - ACTIVE				03	0	432	BREAK IN - ACTIVE - VOID VISIBLE				
	018	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	021	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	083	HOLE - VOID VISIBLE				09	0	0	SEVERE - 6" DIAMETER - SOIL ALSO VISIBLE				
	083	OBSTRUCTION				12	0	0	APPEARS TO BE A WATER MAIN THROUGH TOP OF PIPE				
	084	CRACK - CIRCUMFERENTIAL				06	0	0	MODERATE				
	113	CRACK - LONGITUDINAL				06	0	0	MODERATE				
	113	CRACK - LONGITUDINAL				09	144	0	MODERATE				
	135	CRACK - CIRCUMFERENTIAL				08	0	0	MODERATE				
	151	TAP - FACTORY MADE - ACTIVE				06	0	0	FACTORY - ACTIVE - DROP CONN. TO A-332 - CLOGGED				
	157	MANHOLE				12	0	0	DOWNSTREAM - A-332				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
WESTON AVENUE	7	7	5829	7	5831	STORM	RC	12	67	67	8	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	DOWNSTREAM - 7-5829				
	034	ROOTS - MEDIUM				06	0	0	MEDIUM - JOINT				
	042	ROOTS - MEDIUM				06	0	0	MEDIUM - JOINT				
	067	MANHOLE				12	0	0	UPSTREAM - 7-5831				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
WESTON AVENUE	7	7	5833	7	5832	STORM	CP	12	122	122	13	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 7-5833				
	122	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	122	MANHOLE				12	0	0	DOWNSTREAM - 7-5832				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
WESTON AVENUE	7	7	6459	7	5831	STORM	CP	12	23	23	13	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 7-6459				
	023	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	023	MANHOLE				12	0	0	DOWNSTREAM - 7-5831				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
WESTON AVENUE	7	7	6459	7	5832	STORM	CP	12	78	78	13	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	DOWNSTREAM - 7-6459				
	017	WATER LEVEL - SAG				06	0	0	50% SAG - START				
	072	WATER LEVEL - SAG				06	0	0	50% SAG - END				
	078	MANHOLE				12	0	0	UPSTREAM - 7-5832				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	9	746	9	5874	STORM	PVC	10	178	178	13	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 9-746								
044	WATER LEVEL - SAG	06	0	0	30% SAG - START								
045	MATERIAL CHANGE	12	0	0	PVC TO RC								
054	WATER LEVEL - SAG	06	0	0	30% SAG - END								
141	CRACK - CIRCUMFERENTIAL	07	0	0	LIGHT								
176	MANHOLE	12	0	0	DOWNSTREAM - 9-5874								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
ALEWIFE BROOK PARKWAY	9	9	5507	9	5875	STORM	VC	21	557	557	3	0	4
	000	MANHOLE				12	0	0	UPSTREAM - 9-5507				
	027	CRACK - CIRCUMFERENTIAL				09	0	0	LIGHT				
	055	FRACTURE - CIRCUMFERENTIAL				06	0	0	MODERATE				
	098	GENERAL OBSERVATION				12	0	0	ALIGNMENT - RIGHT				
	101	ROOTS - FINE				04	0	0	FINE - JOINT				
	104	ROOTS - FINE				04	0	0	FINE - JOINT				
	107	CRACK - CIRCUMFERENTIAL				09	0	0	LIGHT				
	107	ROOTS - FINE				09	0	0	FINE - JOINT				
	110	ROOTS - FINE				04	0	0	FINE - JOINT				
	153	CRACK - LONGITUDINAL				12	0	0	LIGHT - START				
	156	CRACK - LONGITUDINAL				12	0	0	LIGHT - END				
	162	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	170	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	173	MANHOLE				12	0	0	CATCH BASIN - 303 ALEWIFE BROOK PKWY				
	175	MATERIAL CHANGE				12	0	0	VC TO PVC				
	175	SHAPE/SIZE CHANGE				12	0	0	21" TO 15"				
	178	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	178	MATERIAL CHANGE				12	0	0	PVC TO VC				
	178	SHAPE/SIZE CHANGE				12	0	0	15" TO 21"				
	206	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	214	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	221	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	227	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	233	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	251	CRACK - LONGITUDINAL				03	0	0	LIGHT				
	254	CRACK - MULTIPLE				03	0	0	LIGHT				
	263	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	279	CRACK - LONGITUDINAL				04	0	0	LIGHT				
	282	CRACK - SPIRAL				03	0	0	LIGHT				
	315	CRACK - SPIRAL				09	0	0	LIGHT				
	324	CRACK - MULTIPLE				12	0	0	LIGHT - START				

328	CRACK - MULTIPLE	12	0	0	LIGHT - END
333	SHAPE/SIZE CHANGE	12	0	0	21" TO 18"
336	CRACK - MULTIPLE	12	0	0	LIGHT - START
336	SHAPE/SIZE CHANGE	12	0	0	18" TO 21"
344	CRACK - MULTIPLE	12	0	0	LIGHT - END
346	MANHOLE	12	0	0	CATCH BASIN - 293 ALEWIFE BROOK PARKWAY
351	CRACK - MULTIPLE	12	0	0	MODERATE - START
353	TAP - BREAK IN - INTRUDING	03	0	0	BREAK IN - INTRUDING 3"
367	CRACK - MULTIPLE	12	0	0	MODERATE - END
372	CRACK - MULTIPLE	12	0	0	LIGHT - START
379	CRACK - MULTIPLE	12	0	0	LIGHT - END
392	CRACK - LONGITUDINAL	09	0	0	LIGHT
402	CRACK - LONGITUDINAL	09	0	0	LIGHT
418	CRACK - LONGITUDINAL	03	0	0	LIGHT
428	CRACK - LONGITUDINAL	08	0	0	LIGHT
450	TAP - BREAK IN - INTRUDING	09	0	0	BREAK IN - INTRUDING 2"
452	CRACK - LONGITUDINAL	03	0	0	LIGHT
478	MANHOLE	12	0	0	CATCH BASIN - 285 ALEWIFE BROOK PARKWAY
480	CRACK - MULTIPLE	12	0	0	MODERATE - START
498	CRACK - MULTIPLE	12	0	0	MODERATE - END
503	CRACK - LONGITUDINAL	03	0	0	LIGHT
521	MANHOLE	12	0	0	BRICK CHAMBER - INCOMING PIPES AT 8 AND 9 O'CLOCK
523	CRACK - MULTIPLE	12	0	0	MODERATE - START
534	CRACK - MULTIPLE	12	0	0	MODERATE - END
557	MANHOLE	12	0	0	DOWNSTREAM - 9-5875

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	9	5508	9	5507	STORM	VC	21	176	176	3	0	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 9-5508								
004	CRACK - MULTIPLE	03	0	0	LIGHT - START								
008	CRACK - MULTIPLE	03	0	0	LIGHT - END								
019	CRACK - SPIRAL	09	0	0	LIGHT								
058	CRACK - MULTIPLE	12	0	0	LIGHT								
069	CRACK - SPIRAL	09	0	0	LIGHT								
072	CRACK - MULTIPLE	07	0	0	LIGHT								
075	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT								
078	ROOTS - FINE	07	0	0	FINE - JOINT								
088	ROOTS - FINE	07	0	0	FINE - JOINT								
102	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT								
104	ROOTS - FINE	07	0	0	FINE - JOINT								
154	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT								
164	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT								
172	FRACTURE - MULTIPLE	12	0	0	SEVERE								
176	MANHOLE	12	0	0	DOWNSTREAM - 9-5507								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	9	5866	9	5874	STORM	VC	24	192	192	3	0	5
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 9-5866				
	011	POINT REPAIR - PATCH				12	0	0	BRICK REPAIR AT JOINT				
	014	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	020	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	025	FRACTURE - CIRCUMFERENTIAL				06	0	0	MODERATE				
	033	CRACK - LONGITUDINAL				12	0	0	LIGHT				
	057	CRACK - CIRCUMFERENTIAL				08	0	0	LIGHT				
	064	CRACK - MULTIPLE				12	0	0	LIGHT				
	069	CRACK - MULTIPLE				12	0	0	LIGHT				
	069	TAP - BREAK IN - ACTIVE				12	0	0	BREAK IN - ACTIVE				
	070	CRACK - MULTIPLE				06	0	0	MODERATE - START				
	080	CRACK - MULTIPLE				06	0	0	MODERATE - END				
	080	FRACTURE - MULTIPLE				06	0	0	SEVERE - START				
	111	CRACK - MULTIPLE				12	0	0	MODERATE - START				
	111	FRACTURE - MULTIPLE				06	0	0	SEVERE - END				
	124	CRACK - MULTIPLE				12	0	0	MODERATE - END				
	124	JOINT - OFFSET				06	0	0	MEDIUM OFFSET				
	124	MATERIAL CHANGE				12	0	0	VC TO RC				
	136	MATERIAL CHANGE				12	0	0	RC TO PVC				
	147	MATERIAL CHANGE				12	0	0	PVC TO RC				
	153	GENERAL OBSERVATION				12	0	0	CATCH BASIN (9-5019)				
	158	CRACK - MULTIPLE				12	0	0	MODERATE - START				
	158	MATERIAL CHANGE				12	0	0	RC TO VC				
	188	CRACK - MULTIPLE				12	0	0	MODERATE - END				
	188	MATERIAL CHANGE				12	0	0	VC TO RC				
	192	MANHOLE				12	0	0	DOWNSTREAM - 9-5874				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	9	5874	9	6460	STORM	RC	21	248	248	8	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 9-5874				
	248	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	248	MANHOLE				12	0	0	DOWNSTREAM - 9-6460				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	9	5875	9	5874	STORM	VC	21	174	174	3	0	4
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 9-5875				
	003	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	018	CRACK - MULTIPLE				12	0	0	MODERATE - START				
	018	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	032	TAP - BREAK IN - INTRUDING				03	0	0	BREAK IN - INTRUDING 3"				
	045	TAP - BREAK IN - INTRUDING				03	0	0	BREAK IN - INTRUDING 3"				
	063	CRACK - MULTIPLE				12	0	0	MODERATE - END				
	068	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	070	CRACK - SPIRAL				09	0	0	LIGHT				
	075	ROOTS - FINE				09	0	0	FINE - JOINT				
	076	CRACK - MULTIPLE				02	0	0	LIGHT				
	084	MATERIAL CHANGE				12	0	0	VC TO RC				
	174	MANHOLE				12	0	0	DOWNSTREAM - 9-5874				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	9	6460	9	OF	STORM	RC	21	12	12	8	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 9-6460				
	012	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	012	GENERAL OBSERVATION				12	0	0	OUTFALL # 9				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	A	418	A	417	SEWER	VC	8	31	31	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - A-418				
	020	MINERAL DEPOSITS				02	0	0	LIGHT - JOINT				
	027	CRACK - MULTIPLE				09	0	0	LIGHT - START				
	029	CRACK - MULTIPLE				09	0	0	LIGHT - END				
	031	MANHOLE				12	0	0	DOWNSTREAM - A-417 - MWRA MANHOLE				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
ALEWIFE BROOK PARKWAY	9	A	419	A	418	SEWER	VC	8	320	320	3	0	3
	000	MANHOLE				12	0	0	UPSTREAM - A-419				
	005	ROOTS - FINE				12	0	0	FINE - TAP				
	005	TAP - BREAK IN - INTRUDING				12	0	0	BREAK IN - INTRUDING 2" - ROOTS				
	007	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	019	ROOTS - FINE				11	0	0	FINE - JOINT				
	027	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	037	ROOTS - FINE				11	0	0	FINE - JOINT				
	046	ROOTS - FINE				11	0	0	FINE - JOINT				
	049	ROOTS - FINE				01	0	0	FINE - JOINT				
	052	ROOTS - FINE				12	0	0	FINE - JOINT				
	054	ROOTS - MEDIUM				03	0	0	MEDIUM - TAP				
	054	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE - ROOTS				
	061	ROOTS - FINE				12	0	0	FINE - JOINT				
	081	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	089	ROOTS - MEDIUM				03	0	0	MEDIUM - TAP				
	089	TAP - BREAK IN - INTRUDING				03	0	0	BREAK IN - INTRUDING 2" - ROOTS				
	100	ROOTS - FINE				12	0	0	FINE - JOINT				
	104	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	114	ROOTS - FINE				03	0	0	FINE - JOINT				
	131	ROOTS - FINE				03	0	0	FINE - TAP				
	131	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED - ROOTS				
	132	ROOTS - FINE				03	0	0	FINE - JOINT				
	138	ROOTS - MEDIUM				03	0	0	MEDIUM - TAP				
	138	TAP - BREAK IN - ACTIVE				03	0	0	BREAK IN - ACTIVE - ROOTS				
	141	ROOTS - FINE				03	0	0	FINE - JOINT				
	151	ROOTS - FINE				09	0	0	FINE - JOINT				
	152	HOLE - SOIL VISIBLE				03	0	0	LIGHT - 1" DIAMETER				
	152	HOLE - SOIL VISIBLE				12	0	0	LIGHT - 1" DIAMETER				
	153	TAP - BREAK IN - ACTIVE				09	0	0	BREAK IN - ACTIVE				
	154	ROOTS - FINE				03	0	0	FINE - JOINT				
	155	ROOTS - FINE				09	0	0	FINE - JOINT				

155	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED
179	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED
196	TAP - BREAK IN - INTRUDING	03	0	0	BREAK IN - INTRUDING 3"
202	ROOTS - FINE	03	0	0	FINE - TAP
202	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - ROOTS
209	ROOTS - FINE	03	0	0	FINE - JOINT
229	ROOTS - MEDIUM	03	0	0	MEDIUM - TAP
229	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - ROOTS
230	ROOTS - FINE	03	0	0	FINE - JOINT
233	CRACK - SPIRAL	09	0	0	LIGHT
233	ROOTS - FINE	03	0	0	FINE - JOINT
256	ROOTS - FINE	03	0	0	FINE - TAP
256	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - ROOTS
283	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED
287	ROOTS - FINE	09	0	0	FINE - JOINT
302	CRACK - SPIRAL	03	0	0	LIGHT
305	CRACK - LONGITUDINAL	09	0	0	LIGHT
307	TAP - BREAK IN - ACTIVE	09	0	0	BREAK IN - ACTIVE
310	ROOTS - FINE	03	0	0	FINE - TAP
310	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - ROOTS
311	MINERAL DEPOSITS	02	0	0	MODERATE - JOINT
311	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED
320	MANHOLE	12	0	0	DOWNSTREAM - A-418

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	A	419	A	420	SEWER	VC	8	213	213	3	4,896	5
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - A-419								
014	JOINT - INFILTRATION	10	288	0	INFILTRATION RUNNER								
018	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
022	JOINT - INFILTRATION	12	144	0	INFILTRATION DRIPPER								
024	CRACK - LONGITUDINAL	09	0	0	LIGHT								
025	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT								
042	TAP - FACTORY MADE - ACTIVE	12	0	432	FACTORY - ACTIVE								
046	CRACK - CIRCUMFERENTIAL	04	0	0	LIGHT								
046	TAP - FACTORY MADE - ACTIVE	12	0	720	FACTORY - ACTIVE								
058	HOLE - SOIL VISIBLE	12	720	0	LIGHT - 1" DIAMETER - LEAKING								
059	JOINT - INFILTRATION	03	432	0	INFILTRATION RUNNER								
067	POINT REPAIR - PATCH	02	0	0	REPAIR PATCH OVER HOLE								
068	POINT REPAIR - PATCH	12	0	0	REPAIR PATCH OVER HOLE								
075	JOINT - INFILTRATION	10	288	0	INFILTRATION RUNNER								
075	ROOTS - FINE	10	0	0	FINE - JOINT								
078	JOINT - INFILTRATION	08	288	0	INFILTRATION RUNNER								
079	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
086	CRACK - MULTIPLE	12	0	0	SEVERE - START								
086	ROOTS - FINE	09	0	0	FINE - JOINT								
089	CRACK - MULTIPLE	12	0	0	SEVERE - END								
089	JOINT - INFILTRATION	09	144	0	INFILTRATION DRIPPER								
089	ROOTS - FINE	12	0	0	FINE - TAP								
089	TAP - BREAK IN - INTRUDING	12	0	0	BREAK IN - INTRUDING 2" - ROOTS								
095	JOINT - INFILTRATION	09	288	0	INFILTRATION RUNNER								
098	JOINT - INFILTRATION	09	432	0	INFILTRATION RUNNER								
105	TAP - FACTORY MADE - CAPPED	09	432	0	FACTORY - CAPPED - LEAKING								
117	TAP - BREAK IN - ACTIVE	09	0	288	BREAK IN - ACTIVE								
129	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
134	JOINT - INFILTRATION	01	144	0	INFILTRATION DRIPPER								
149	CRACK - LONGITUDINAL	12	0	0	LIGHT								
156	CRACK - MULTIPLE	12	0	0	MODERATE								

157	TAP - BREAK IN - ACTIVE	09	0	0	BREAK IN - ACTIVE
160	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED
169	CRACK - LONGITUDINAL	12	0	0	LIGHT
170	CRACK - MULTIPLE	06	0	0	MODERATE
170	JOINT - OFFSET	06	0	0	SEVERE OFFSET
170	JOINT - SEPARATED	06	0	0	OPEN JOINT
173	FRACTURE - MULTIPLE	12	0	0	SEVERE
175	HOLE - SOIL VISIBLE	12	0	0	MODERATE - 2" DIAMETER
187	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE
193	JOINT - INFILTRATION	10	1,296	0	INFILTRATION RUNNER
206	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED
213	MANHOLE	12	0	0	UPSTREAM - A-420 - INVERT LEAKING 1440 GPD

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	A	420	A	421	SEWER	VC	8	211	211	3	0	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - A-420								
005	ROOTS - FINE	12	0	0	FINE - JOINT - START								
010	ROOTS - BALL	09	0	0	BALL - TAP								
010	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - ROOTS								
013	CRACK - MULTIPLE	12	0	0	LIGHT								
013	ROOTS - FINE	12	0	0	FINE - JOINT - END								
025	CRACK - MULTIPLE	12	0	0	LIGHT								
037	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
063	ROOTS - FINE	09	0	0	FINE - TAP								
063	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - ROOTS								
067	ROOTS - FINE	03	0	0	FINE - JOINT								
080	CRACK - LONGITUDINAL	12	0	0	LIGHT								
091	ROOTS - BALL	09	0	0	BALL - TAP								
091	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - ROOTS								
094	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT								
094	ROOTS - FINE	08	0	0	FINE - JOINT								
097	ROOTS - FINE	03	0	0	FINE - JOINT								
106	ROOTS - FINE	12	0	0	FINE - JOINT								
117	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
123	CRACK - CIRCUMFERENTIAL	10	0	0	LIGHT								
127	ROOTS - FINE	10	0	0	FINE - JOINT								
131	ROOTS - MEDIUM	10	0	0	MEDIUM - JOINT								
132	CRACK - LONGITUDINAL	12	0	0	LIGHT								
134	ROOTS - MEDIUM	12	0	0	MEDIUM - JOINT								
135	CRACK - MULTIPLE	12	0	0	MODERATE - START								
138	CRACK - MULTIPLE	12	0	0	MODERATE - END								
138	ROOTS - BALL	09	0	0	BALL - JOINT								
142	ROOTS - FINE	09	0	0	FINE - JOINT AND TAP								
142	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - ROOTS								
145	ROOTS - FINE	03	0	0	FINE - JOINT								
148	ROOTS - FINE	03	0	0	FINE - JOINT								

154	CRACK - MULTIPLE	06	0	0	MODERATE - START
158	CRACK - MULTIPLE	06	0	0	MODERATE - END
158	CRACK - MULTIPLE	12	0	0	SEVERE - START
164	CRACK - MULTIPLE	12	0	0	SEVERE - END
167	ROOTS - FINE	12	0	0	FINE - JOINT
169	ROOTS - FINE	09	0	0	FINE - JOINT AND TAP
169	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED - ROOTS
171	CRACK - MULTIPLE	12	0	0	MODERATE
174	ROOTS - MEDIUM	09	0	0	MEDIUM - TAP
174	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - ROOTS
187	CRACK - MULTIPLE	06	0	0	MODERATE - START
187	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED
191	CRACK - MULTIPLE	06	0	0	MODERATE - END
194	CRACK - MULTIPLE	12	0	0	LIGHT
194	GENERAL OBSERVATION	12	0	0	REVERSAL OVERLAP POINT
194	HOLE - SOIL VISIBLE	12	0	0	LIGHT - 1" DIAMETER
194	ROOTS - FINE	12	0	0	FINE - JOINT
194	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - HEAVY DEBRIS
200	CRACK - MULTIPLE	12	0	0	MODERATE - START
202	CRACK - MULTIPLE	12	0	0	MODERATE - END
211	MANHOLE	12	0	0	UPSTREAM - A-421

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ALEWIFE BROOK PARKWAY	9	A	422	A	418	SEWER	VC	8	292	292	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - A-422				
	016	CRACK - CIRCUMFERENTIAL				03	0	0	LIGHT				
	035	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	060	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	064	CRACK - LONGITUDINAL				03	0	0	LIGHT				
	073	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	083	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	096	ROOTS - FINE				01	0	0	FINE - JOINT - START				
	107	ROOTS - FINE				09	0	0	FINE - JOINT - END				
	109	ROOTS - FINE				09	0	0	FINE - TAP				
	109	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED - ROOTS				
	116	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT - START				
	116	ROOTS - FINE				03	0	0	FINE - JOINT - START				
	125	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT - END				
	125	ROOTS - FINE				03	0	0	FINE - JOINT - END				
	132	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	132	ROOTS - FINE				03	0	0	FINE - JOINT				
	135	ROOTS - BALL				09	0	0	BALL - TAP				
	135	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE - ROOTS				
	136	CRACK - CIRCUMFERENTIAL				09	0	0	LIGHT				
	142	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	142	ROOTS - FINE				03	0	0	FINE - JOINT				
	158	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	182	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE - BROKEN				
	186	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	195	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	205	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	212	GENERAL OBSERVATION				12	0	0	REVERSAL OVERLAP POINT				
	212	OBSTRUCTION				03	0	0	OBSTRUCTION IN JOINT				
	212	SURVEY ABANDONED				12	0	0	SURVEY ABANDONED - OBSTRUCTION IN JOINT				
	231	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				

257	ROOTS - MEDIUM	09	0	0	MEDIUM - JOINT AND TAP
257	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED - ROOTS
258	ROOTS - FINE	04	0	0	FINE - JOINT
262	ROOTS - MEDIUM	03	0	0	MEDIUM - JOINT
271	ROOTS - MEDIUM	04	0	0	MEDIUM - JOINT
283	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - BROKEN
292	MANHOLE	12	0	0	DOWNSTREAM - A-418

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
HIGH STREET	9	9	5867	9	5508	STORM	VC	10	120	120	3	0	3
	Footage		Defect Code			Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
000			MANHOLE			12	0	0	UPSTREAM - 9-5867				
002			MATERIAL CHANGE			12	0	0	VC TO PVC				
004			MANHOLE			12	0	0	SMH A-3106 - NO ACCESS				
008			MATERIAL CHANGE			12	0	0	PVC TO VC				
009			CRACK - LONGITUDINAL			12	0	0	LIGHT				
015			CRACK - MULTIPLE			03	0	0	LIGHT				
025			CRACK - CIRCUMFERENTIAL			12	0	0	LIGHT				
049			CRACK - CIRCUMFERENTIAL			03	0	0	LIGHT				
083			CRACK - CIRCUMFERENTIAL			12	0	0	LIGHT				
108			TAP - BREAK IN - ACTIVE			09	0	0	BREAK IN - ACTIVE				
109			MATERIAL CHANGE			12	0	0	VC TO PVC				
112			TAP - FACTORY MADE - ACTIVE			03	0	0	FACTORY - ACTIVE				
115			GENERAL OBSERVATION			12	0	0	ALIGNMENT - LEFT				
120			MANHOLE			12	0	0	DOWNSTREAM - 9-5508				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
HIGH STREET	9	9	5868	9	5867	STORM	VC	10	216	216	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 9-5868								
004	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT								
022	CRACK - LONGITUDINAL	03	0	0	LIGHT								
032	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT								
043	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT								
052	CRACK - SPIRAL	09	0	0	LIGHT								
055	CRACK - SPIRAL	03	0	0	LIGHT								
058	CRACK - MULTIPLE	12	0	0	MODERATE								
089	CRACK - SPIRAL	09	0	0	LIGHT								
110	CRACK - MULTIPLE	12	0	0	LIGHT								
119	FRACTURE - MULTIPLE	03	0	0	SEVERE								
119	HOLE - SOIL VISIBLE	06	0	0	MODERATE - 2" DIAMETER								
150	CRACK - MULTIPLE	03	0	0	LIGHT								
168	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT								
213	FRACTURE - CIRCUMFERENTIAL	06	0	0	MODERATE								
216	MANHOLE	12	0	0	DOWNSTREAM - 9-5867								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
HIGH STREET	9	9	5869	9	5868	STORM	VC	10	365	365	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
000		MANHOLE				12	0	0	UPSTREAM - 9-5869				
008		CRACK - MULTIPLE				01	0	0	LIGHT				
023		CRACK - MULTIPLE				12	0	0	LIGHT				
079		CRACK - MULTIPLE				08	0	0	LIGHT				
082		CRACK - LONGITUDINAL				03	0	0	LIGHT				
088		CRACK - SPIRAL				03	0	0	LIGHT				
100		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
102		POINT REPAIR - PATCH				12	0	0	SHORT REPAIR - VC PIPE				
104		CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
123		CRACK - LONGITUDINAL				12	0	0	LIGHT				
127		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
148		TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
153		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
156		CRACK - MULTIPLE				03	0	0	LIGHT				
176		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
190		TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
197		CRACK - MULTIPLE				12	0	0	LIGHT				
200		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
224		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
226		TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
227		CRACK - SPIRAL				09	0	0	LIGHT				
233		CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
246		CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
247		TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED - CRACKED				
249		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
272		TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
274		TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
275		CRACK - CIRCUMFERENTIAL				06	0	0	LIGHT				
290		CRACK - CIRCUMFERENTIAL				08	0	0	LIGHT				
294		CRACK - LONGITUDINAL				06	0	0	LIGHT - START				
298		CRACK - LONGITUDINAL				06	0	0	LIGHT - END				

307	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT
335	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT
341	CRACK - MULTIPLE	12	0	0	LIGHT - START
343	CRACK - MULTIPLE	12	0	0	LIGHT - END
351	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT
352	MATERIAL CHANGE	12	0	0	VC TO PVC
354	MANHOLE	12	0	0	SMH A-3108 - NO ACCESS
356	MATERIAL CHANGE	12	0	0	PVC TO VC
365	MANHOLE	12	0	0	DOWNSTREAM - 9-5868

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
NORTH STREET	9	9	5186	9	5035	STORM	VC	21	235	235	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
000		MANHOLE				12	0	0	DOWNSTREAM - 9-5186				
002		CRACK - MULTIPLE				12	0	0	MODERATE - START				
015		CRACK - MULTIPLE				12	0	0	MODERATE - END				
060		CRACK - LONGITUDINAL				12	0	0	LIGHT - START				
072		CRACK - LONGITUDINAL				12	0	0	LIGHT - END				
101		CRACK - LONGITUDINAL				09	0	0	LIGHT				
136		CRACK - LONGITUDINAL				12	0	0	LIGHT				
141		CRACK - MULTIPLE				12	0	0	LIGHT - START				
142		HOLE - SOIL VISIBLE				12	0	0	MODERATE - 4" DIAMETER				
150		CRACK - MULTIPLE				12	0	0	LIGHT - END				
191		CRACK - LONGITUDINAL				12	0	0	LIGHT - START				
195		CRACK - LONGITUDINAL				06	0	0	LIGHT - START				
200		CRACK - LONGITUDINAL				06	0	0	LIGHT - END				
200		CRACK - LONGITUDINAL				12	0	0	LIGHT - END				
235		MANHOLE				12	0	0	UPSTREAM - 9-5035				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
NORTH STREET	9	9	5187	9	5186	STORM	VC	21	181	181	2	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 9-5187								
002	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
013	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
054	CRACK - LONGITUDINAL	06	0	0	LIGHT								
060	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
070	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
104	CRACK - LONGITUDINAL	12	0	0	LIGHT								
106	CRACK - LONGITUDINAL	06	0	0	MODERATE - START								
109	CRACK - MULTIPLE	06	0	0	MODERATE - END								
135	CRACK - LONGITUDINAL	06	0	0	LIGHT								
154	CRACK - MULTIPLE	12	0	0	LIGHT - START								
179	CRACK - MULTIPLE	12	0	0	LIGHT - END								
181	MANHOLE	12	0	0	UPSTREAM - 9-5186								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
NORTH STREET	9	9	5187	9	5188	STORM	VC	15	160	160	2	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 9-5187								
011	CRACK - MULTIPLE	12	0	0	LIGHT								
014	TAP - BREAK IN - ACTIVE	10	0	0	BREAK IN - ACTIVE								
071	CRACK - MULTIPLE	12	0	0	LIGHT - START								
073	CRACK - MULTIPLE	12	0	0	LIGHT - END								
076	CRACK - MULTIPLE	12	0	0	LIGHT								
078	HOLE - SOIL VISIBLE	12	0	0	MODERATE - 3" DIAMETER								
080	CRACK - MULTIPLE	12	0	0	LIGHT								
090	CRACK - MULTIPLE	12	0	0	LIGHT								
136	BROKEN	12	0	0	MODERATE - PIPE THROUGH DRAIN								
150	CRACK - MULTIPLE	12	0	0	LIGHT								
150	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
152	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
154	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
155	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
156	CRACK - LONGITUDINAL	06	0	0	LIGHT								
160	MANHOLE	12	0	0	UPSTREAM - 9-5188								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
NORTH STREET	9	9	5188	9	CB	STORM	PVC	10	36	27	3	0	5
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 9-5188								
007	CRACK - MULTIPLE	12	0	0	MODERATE - START								
007	MATERIAL CHANGE	12	0	0	PVC TO VC								
019	POINT REPAIR - PATCH	12	0	0	BRICK POINT REPAIR								
025	CRACK - MULTIPLE	12	0	0	MODERATE - END								
025	CRACK - MULTIPLE	12	0	0	SEVERE - START								
027	COLLAPSE	12	0	0	COLLAPSED PIPE								
027	CRACK - MULTIPLE	12	0	0	SEVERE - END								
027	GENERAL OBSERVATION	12	0	0	NO TV STA 0+27 TO STA 0+36								
027	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - COLLAPSED PIPE								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
NORTH STREET	9	9	5188	9	5189	STORM	VC	15	16	16	2	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 9-5188								
003	CRACK - LONGITUDINAL	08	0	0	LIGHT								
004	CRACK - MULTIPLE	12	0	0	LIGHT - START								
013	TAP - FACTORY MADE - CAPPED	12	0	0	FACTORY - CAPPED								
014	CRACK - MULTIPLE	12	0	0	LIGHT - END								
016	GENERAL OBSERVATION	12	0	0	UPSTREAM - CATCH BASIN - 9-5189								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
NORTH STREET	9	9	5869	9	(STUB)	STORM	VC	10	55	55	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 9-5869								
052	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE								
055	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - SLOPE CHANGES DIRECTION								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
POWDER HOUSE BOULEVARD	9	9	5187	9	5866	STORM	VC	21	399	399	3	144	3
	000	MANHOLE				12	0	0	UPSTREAM - 9-5187				
	002	CRACK - MULTIPLE				12	0	0	MODERATE - START				
	024	CRACK - MULTIPLE				12	0	0	MODERATE - END				
	024	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	030	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	038	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	066	JOINT - INFILTRATION				09	144	0	INFILTRATION DRIPPER				
	067	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	089	CRACK - LONGITUDINAL				12	0	0	LIGHT				
	095	CRACK - LONGITUDINAL				06	0	0	LIGHT - START				
	101	CRACK - LONGITUDINAL				06	0	0	LIGHT - END				
	133	CRACK - LONGITUDINAL				06	0	0	LIGHT				
	156	CRACK - SPIRAL				03	0	0	LIGHT				
	161	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	171	CRACK - MULTIPLE				09	0	0	LIGHT				
	173	CRACK - MULTIPLE				09	0	0	LIGHT				
	181	CRACK - LONGITUDINAL				03	0	0	LIGHT				
	197	CRACK - CIRCUMFERENTIAL				06	0	0	LIGHT				
	205	CRACK - CIRCUMFERENTIAL				02	0	0	LIGHT				
	207	TAP - BREAK IN - ACTIVE				03	0	0	BREAK IN - ACTIVE - CRACKED AND BROKEN				
	217	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	221	CRACK - LONGITUDINAL				03	0	0	LIGHT				
	227	CRACK - MULTIPLE				03	0	0	LIGHT				
	233	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	239	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	240	CRACK - LONGITUDINAL				03	0	0	LIGHT				
	254	CRACK - CIRCUMFERENTIAL				02	0	0	LIGHT				
	257	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	258	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	260	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	264	CRACK - MULTIPLE				12	0	0	LIGHT - START				

266	CRACK - MULTIPLE	12	0	0	LIGHT - END
269	CRACK - CIRCUMFERENTIAL	06	0	0	LIGHT
275	CRACK - LONGITUDINAL	03	0	0	LIGHT
278	MATERIAL CHANGE	12	0	0	VC TO PVC
286	CRACK - MULTIPLE	12	0	0	LIGHT
286	MATERIAL CHANGE	12	0	0	PVC TO VC
286	OBSTRUCTION	06	0	0	OBSTRUCTION IN JOINT
289	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE
293	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT
300	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT
302	CRACK - LONGITUDINAL	12	0	0	LIGHT - START
303	CRACK - MULTIPLE	06	0	0	LIGHT
307	CRACK - LONGITUDINAL	12	0	0	LIGHT - END
317	CRACK - LONGITUDINAL	02	0	0	LIGHT
320	CRACK - MULTIPLE	12	0	0	LIGHT
326	CRACK - LONGITUDINAL	12	0	0	LIGHT
334	CRACK - MULTIPLE	09	0	0	LIGHT
344	CRACK - LONGITUDINAL	12	0	0	LIGHT
350	CRACK - LONGITUDINAL	09	0	0	LIGHT
357	CRACK - LONGITUDINAL	09	0	0	LIGHT - START
359	CRACK - LONGITUDINAL	09	0	0	LIGHT - END
361	CRACK - LONGITUDINAL	04	0	0	LIGHT
365	CRACK - LONGITUDINAL	03	0	0	LIGHT
379	CRACK - LONGITUDINAL	12	0	0	LIGHT
396	CRACK - LONGITUDINAL	02	0	0	LIGHT
399	MANHOLE	12	0	0	DOWNSTREAM - 9-5866

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BOSTON AVENUE	31	M	393	M	248	SEWER	VC	8	257	257	3	0	5
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - M-393				
	006	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	013	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	019	CRACK - SPIRAL				03	0	0	LIGHT				
	022	CRACK - LONGITUDINAL				06	0	0	LIGHT				
	023	CRACK - MULTIPLE				06	0	0	MODERATE - START				
	023	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	025	CRACK - MULTIPLE				06	0	0	MODERATE - END				
	025	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	029	CRACK - SPIRAL				12	0	0	LIGHT				
	036	CRACK - MULTIPLE				12	0	0	LIGHT				
	049	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	050	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	055	CRACK - SPIRAL				02	0	0	LIGHT				
	060	CRACK - CIRCUMFERENTIAL				06	0	0	MODERATE				
	067	CRACK - CIRCUMFERENTIAL				01	0	0	LIGHT				
	074	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	075	HOLE - SOIL VISIBLE				09	0	0	SEVERE - 3" DIAMETER				
	076	TAP - BREAK IN - ACTIVE				09	0	0	BREAK IN - ACTIVE				
	079	FRACTURE - CIRCUMFERENTIAL				09	0	0	MODERATE				
	089	CRACK - SPIRAL				06	0	0	MODERATE				
	097	CRACK - SPIRAL				06	0	0	MODERATE				
	099	TAP - FACTORY MADE - ACTIVE				03	0	2,880	FACTORY - ACTIVE				
	100	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	101	CRACK - SPIRAL				03	0	0	LIGHT				
	104	CRACK - SPIRAL				01	0	0	MODERATE				
	123	TAP - FACTORY MADE - CAPPED				03	0	0	FACTORY - CAPPED				
	125	TAP - FACTORY MADE - CAPPED				09	0	0	FACTORY - CAPPED				
	127	CRACK - SPIRAL				01	0	0	LIGHT - START				
	130	CRACK - SPIRAL				01	0	0	LIGHT - END				
	135	CRACK - MULTIPLE				07	0	0	LIGHT				

148	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED
150	HOLE - SOIL VISIBLE	08	0	0	SEVERE - 3" DIAMETER
151	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE
200	TAP - BREAK IN - ACTIVE	09	0	0	BREAK IN - ACTIVE
205	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT
221	CRACK - SPIRAL	03	0	0	LIGHT
228	CRACK - LONGITUDINAL	09	0	0	LIGHT
239	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT
247	HOLE - SOIL VISIBLE	06	0	0	SEVERE - 6" DIAMETER
257	GENERAL OBSERVATION	06	0	0	MANHOLE M-248 INVERT HAS A HOLE
257	HOLE - SOIL VISIBLE	06	0	0	SEVERE - 6" DIAMETER
257	MANHOLE	12	0	0	DOWNSTREAM - M-248

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	31	5003	31	TEE	STORM	VC	12	19	19	3	0	3
	Footage		Defect Code			Clock Position		Infil. Rate (gpd)	Uniden. SVC Flow (gpd)		Defect Comments		
	000		MANHOLE			12		0	0				UPSTREAM - 31-5003
	019		GENERAL OBSERVATION			12		0	0				DOWNSTREAM - TEE CONN. INTO DRAIN ON BROADWAY
	019		GENERAL OBSERVATION			12		0	0				NO DEFECTS

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	31	5005	31	5004	STORM	VC	12	104	104	3	0	3
	Footage		Defect Code			Clock Position		Infil. Rate (gpd)	Uniden. SVC Flow (gpd)		Defect Comments		
	000		MANHOLE			12		0	0				DOWNSTREAM - 31-5005
	006		CRACK - LONGITUDINAL			03		0	0				LIGHT
	067		MINERAL DEPOSITS			03		0	0				MODERATE - JOINT
	070		MINERAL DEPOSITS			09		0	0				MODERATE - JOINT
	098		TAP - FACTORY MADE - ACTIVE			03		0	720				FACTORY - ACTIVE
	100		GENERAL OBSERVATION			12		0	0				ALIGNMENT - RIGHT
	103		TAP - FACTORY MADE - ACTIVE			12		0	0				FACTORY - ACTIVE
	104		MANHOLE			12		0	0				UPSTREAM - 31-5004 - NO ACCESS

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	31	5012	31	6455	STORM	VC	24	197	197	2	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 31-5012								
002	CRACK - MULTIPLE	12	0	0	LIGHT - START								
069	FRACTURE - MULTIPLE	12	0	0	MODERATE								
091	FRACTURE - MULTIPLE	12	0	0	MODERATE								
113	CRACK - MULTIPLE	12	0	0	LIGHT - END								
170	CRACK - LONGITUDINAL	01	0	0	LIGHT								
172	TAP - BREAK IN - ACTIVE	11	0	0	BREAK IN - ACTIVE								
176	CRACK - LONGITUDINAL	12	0	0	LIGHT								
179	CRACK - MULTIPLE	12	0	0	LIGHT - START								
195	CRACK - MULTIPLE	12	0	0	LIGHT - END								
197	MANHOLE	12	0	0	UPSTREAM - 31-6455								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	31	5013	31	5012	STORM	VC	24	366	366	3	1,296	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 31-5013								
018	MINERAL DEPOSITS	03	0	0	MODERATE - JOINT - START								
025	JOINT - INFILTRATION	02	144	0	INFILTRATION DRIPPER								
037	CRACK - LONGITUDINAL	12	0	0	LIGHT								
073	CRACK - LONGITUDINAL	02	0	0	LIGHT								
084	JOINT - INFILTRATION	12	144	0	INFILTRATION DRIPPER								
085	JOINT - INFILTRATION	12	144	0	INFILTRATION DRIPPER								
088	CRACK - LONGITUDINAL	12	0	0	LIGHT								
088	JOINT - INFILTRATION	12	144	0	INFILTRATION DRIPPER								
096	CRACK - CIRCUMFERENTIAL	12	144	0	LIGHT - INFILTRATION DRIPPER								
102	CRACK - LONGITUDINAL	12	0	0	LIGHT								
114	CRACK - LONGITUDINAL	09	0	0	LIGHT								
128	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - 31-5003								
130	JOINT - INFILTRATION	12	144	0	INFILTRATION DRIPPER								
167	CRACK - LONGITUDINAL	09	0	0	LIGHT								
173	CRACK - MULTIPLE	12	0	0	LIGHT								
182	CRACK - MULTIPLE	12	432	0	LIGHT - INFILTRATION RUNNER - START								
194	ROOTS - FINE	09	0	0	FINE - JOINT								
221	CRACK - MULTIPLE	12	0	0	LIGHT - END								
230	MINERAL DEPOSITS	03	0	0	MODERATE - JOINT - END								
236	TAP - BREAK IN - CAPPED	10	0	0	BREAK IN - APPEARS CAPPED								
237	CRACK - MULTIPLE	12	0	0	LIGHT - START								
239	GENERAL OBSERVATION	12	0	0	REVERSAL OVERLAP POINT								
239	OBSTRUCTION	06	0	0	SEWER PLUG								
239	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - SEWER PLUG								
251	CRACK - MULTIPLE	12	0	0	LIGHT - END								
255	CRACK - LONGITUDINAL	09	0	0	LIGHT								
277	CRACK - LONGITUDINAL	12	0	0	LIGHT								
288	CRACK - MULTIPLE	12	0	0	MODERATE - START								
314	CRACK - MULTIPLE	12	0	0	MODERATE - END								
314	CRACK - MULTIPLE	12	0	0	LIGHT - START								

328	TAP - BREAK IN - INTRUDING	03	0	0	BREAK IN - INTRUDING 3"
358	CRACK - MULTIPLE	12	0	0	LIGHT - END
364	CRACK - LONGITUDINAL	12	0	0	LIGHT
366	MANHOLE	12	0	0	UPSTREAM - 31-5012

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	31	6455	31	5005	STORM	VC	24	149	149	3	0	3
	Footage		Defect Code			Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000		MANHOLE			12	0	0	DOWNSTREAM - 31-6455				
	007		CRACK - LONGITUDINAL			08	0	0	LIGHT				
	029		TAP - FACTORY MADE - ACTIVE			03	0	0	FACTORY - ACTIVE				
	042		TAP - BREAK IN - CAPPED			09	0	0	BREAK IN - APPEARS CAPPED				
	080		CRACK - MULTIPLE			12	0	0	LIGHT - START				
	090		CRACK - MULTIPLE			12	0	0	LIGHT - END				
	090		CRACK - MULTIPLE			12	0	0	MODERATE - START				
	147		CRACK - MULTIPLE			12	0	0	MODERATE - END				
	149		MANHOLE			12	0	0	UPSTREAM - 31-5005				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	31	6455	31	6457	STORM	RC	12	59	59	8	0	3
	Footage		Defect Code			Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000		MANHOLE			12	0	0	DOWNSTREAM - 31-6455				
	048		HOLE - VOID VISIBLE			12	0	0	SEVERE - 10" DIAMETER				
	048		OBSTRUCTION			12	0	0	APPEARS TO BE A WATER MAIN THROUGH TOP OF PIPE				
	054		MATERIAL CHANGE			12	0	0	RC TO PVC				
	059		MANHOLE			12	0	0	UPSTREAM - 31-6457				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	M	236	M	265	SEWER	VC	8	243	243	3	1,440	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - M-236								
005	HOLE - SOIL VISIBLE	03	0	0	SEVERE - 2" DIAMETER								
010	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE								
034	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
036	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED - HOLE								
057	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - PARTIALLY COLLAPSED								
058	CRACK - LONGITUDINAL	09	0	0	MODERATE								
059	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
082	FRACTURE - CIRCUMFERENTIAL	05	0	0	MODERATE - SOIL VISIBLE								
083	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
085	TAP - BREAK IN - ACTIVE	03	0	0	BREAK IN - ACTIVE								
086	CRACK - MULTIPLE	03	0	0	LIGHT								
108	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
110	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - CRACKED								
118	CRACK - CIRCUMFERENTIAL	06	0	0	LIGHT								
120	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT								
134	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
136	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
157	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
159	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - CAPPED								
160	CRACK - SPIRAL	03	0	0	LIGHT								
183	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
185	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
189	CRACK - CIRCUMFERENTIAL	07	0	0	LIGHT								
192	HOLE - SOIL VISIBLE	06	0	0	SEVERE - 6" DIAMETER								
208	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
210	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
212	MATERIAL CHANGE	12	0	0	VC TO PVC								
212	POINT REPAIR - PATCH	09	0	0	APPEARS TO BE A SPOT REPAIR								
215	CRACK - CIRCUMFERENTIAL	03	0	0	LIGHT								
215	MATERIAL CHANGE	12	0	0	PVC TO VC								

229	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT
230	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED
236	CRACK - MULTIPLE	12	0	0	LIGHT
238	FRACTURE - MULTIPLE	03	0	0	MODERATE
238	HOLE - VOID VISIBLE	02	0	0	MODERATE - 3" DIAMETER
241	CRACK - LONGITUDINAL	09	0	0	MODERATE
241	JOINT - INFILTRATION	08	1,440	0	INFILTRATION GUSHER
243	MANHOLE	12	0	0	DOWNSTREAM - M-265

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	M	236	M	348	SEWER	VC	8	232	208	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - M-236								
037	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
039	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE								
063	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
065	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
095	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE								
097	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
123	TAP - FACTORY MADE - ACTIVE	10	0	0	FACTORY - ACTIVE								
126	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
152	TAP - FACTORY MADE - CAPPED	10	0	0	FACTORY - CAPPED								
154	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
187	TAP - FACTORY MADE - CAPPED	02	0	0	FACTORY - CAPPED								
190	TAP - BREAK IN - INTRUDING	10	0	0	BREAK IN - INTRUDING 2"								
208	GENERAL OBSERVATION	12	0	0	NO TV STA 2+08 TO STA 2+32								
208	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - DEBRIS								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	M	248	31	5004	SEWER	PVC	8	8	8	4	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	DOWNSTREAM - SMH M-248				
	008	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	008	MANHOLE				12	0	0	UPSTREAM - DMH 31-5004				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	M	248	M	249	SEWER	VC	8	43	43	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - M-248				
	004	FRACTURE - CIRCUMFERENTIAL				06	0	0	MODERATE				
	016	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	043	MANHOLE				12	0	0	DOWNSTREAM - M-249				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	M	249	M	3140	SEWER	VC	8	58	58	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - M-249								
004	CRACK - MULTIPLE	09	0	0	LIGHT								
010	MINERAL DEPOSITS	09	0	0	MODERATE - JOINT								
013	MINERAL DEPOSITS	03	0	0	MODERATE - JOINT								
032	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
035	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
044	FRACTURE - MULTIPLE	12	0	0	MODERATE - START								
047	FRACTURE - MULTIPLE	12	0	0	MODERATE - END								
051	CRACK - LONGITUDINAL	12	0	0	LIGHT - START								
053	CRACK - LONGITUDINAL	12	0	0	LIGHT - END								
056	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
058	MANHOLE	12	0	0	DOWNSTREAM - M-3140								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
BROADWAY	31	M	265	M	244	SEWER	VC	8	207	207	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - M-265								
007	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
008	CRACK - CIRCUMFERENTIAL	04	0	0	LIGHT								
048	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - HALF FULL OF DIRT								
050	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
058	CRACK - CIRCUMFERENTIAL	12	0	0	LIGHT								
074	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - CRACKED								
076	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
083	TAP - BREAK IN - ACTIVE	03	0	0	BREAK IN - ACTIVE								
086	CRACK - MULTIPLE	12	0	0	LIGHT								
100	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - CRACKED								
101	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
102	FRACTURE - CIRCUMFERENTIAL	09	0	0	MODERATE								
124	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
126	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE								
146	CRACK - LONGITUDINAL	03	0	0	LIGHT								
150	TAP - FACTORY MADE - CAPPED	09	0	0	FACTORY - CAPPED								
152	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED								
162	CRACK - SPIRAL	09	0	0	LIGHT								
177	CRACK - MULTIPLE	09	0	0	LIGHT								
181	ROOTS - FINE	09	0	0	FINE - TAP								
181	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - CRACKED AND ROOTS								
183	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED - BROKEN								
207	MANHOLE	12	0	0	DOWNSTREAM - M-244								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
JOSEPHINE AVENUE	31	31	6458	31	5657	STORM	PVC	15	186	186	13	0	1
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	DOWNSTREAM - 31-6458				
	186	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	186	MANHOLE				12	0	0	UPSTREAM - 31-5657				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
JOSEPHINE AVENUE	31	31	6458	31	6457	STORM	PVC	15	14	14	13	0	1
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 31-6458				
	014	GENERAL OBSERVATION				12	0	0	NO DEFECTS				
	014	MANHOLE				12	0	0	DOWNSTREAM - 31-6457				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
LOWDEN AVENUE	31	31	5003	31	5002	STORM	VC	12	432	432	3	0	4
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 31-5003								
021	CRACK - LONGITUDINAL	06	0	0	LIGHT - START								
024	CRACK - LONGITUDINAL	06	0	0	LIGHT - END								
026	POINT REPAIR - PATCH	12	0	0	REPAIR AT CROWN OF PIPE								
035	TAP - BREAK IN - ACTIVE	03	0	0	BREAK IN - ACTIVE								
112	TAP - BREAK IN - ACTIVE	02	0	0	BREAK IN - ACTIVE								
150	CRACK - LONGITUDINAL	10	0	0	LIGHT								
164	CRACK - LONGITUDINAL	12	0	0	LIGHT								
224	HOLE - SOIL VISIBLE	06	0	0	SEVERE - 3" DIAMETER								
249	CRACK - LONGITUDINAL	12	0	0	LIGHT								
316	CRACK - LONGITUDINAL	12	0	0	LIGHT								
321	CRACK - MULTIPLE	12	0	0	LIGHT - START								
345	CRACK - MULTIPLE	12	0	0	LIGHT - END								
359	CRACK - LONGITUDINAL	03	0	0	LIGHT								
360	CRACK - LONGITUDINAL	01	0	0	LIGHT								
365	CRACK - MULTIPLE	12	0	0	LIGHT								
369	CRACK - MULTIPLE	12	0	0	MODERATE - START								
377	FRACTURE - LONGITUDINAL	06	0	0	MODERATE								
377	GENERAL OBSERVATION	12	0	0	REVERSAL OVERLAP POINT								
377	SURVEY ABANDONED	12	0	0	SURVEY ABANDONED - FRACTURED PIPE								
429	CRACK - MULTIPLE	12	0	0	MODERATE - END								
432	MANHOLE	12	0	0	UPSTREAM - 31-5002								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
PEARSON ROAD	31	31	5013	31	5014	STORM	VC	24	414	414	3	1,440	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	UPSTREAM - 31-5013								
009	MINERAL DEPOSITS	09	0	0	LIGHT - JOINT - START								
032	JOINT - INFILTRATION	03	432	0	INFILTRATION RUNNER								
036	JOINT - INFILTRATION	09	288	0	INFILTRATION RUNNER								
036	JOINT - INFILTRATION	12	288	0	INFILTRATION RUNNER								
044	CRACK - LONGITUDINAL	10	0	0	LIGHT								
050	JOINT - INFILTRATION	12	144	0	INFILTRATION DRIPPER								
061	CRACK - LONGITUDINAL	12	0	0	LIGHT								
065	CRACK - LONGITUDINAL	10	0	0	LIGHT								
071	CRACK - LONGITUDINAL	10	0	0	LIGHT								
077	CRACK - LONGITUDINAL	12	0	0	LIGHT								
081	CRACK - MULTIPLE	12	0	0	LIGHT								
093	CRACK - LONGITUDINAL	12	0	0	LIGHT								
100	CRACK - LONGITUDINAL	02	0	0	LIGHT								
122	CRACK - MULTIPLE	12	0	0	LIGHT - START								
122	JOINT - INFILTRATION	03	288	0	INFILTRATION RUNNER								
158	CRACK - MULTIPLE	12	0	0	LIGHT - END								
168	CRACK - LONGITUDINAL	03	0	0	LIGHT								
170	CRACK - MULTIPLE	12	0	0	LIGHT - START								
179	CRACK - MULTIPLE	12	0	0	LIGHT - END								
187	CRACK - LONGITUDINAL	09	0	0	LIGHT								
197	CRACK - LONGITUDINAL	01	0	0	LIGHT								
208	CRACK - LONGITUDINAL	04	0	0	LIGHT								
215	CRACK - LONGITUDINAL	04	0	0	LIGHT								
221	CRACK - LONGITUDINAL	06	0	0	LIGHT								
227	CRACK - MULTIPLE	12	0	0	LIGHT								
254	MINERAL DEPOSITS	09	0	0	LIGHT - JOINT - END								
258	CRACK - LONGITUDINAL	09	0	0	LIGHT								
298	CRACK - LONGITUDINAL	09	0	0	LIGHT								
304	CRACK - LONGITUDINAL	04	0	0	LIGHT								
319	CRACK - LONGITUDINAL	08	0	0	LIGHT								

326	CRACK - LONGITUDINAL	02	0	0	LIGHT
335	CRACK - LONGITUDINAL	12	0	0	LIGHT
341	CRACK - MULTIPLE	12	0	0	LIGHT - START
412	CRACK - MULTIPLE	12	0	0	LIGHT - END
414	MANHOLE	12	0	0	DOWNSTREAM - 31-5014

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
PEARSON ROAD	31	31	5014	31	5776	STORM	VC	24	219	219	3	0	3
	Footage		Defect Code			Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000		MANHOLE			12	0	0	UPSTREAM - 31-5014				
	004		CRACK - MULTIPLE			12	0	0	LIGHT - START				
	030		CRACK - MULTIPLE			12	0	0	LIGHT - END				
	083		CRACK - MULTIPLE			09	0	0	LIGHT - START				
	090		CRACK - MULTIPLE			09	0	0	LIGHT - END				
	109		ROOTS - FINE			04	0	0	LIGHT - JOINT				
	117		ROOTS - MEDIUM			04	0	0	MEDIUM - JOINT				
	131		ROOTS - MEDIUM			04	0	0	MEDIUM - JOINT - START				
	133		CRACK - MULTIPLE			10	0	0	LIGHT - START				
	156		ROOTS - MEDIUM			04	0	0	MEDIUM - JOINT - END				
	180		CRACK - MULTIPLE			12	0	0	LIGHT - END				
	198		TAP - FACTORY MADE - ACTIVE			12	0	0	FACTORY - ACTIVE				
	211		CRACK - SPIRAL			06	0	0	LIGHT				
	216		CRACK - CIRCUMFERENTIAL			02	0	0	LIGHT				
	219		MANHOLE			12	0	0	DOWNSTREAM - 31-5776				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
PEARSON ROAD	31	31	5015	31	5009	STORM	VC	24	161	161	2	0	4
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 31-5015				
	005	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	081	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	100	CRACK - CIRCUMFERENTIAL				03	0	0	LIGHT				
	126	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	126	HOLE - SOIL VISIBLE				12	0	0	LIGHT - 1" DIAMETER				
	138	POINT REPAIR - PATCH				12	0	0	REPAIR PATCH OVER HOLE IN PIPE				
	140	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	140	MATERIAL CHANGE				12	0	0	VC TO BRICK				
	143	CRACK - MULTIPLE				12	0	0	MODERATE - START				
	143	GENERAL OBSERVATION				12	0	0	ALIGNMENT - LEFT				
	143	MATERIAL CHANGE				12	0	0	BRICK TO VC				
	159	CRACK - MULTIPLE				12	0	0	MODERATE - END				
	161	MANHOLE				12	0	0	DOWNSTREAM - 31-5009				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
PEARSON ROAD	31	31	5776	31	5015	STORM	VC	24	209	209	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 31-5776				
	033	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	191	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	196	CRACK - MULTIPLE				12	0	0	LIGHT - START				
	196	JOINT - SEPARATED				12	0	0	POSSIBLE PIPE REPAIR PATCH				
	207	CRACK - MULTIPLE				12	0	0	LIGHT - END				
	209	MANHOLE				12	0	0	DOWNSTREAM - 31-5015				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ROGERS AVENUE	31	31	247	31	5004	STORM	VC	10	223	223	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - 31-247				
	009	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	015	CRACK - CIRCUMFERENTIAL				03	0	0	LIGHT				
	015	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	024	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	042	CRACK - MULTIPLE				03	0	0	LIGHT				
	064	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	070	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	073	CRACK - MULTIPLE				02	0	0	LIGHT				
	076	CRACK - LONGITUDINAL				09	0	0	LIGHT				
	079	CRACK - LONGITUDINAL				03	0	0	LIGHT				
	085	CRACK - MULTIPLE				12	0	0	LIGHT				
	094	CRACK - MULTIPLE				06	0	0	MODERATE - START				
	097	CRACK - MULTIPLE				06	0	0	MODERATE - END				
	106	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	107	TAP - BREAK IN - ACTIVE				09	0	0	BREAK IN - ACTIVE				
	130	CRACK - MULTIPLE				03	0	0	MODERATE - START				
	133	CRACK - MULTIPLE				03	0	0	MODERATE - END				
	134	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	140	OBSTRUCTION				06	0	0	OBSTRUCTION IN JOINT				
	150	TAP - BREAK IN - INTRUDING				10	0	0	BREAK IN - INTRUDING 2"				
	197	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	223	MANHOLE				12	0	0	DOWNSTREAM - 31-5004				

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ROGERS AVENUE	31	31	247	M	246	STORM	VC	10	232	232	3	0	3
Footage	Defect Code	Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments								
000	MANHOLE	12	0	0	DOWNSTREAM - 31-247								
045	TAP - BREAK IN - ACTIVE	02	0	0	BREAK IN - ACTIVE								
153	CRACK - MULTIPLE	06	0	0	MODERATE - START								
156	CRACK - MULTIPLE	06	0	0	MODERATE - END								
232	MANHOLE	12	0	0	UPSTREAM - M-246 - SHARED MANHOLE								

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Type	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)	Joint Spacing (ft)	Total Infiltration (gpd)	Overall Pipe Rating
ROGERS AVENUE	31	M	246	M	248	SEWER	VC	8	459	459	3	0	3
	Footage	Defect Code				Clock Position	Infil. Rate (gpd)	Uniden. SVC Flow (gpd)	Defect Comments				
	000	MANHOLE				12	0	0	UPSTREAM - M-246				
	022	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				
	033	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	063	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				
	074	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	090	CRACK - CIRCUMFERENTIAL				06	0	0	LIGHT				
	104	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				
	118	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE				
	135	CRACK - CIRCUMFERENTIAL				09	0	0	LIGHT				
	147	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	148	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				
	158	ROOTS - FINE				03	0	0	FINE - TAP				
	158	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE - ROOTS				
	163	CRACK - CIRCUMFERENTIAL				06	0	0	LIGHT				
	165	CRACK - MULTIPLE				03	0	0	LIGHT				
	171	ROOTS - FINE				04	0	0	FINE - JOINT				
	178	CRACK - CIRCUMFERENTIAL				11	0	0	LIGHT				
	181	ROOTS - FINE				04	0	0	FINE - JOINT				
	188	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				
	189	ROOTS - FINE				04	0	0	FINE - JOINT				
	192	ROOTS - FINE				08	0	0	FINE - JOINT				
	198	CRACK - CIRCUMFERENTIAL				03	0	0	LIGHT				
	201	ROOTS - FINE				03	0	0	FINE - TAP				
	201	TAP - FACTORY MADE - ACTIVE				03	0	0	FACTORY - ACTIVE - ROOTS				
	203	CRACK - CIRCUMFERENTIAL				04	0	0	LIGHT				
	208	CRACK - CIRCUMFERENTIAL				09	0	0	LIGHT				
	215	CRACK - LONGITUDINAL				12	0	0	LIGHT				
	221	CRACK - CIRCUMFERENTIAL				12	0	0	LIGHT				
	227	CRACK - CIRCUMFERENTIAL				10	0	0	LIGHT				
	229	CRACK - LONGITUDINAL				04	0	0	LIGHT				
	231	TAP - FACTORY MADE - ACTIVE				09	0	0	FACTORY - ACTIVE				

235	CRACK - MULTIPLE	09	0	0	LIGHT
239	CRACK - CIRCUMFERENTIAL	09	0	0	LIGHT
239	ROOTS - FINE	03	0	0	FINE - JOINT
245	ROOTS - FINE	04	0	0	FINE - JOINT
246	ROOTS - FINE	03	0	0	FINE - TAP
246	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE - ROOTS
247	CRACK - SPIRAL	09	0	0	LIGHT
272	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE
296	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE
302	CRACK - SPIRAL	12	0	0	LIGHT
312	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE
316	CRACK - LONGITUDINAL	12	0	0	LIGHT
325	CRACK - SPIRAL	12	0	0	LIGHT
336	TAP - BREAK IN - ACTIVE	09	0	0	BREAK IN - ACTIVE
360	TAP - FACTORY MADE - ACTIVE	03	0	0	FACTORY - ACTIVE
361	FRACTURE - CIRCUMFERENTIAL	03	0	0	LIGHT
399	TAP - FACTORY MADE - ACTIVE	09	0	0	FACTORY - ACTIVE - FULL OF GREASE
400	TAP - FACTORY MADE - CAPPED	03	0	0	FACTORY - CAPPED
443	FRACTURE - CIRCUMFERENTIAL	09	0	0	LIGHT
455	TAP - FACTORY MADE - ACTIVE	06	0	0	FACTORY - ACTIVE - DROP CONNECTION TO M-248
459	MANHOLE	12	0	0	DOWNSTREAM - M-248

TOTAL

9,792

6,912

Total Pipe Length 12,712

Total TV Pipe Length 12,656

TABLE 2
OPEN CUT POINT REPAIRS

TABLE 2 OPEN CUT POINT REPAIRS

IDDE DRAINAGE AREAS 7, 9 AND 31 INVESTIGATIONS - SOMERVILLE, MA

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)			
BROADWAY	7	7	5828	7	582	VC	12	261	238			
Defect Code		Defect Footage	Defect Comments					Infiltration (gpd)	Repair	Repair From	Repair To	Open Cut Length
	POINT REPAIR - PATCH	071	DEFECTIVE REPAIR PATCH					0	Open Cut Point Repair	071	094	23
Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)			
BROADWAY	7	7	6374	7	637	VC	15	185	185			
Defect Code		Defect Footage	Defect Comments					Infiltration (gpd)	Repair	Repair From	Repair To	Open Cut Length
	FRACTURE - MULTIPLE	039	SEVERE - START					0	Open Cut Point Repair	039	078	39
Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)			
BROADWAY	7	A	3129	A	332	VC	10	157	157			
Defect Code		Defect Footage	Defect Comments					Infiltration (gpd)	Repair	Repair From	Repair To	Open Cut Length
	HOLE - VOID VISIBLE	083	SEVERE - 6" DIAMETER - SOIL ALSO VISIBLE					0	Open Cut Point Repair	081	087	6

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)			
ALEWIFE BROOK PARKW	9	9	5508	9	550	VC	21	176	176			
Defect Code		Defect Footage	Defect Comments					Infiltration (gpd)	Repair	Repair From	Repair To	Open Cut Length
FRACTURE - MULTIPLE		172	SEVERE					0	Open Cut Point Repair	169	176	7
Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)			
ALEWIFE BROOK PARKW	9	A	419	A	420	VC	8	213	213			
Defect Code		Defect Footage	Defect Comments					Infiltration (gpd)	Repair	Repair From	Repair To	Open Cut Length
JOINT - SEPARATED		170	OPEN JOINT					0	Open Cut Point Repair	167	176	9
Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)			
NORTH STREET	9	9	5188	9	CB	PVC	10	36	27			
Defect Code		Defect Footage	Defect Comments					Infiltration (gpd)	Repair	Repair From	Repair To	Open Cut Length
COLLAPSE		027	COLLAPSED PIPE					0	Open Cut Point Repair	019	036	17
Total Open Cut Length												101
Total Number of Open Cuts												6

TABLE 3
REPLACEMENT OF SERVICE CONNECTION WYES

TABLE 3
REPLACEMENT OF SERVICE CONNECTION WYES
 IDDE DRAINAGE AREAS 7, 9 AND 31 INVESTIGATIONS - SOMERVILLE, MA

Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)
ALEWIFE BROOK PARKWAY	9	A	419	A	420	VC	8	213	213
Defect Code		Defect Footage	Defect Comments				Infiltration (gpd)	Repair	Repair Station
TAP - BREAK IN - INTRUDING		089	BREAK IN - INTRUDING 2" - ROOTS				0	Replace Wye	089
Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)
BOSTON AVENUE	31	M	393	M	248	VC	8	257	257
Defect Code		Defect Footage	Defect Comments				Infiltration (gpd)	Repair	Repair Station
TAP - BREAK IN - ACTIVE		076	BREAK IN - ACTIVE				0	Replace Wye	076
Street	Drainage Area	Start Subarea	Start Manhole	End Subarea	End Manhole	Pipe Material	Pipe Diameter (in)	Pipe Length (ft)	TV Pipe Length (ft)
BROADWAY	31	M	236	M	265	VC	8	243	243
Defect Code		Defect Footage	Defect Comments				Infiltration (gpd)	Repair	Repair Station
TAP - FACTORY MADE - ACTIVE		057	FACTORY - ACTIVE - PARTIALLY COLLAPSED				0	Replace Wye	057
Total Number of Service Connection Wye Replacements									3

TABLE 4
DRY WEATHER SAMPLING RESULTS

TABLE 4
DRY WEATHER SAMPLING RESULTS

IDDE DRAINAGE AREAS 7, 9 AND 31 INVESTIGATIONS - SOMERVILLE, MA

Date: 3/29/2018

Sampler: Chris Pyman/Chelsea Roberge

Outfall of Concern	Sample Location	Sample Time	Analysis Time	Chlorine (mg/L)	Temp. (°F)	E. Coli (MPN/100 mL)	Surfactants (mg/L)	Ammonia (mg/L)	Comments
9	9-5874 from 9-5875	8:43 AM	8:50 AM	0.00	40° F	4.1	0.19	0.23	56 geese and fecal matter observed in field.
9	9-5874 from 9-5866	9:25 AM	9:37 AM	0.02	40° F	2	0.23	0.5	Fecal matter (animal) observed on bench in 9-5866.
9	Outfall from 9-6460	9:50 AM	9:59 AM	0.00	40° F	2	0.18	0.33	
9	9-6460 from 9-6461	10:16 AM	10:23 AM	0.05	42° F	<1.0	0.11	0.41	
9	9-5875 from 9-5507	10:34 AM	10:41 AM	0.00	46° F	1	0.17	<0.20	
31	31-5003 from 31-5002	12:20 PM	12:27 PM	0.03	50° F	49.5	4.4	0.53	From drain on Lowden Avenue.
31	31-5012 from 31-6455	12:41 PM	12:44 PM	0.00	50° F	43520	0.49	7.5	
31	31-5005 from 31-5004	1:00 PM	1:05 PM	-	50° F	>241960	0.51	6.6	Water too dark to test for chlorine. Toilet paper and fecal matter observed in sample.
31	31-5015 from 31-5776	1:30 PM	1:37 PM	0.00	50° F	14136	0.31	4	Grey growth observed in invert.

NOTE:

314 CMR 4.00 MA - Surface Water Quality Standards Threshold Levels - Class B Waters: E. coli: >235 cfu/100 mL; Surfactants: ≥ 0.25 mg/L; Ammonia ≥ 0.5 mg/L

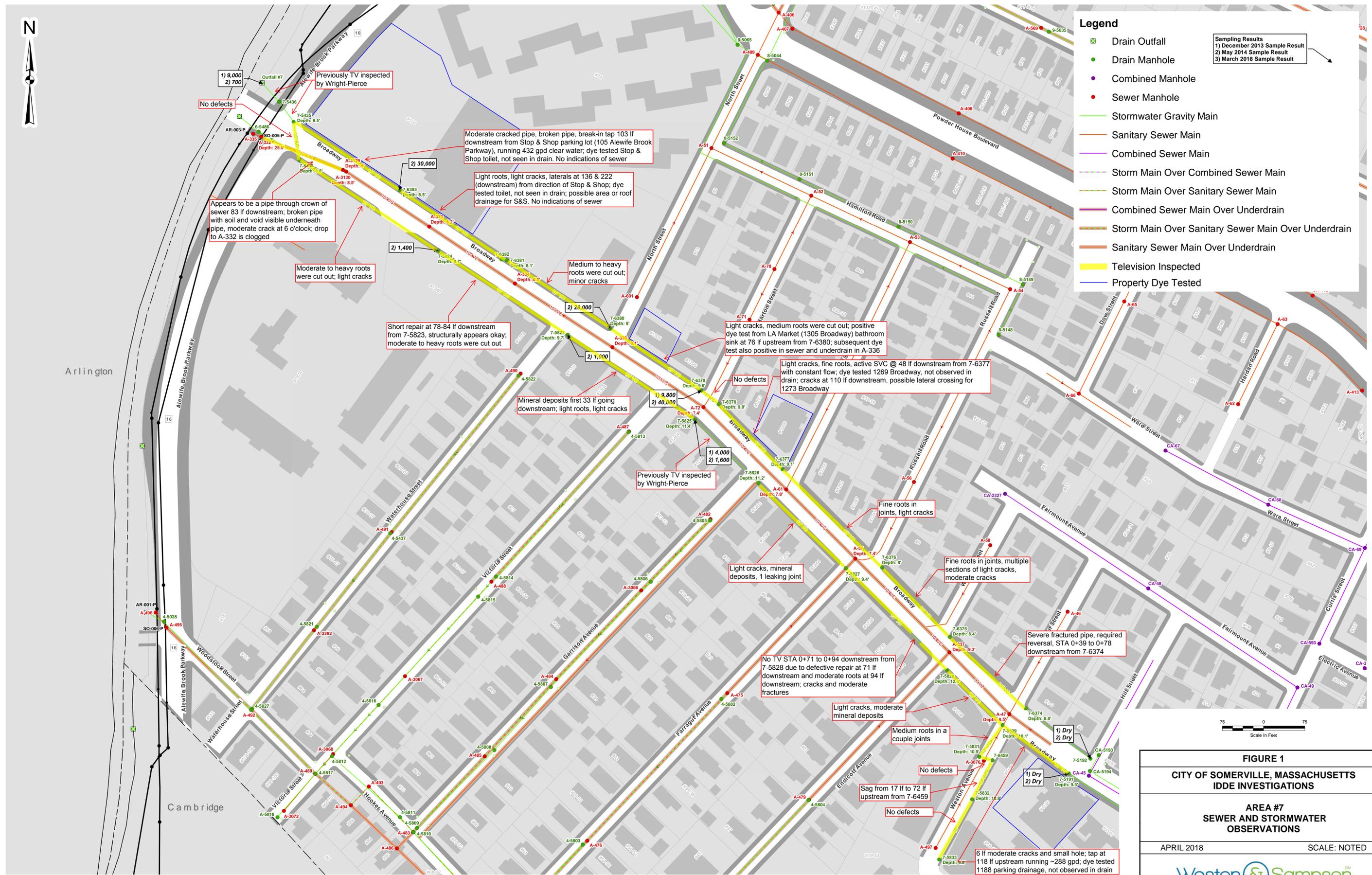
APPENDIX A
INVESTIGATIONS MAP – OBSERVATIONS



Legend

- Drain Outfall
- Drain Manhole
- Combined Manhole
- Sewer Manhole
- Stormwater Gravity Main
- Sanitary Sewer Main
- Combined Sewer Main
- Storm Main Over Combined Sewer Main
- Storm Main Over Sanitary Sewer Main
- Combined Sewer Main Over Underdrain
- Storm Main Over Sanitary Sewer Main Over Underdrain
- Sanitary Sewer Main Over Underdrain
- Television Inspected
- Property Dye Tested

Sampling Results
 1) December 2013 Sample Result
 2) May 2014 Sample Result
 3) March 2018 Sample Result



75 0 75
 Scale in Feet

FIGURE 1
CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

AREA #7
SEWER AND STORMWATER
OBSERVATIONS

APRIL 2018 SCALE: NOTED



Legend

- Drain Outfall
- Drain Manhole
- Combined Manhole
- Sewer Manhole
- Stormwater Gravity Main
- Sanitary Sewer Main
- Combined Sewer Main
- Storm Main Over Combined Sewer Main
- Storm Main Over Sanitary Sewer Main
- Combined Sewer Main Over Underdrain
- Storm Main Over Sanitary Sewer Main Over Underdrain
- Sanitary Sewer Main Over Underdrain
- Television Inspected
- Property Dye Tested

Sampling Results

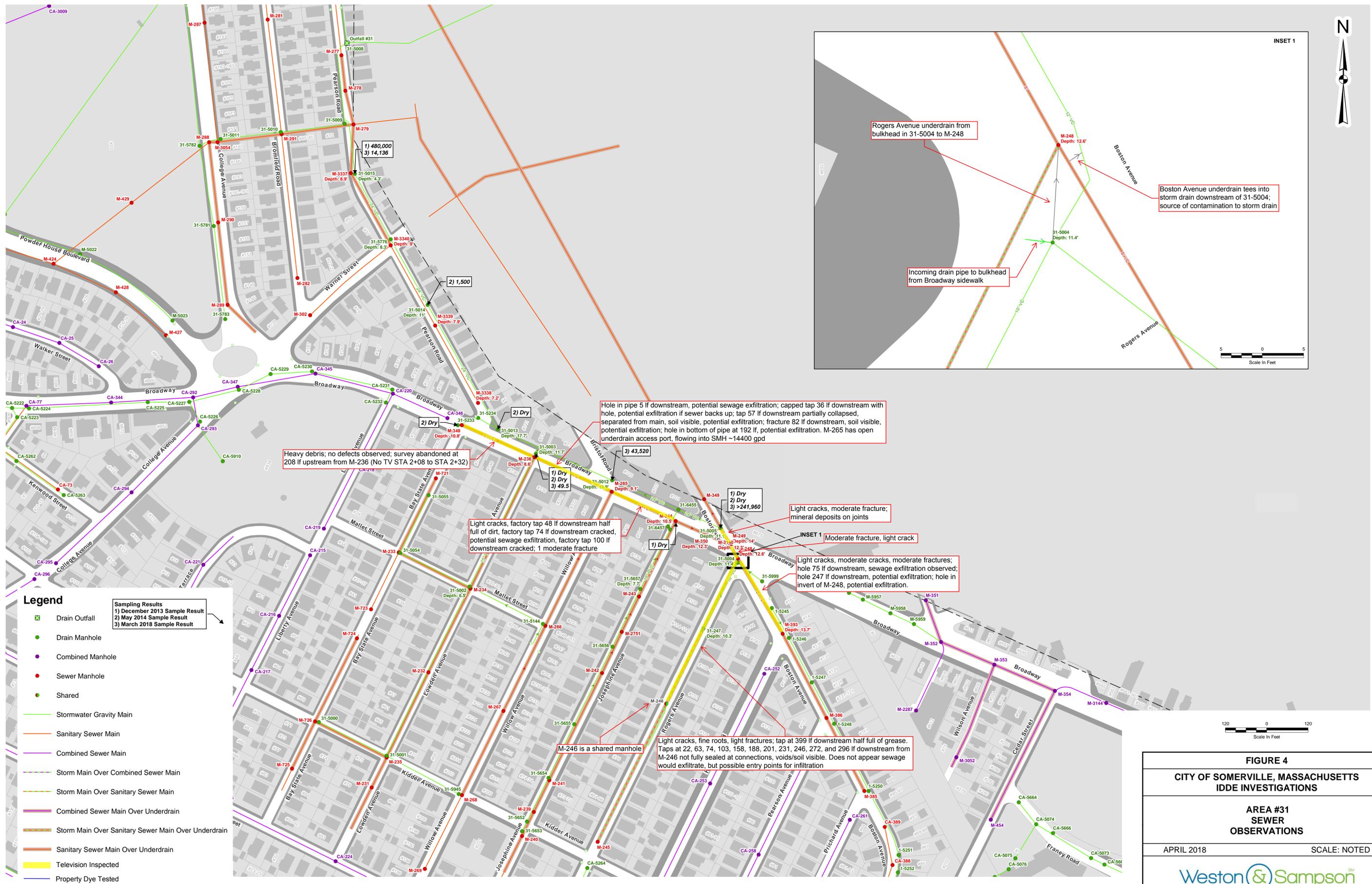
- 1) December 2013 Sample Result
- 2) May 2014 Sample Result
- 3) March 2018 Sample Result

FIGURE 3
CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

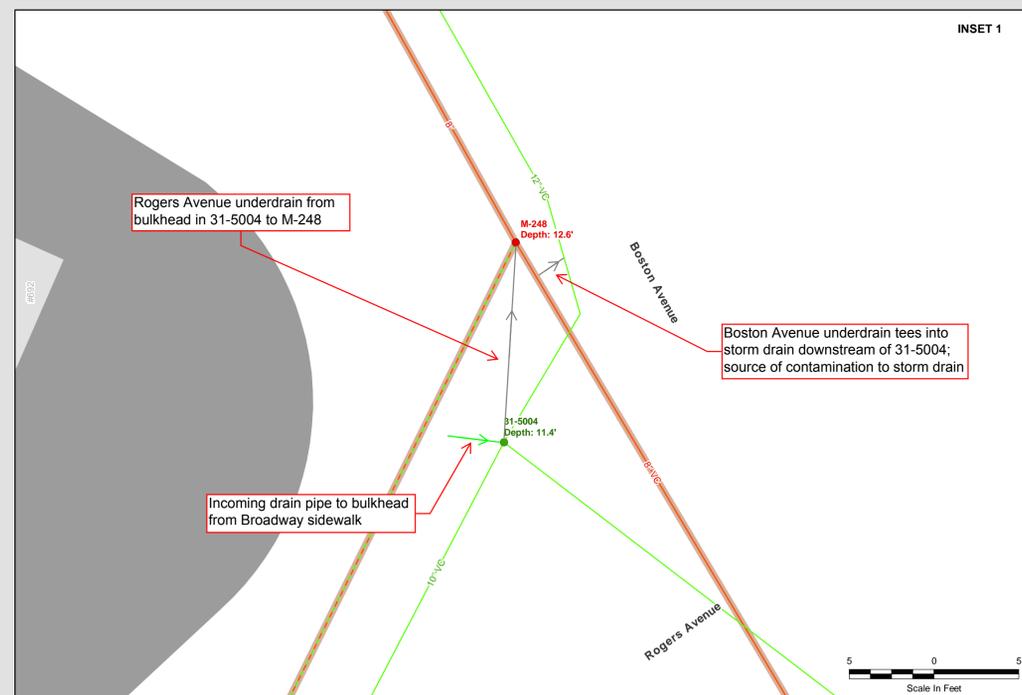
AREA #9
STORMWATER
OBSERVATIONS

APRIL 2018 SCALE: NOTED

Weston & Sampson



INSET 1



Rogers Avenue underdrain from bulkhead in 31-5004 to M-248

Boston Avenue underdrain tees into storm drain downstream of 31-5004; source of contamination to storm drain

Incoming drain pipe to bulkhead from Broadway sidewalk

Scale In Feet

Heavy debris; no defects observed; survey abandoned at 208 if upstream from M-236 (No TV STA 2+08 to STA 2+32)

Hole in pipe 5 if downstream, potential sewage exfiltration; capped tap 36 if downstream with hole, potential exfiltration if sewer backs up; tap 57 if downstream partially collapsed, separated from main, soil visible, potential exfiltration; fracture 82 if downstream, soil visible, potential exfiltration; hole in bottom of pipe at 192 if, potential exfiltration. M-265 has open underdrain access port, flowing into SMH ~14400 gpd

Light cracks, factory tap 48 if downstream half full of dirt, factory tap 74 if downstream cracked, potential sewage exfiltration, factory tap 100 if downstream cracked; 1 moderate fracture

Light cracks, moderate fracture; mineral deposits on joints

Moderate fracture, light crack

Light cracks, moderate cracks, moderate fractures; hole 75 if downstream, sewage exfiltration observed; hole 247 if downstream, potential exfiltration; hole in invert of M-248, potential exfiltration.

Light cracks, fine roots, light fractures; tap at 399 if downstream half full of grease. Taps at 22, 63, 74, 103, 158, 188, 201, 231, 246, 272, and 296 if downstream from M-246 not fully sealed at connections, voids/soil visible. Does not appear sewage would exfiltrate, but possible entry points for infiltration

M-246 is a shared manhole

Legend

- Drain Outfall
- Drain Manhole
- Combined Manhole
- Sewer Manhole
- Shared
- Stormwater Gravity Main
- Sanitary Sewer Main
- Combined Sewer Main
- Storm Main Over Combined Sewer Main
- Storm Main Over Sanitary Sewer Main
- Combined Sewer Main Over Underdrain
- Storm Main Over Sanitary Sewer Main Over Underdrain
- Sanitary Sewer Main Over Underdrain
- Television Inspected
- Property Dye Tested

Sampling Results

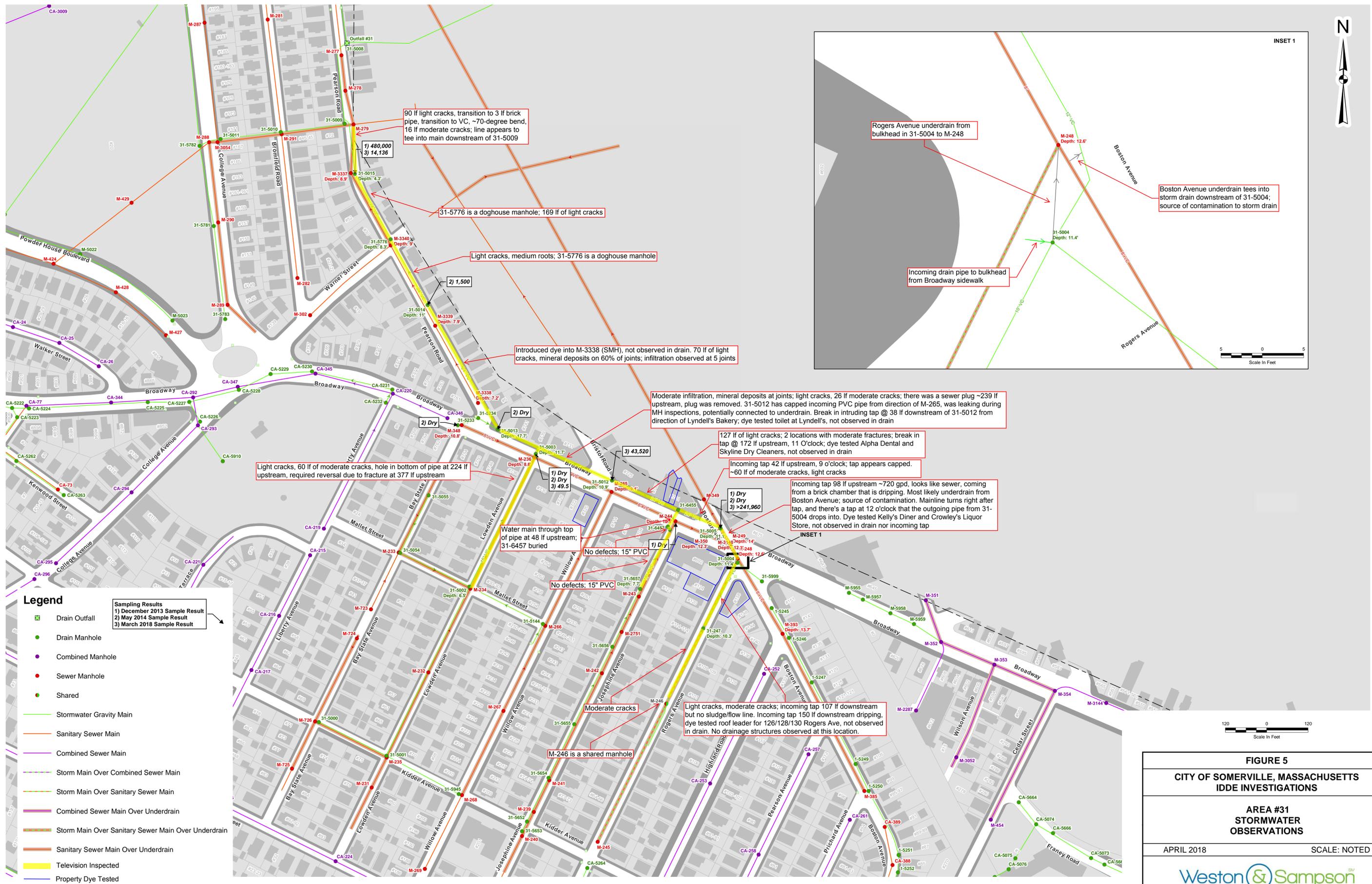
- 1) December 2013 Sample Result
- 2) May 2014 Sample Result
- 3) March 2018 Sample Result

FIGURE 4

CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

AREA #31
SEWER
OBSERVATIONS

APRIL 2018 SCALE: NOTED



Legend

- Drain Outfall
- Drain Manhole
- Combined Manhole
- Sewer Manhole
- Shared
- Stormwater Gravity Main
- Sanitary Sewer Main
- Combined Sewer Main
- Storm Main Over Combined Sewer Main
- Storm Main Over Sanitary Sewer Main
- Combined Sewer Main Over Underdrain
- Storm Main Over Sanitary Sewer Main Over Underdrain
- Sanitary Sewer Main Over Underdrain
- Television Inspected
- Property Dye Tested

Sampling Results

- 1) December 2013 Sample Result
- 2) May 2014 Sample Result
- 3) March 2018 Sample Result

FIGURE 5
CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

AREA #31
STORMWATER
OBSERVATIONS

APRIL 2018 SCALE: NOTED

Weston & Sampson

APPENDIX B
INVESTIGATION PHOTOS

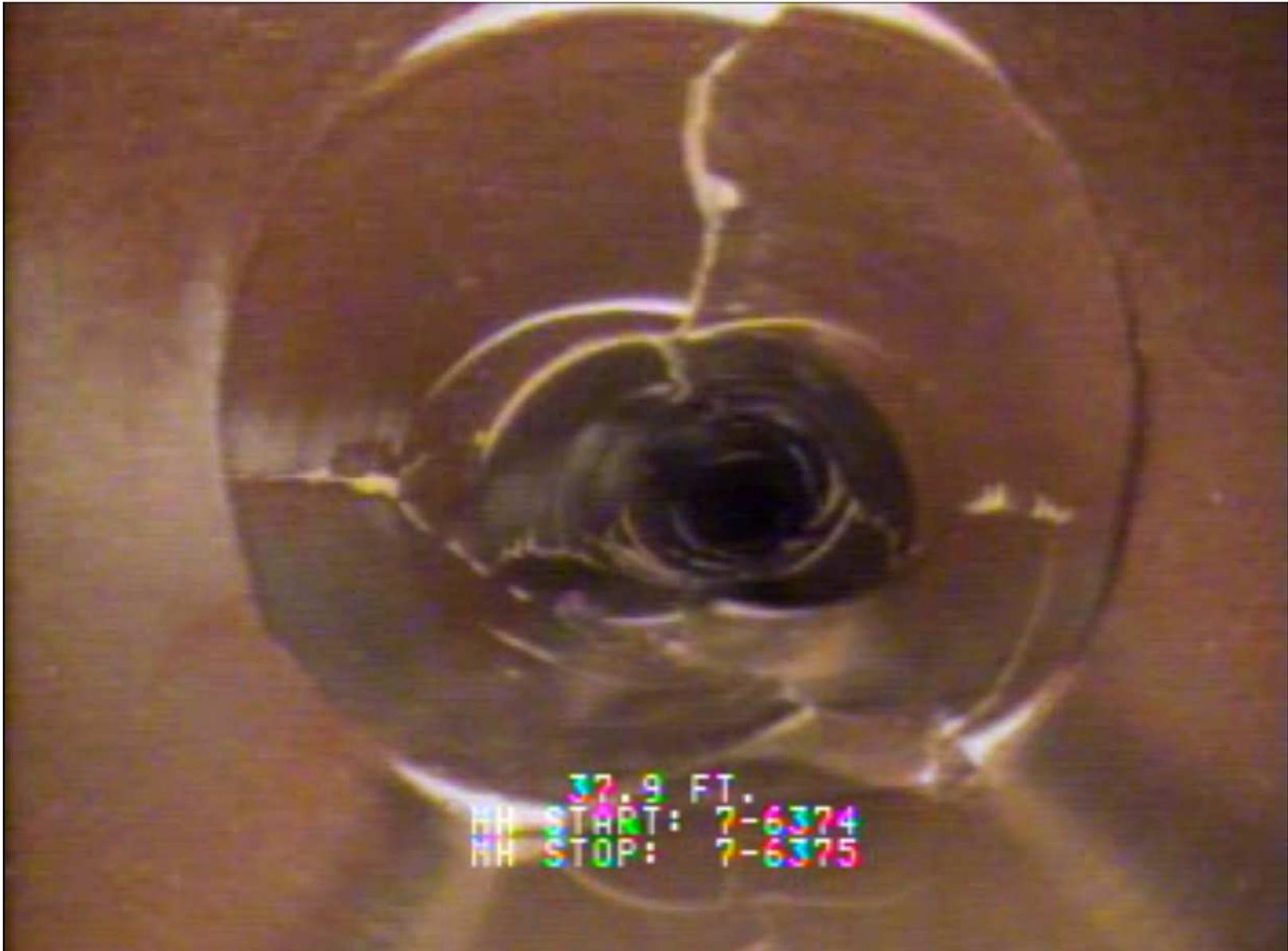


Photo 1 – Multiple fractures in 7-6374 to 7-6375

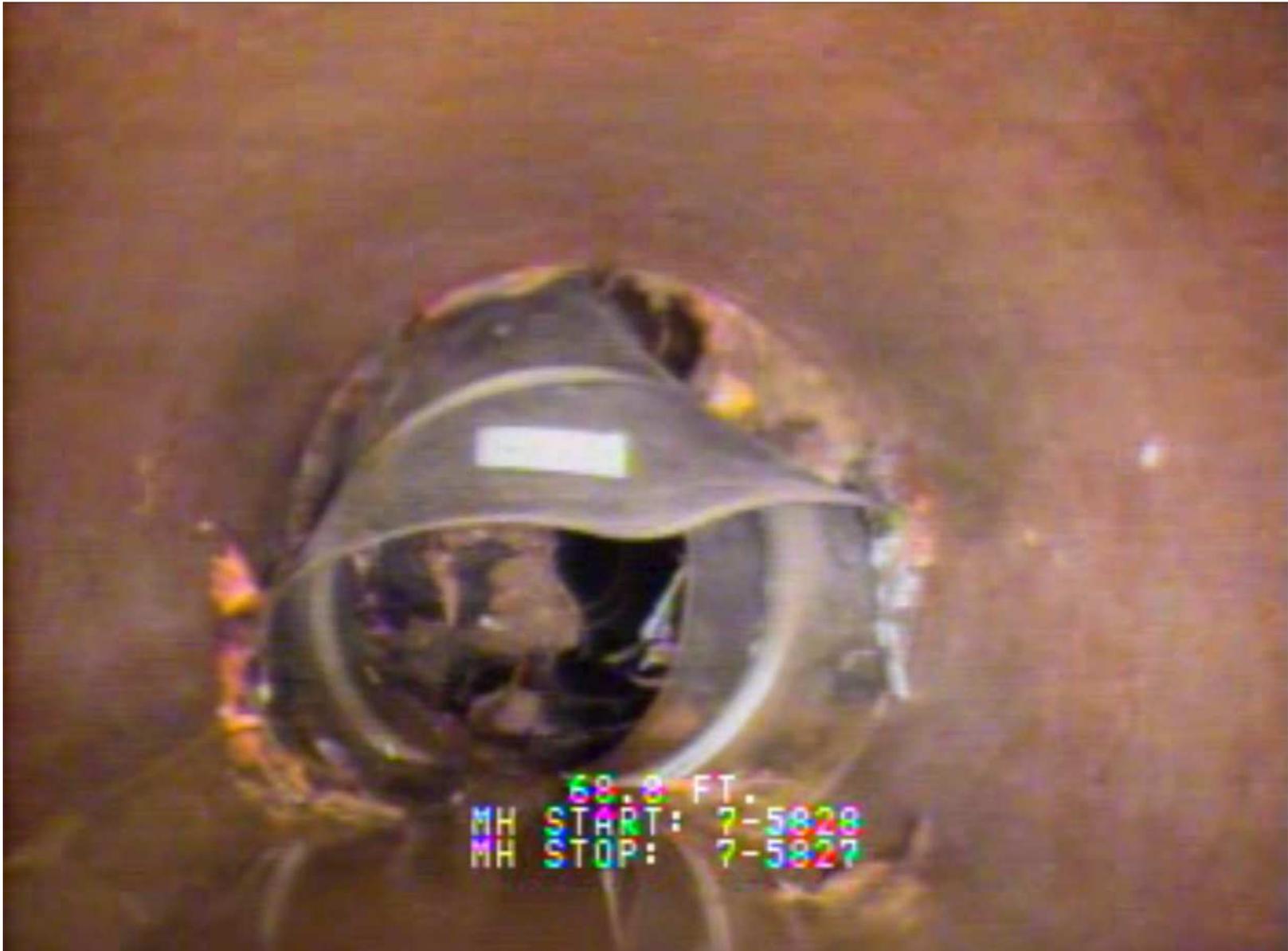


Photo 2, Defective point repair in 7-5828 to 7-5827



Photo 3 – Pipe through the crown of the sewer in A-3129 to A-332

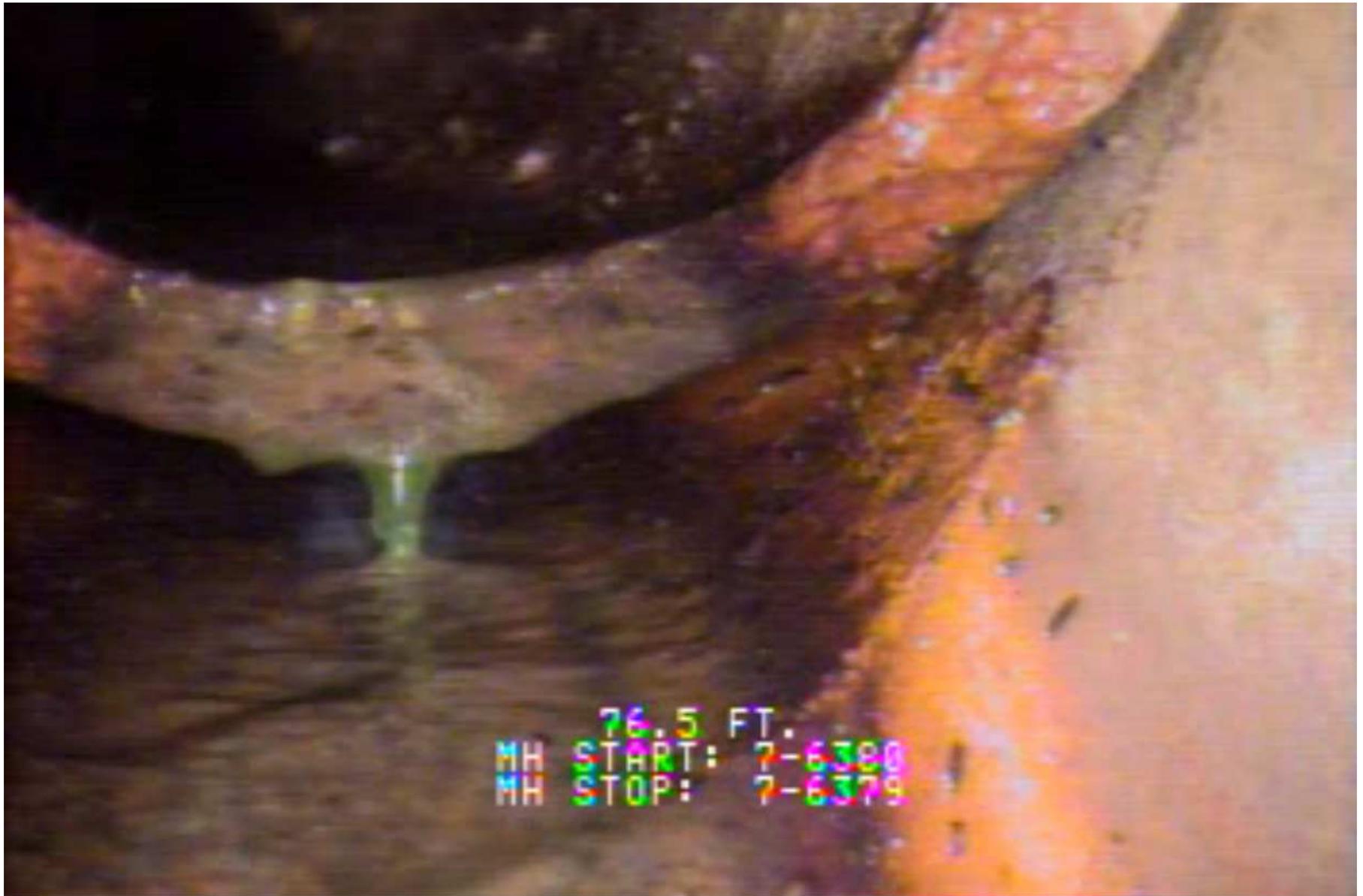


Photo 4 – Dye from LA Market in drain 7-6379 to 7-6380 at 76 linear feet upstream from 7-6380



Photo 5 – Dye from LA Market in sewer manhole A-336 invert

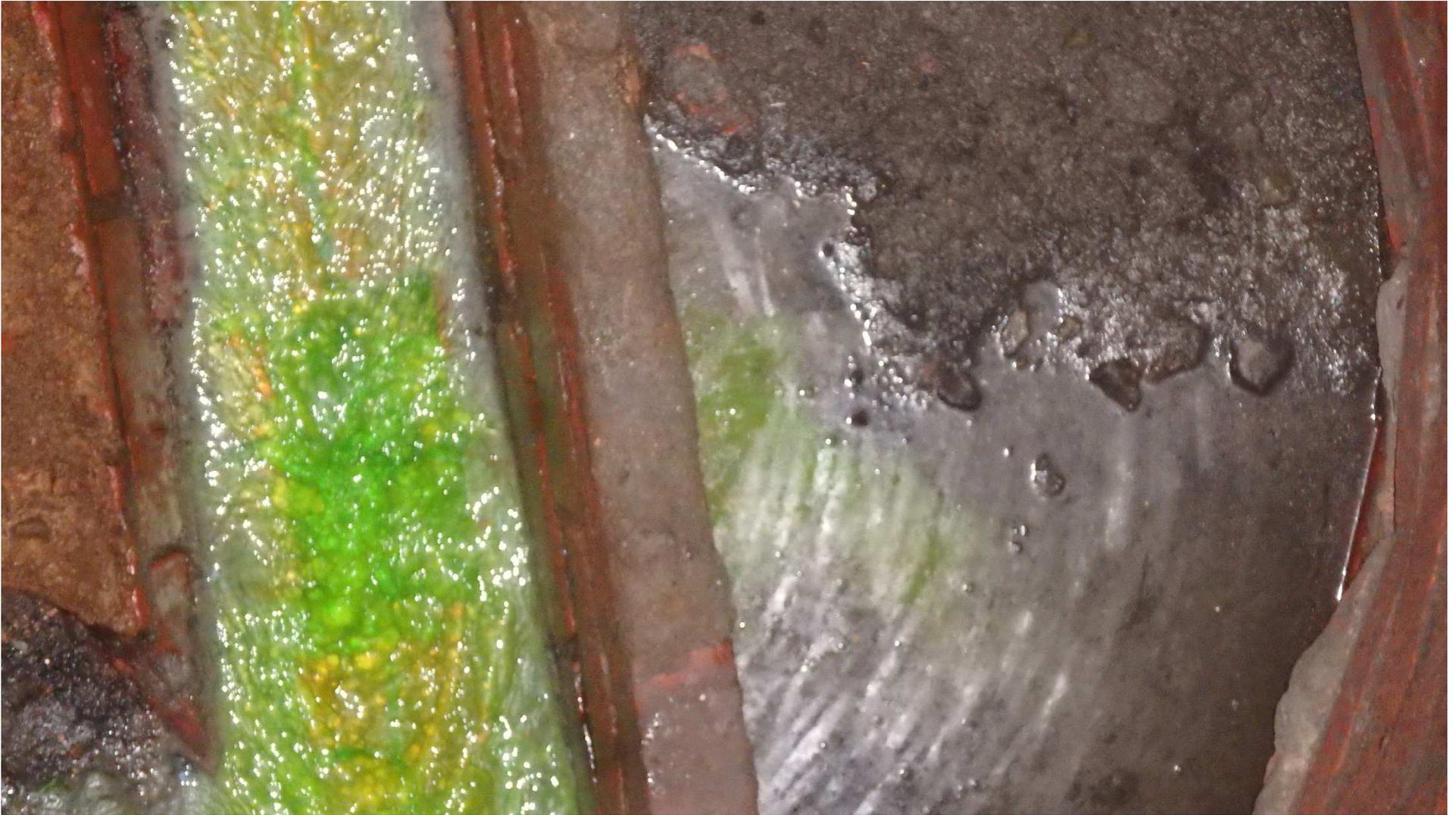


Photo 6 – Dye from LA Market in sewer manhole A-336 underdrain cavern



Photo 7, Multiple fracture in 9-5508 to 9-5507



Photo 8, Collapsed pipe in 9-5188 to catch basin at 61 North Street

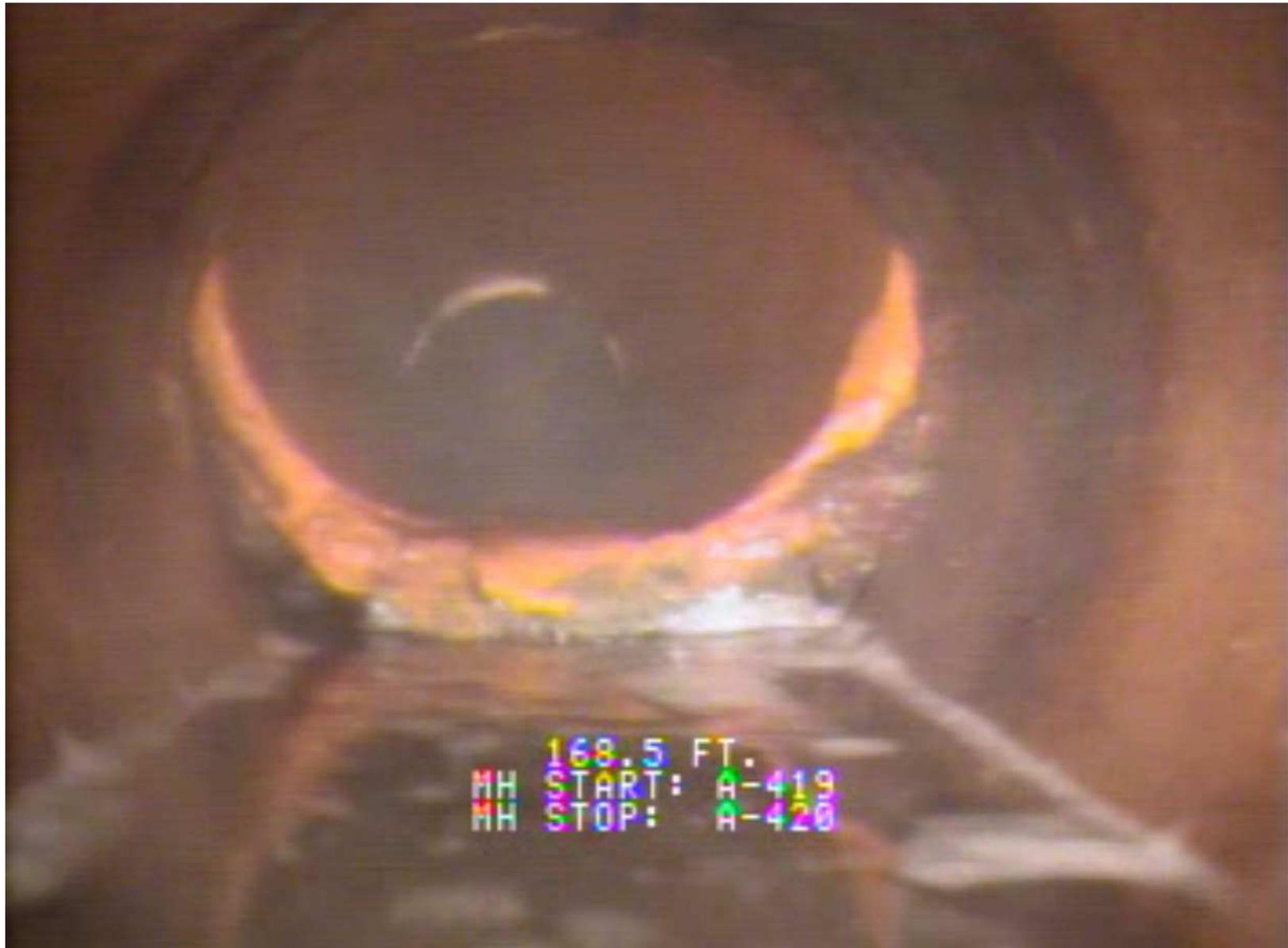


Photo 9, Severe offset in A-419 to A-420



Photo 10, Collapsed wye in A-419 to A-420

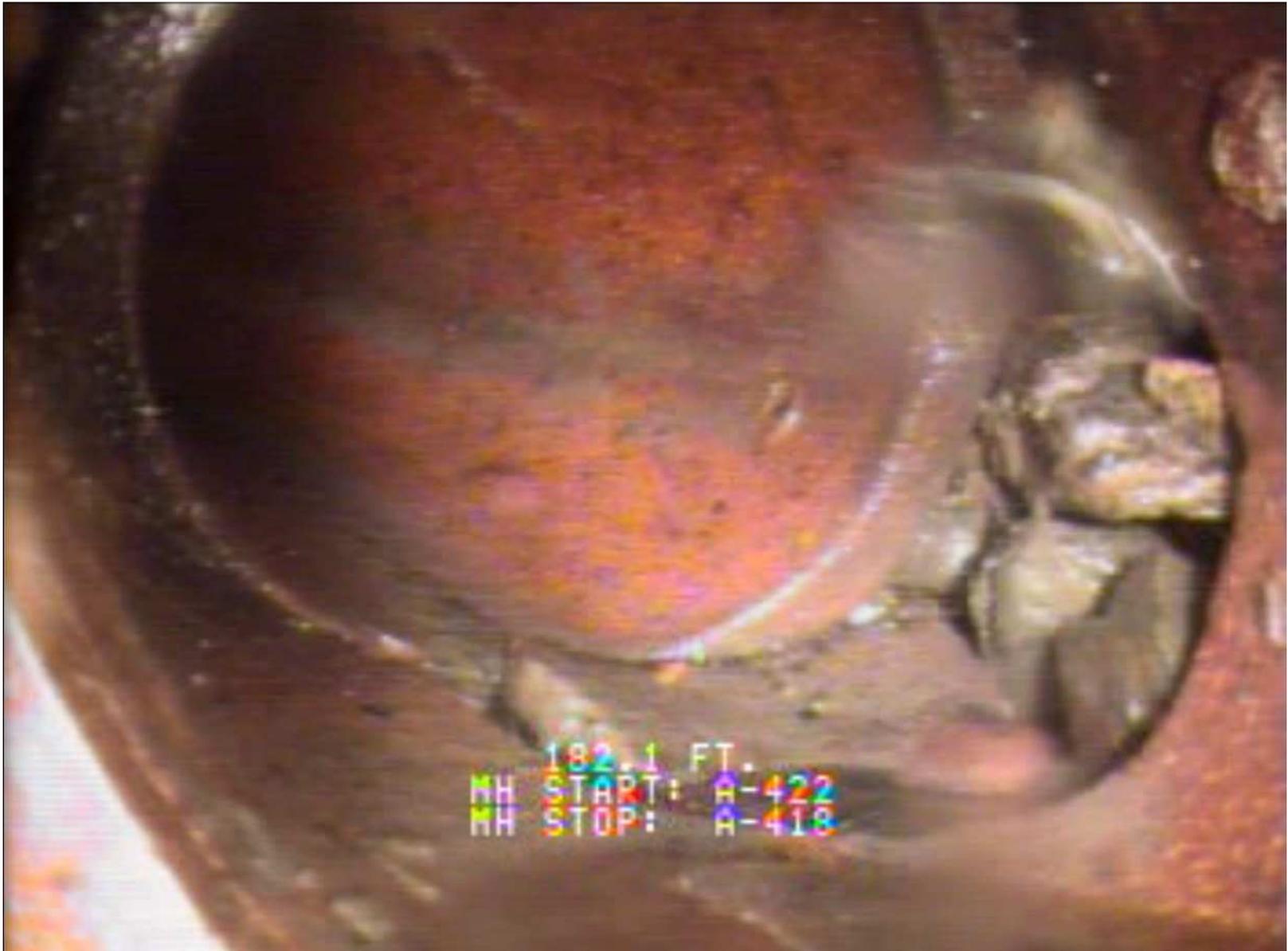


Photo 11, Lateral not sealed at mainline in A-422 to A-418



Photo 12, Lateral not sealed at mainline in A-418 to A-422



Photo 13, Lateral not sealed at mainline in A-418 to A-422



Photo 14, Partially collapsed lateral in M-236 to M-265



Photo 15, Partial collapse at a lateral in M-393 to M-248



Photo 16, Internal photo of shared manhole M-246



Photo 17, Open underdrain access point in M-265



Photo 18, Abandoned underdrain connection in 31-5003



Photo 19, Abandoned underdrain connection in 31-5012



Photo 20, Weir wall and diversion pipe in 31-5015



Photo 21, Diversion pipe in M-3337 from 31-5015

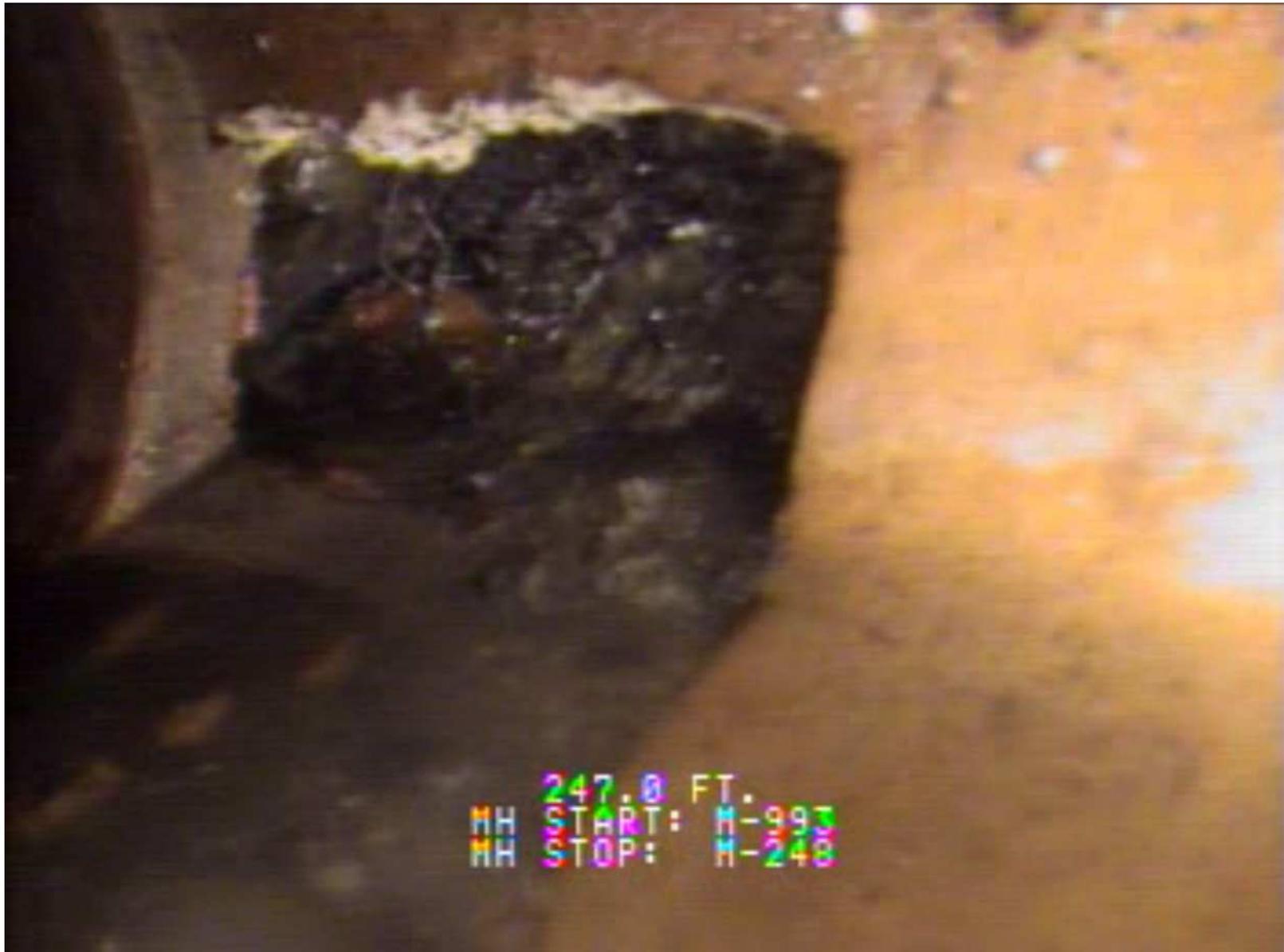


Photo 22, large hole in invert of sewer from M-393 to M-248



Photo 23, Hole in invert of sewer manhole M-248

APPENDIX C
UNIT COST TABLE

REHABILITATION UNIT COSTS

IDDE Drainage Areas 7, 9 and 31 - Somerville, Massachusetts

Cured-in-Place Pipe

Cured-in-place pipe for 8-inch sewers, per linear foot	\$50.00
Cured-in-place pipe for 10-inch sewers, per linear foot	\$75.00
Cured-in-place pipe for 12-inch sewers, per linear foot	\$100.00
Cured-in-place pipe for 15-inch sewers, per linear foot	\$125.00
Cured-in-place pipe for 21-inch sewers, per linear foot	\$170.00
Cured-in-place pipe for 24-inch sewers, per linear foot	\$200.00

Structural Cured-in-Place Pipe

Structural cured-in-place pipe for 8-inch sewers, per linear foot	\$55.00
Structural cured-in-place pipe for 12-inch sewers, per linear foot	\$110.00
Structural cured-in-place pipe for 21-inch sewers, per linear foot	\$190.00
Structural cured-in-place pipe for 24-inch sewers, per linear foot	\$220.00

Cured-in-Place Lateral Liner

Cured-in-place lateral liner in pipe < 15-inch diameter mainline, per service connection	\$7,000.00
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Service Connection Rehabilitation

Cut protruding service connection, per service connection	\$600.00
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Manhole Rehabilitation

Manhole cementitious lining, per vertical foot	\$150.00
Build manhole bench and invert, per manhole	\$1,200.00

Underdrain Rehabilitation

Seal access port, per access port	\$1,500.00
Seal bulkhead in manhole 31-5004, per bulkhead	\$4,000.00

Open Cut Repairs

Install sewer manhole, per manhole	\$25,000.00
Open cut point repair, minimum per location	\$25,000.00
Replace wye connection to the mainline, per wye connection	\$15,000.00

APPENDIX D
INVESTIGATIONS MAP – RECOMMENDATIONS



Legend

- Drain Outfall
- Drain Manhole
- Combined Manhole
- Sewer Manhole
- Stormwater Gravity Main
- Sanitary Sewer Main
- Combined Sewer Main
- Storm Main Over Combined Sewer Main
- Storm Main Over Sanitary Sewer Main
- Combined Sewer Main Over Underdrain
- Storm Main Over Sanitary Sewer Main Over Underdrain
- Sanitary Sewer Main Over Underdrain

Sampling Results

1) December 2013 Sample Result

2) May 2014 Sample Result

3) March 2018 Sample Result

FIGURE 7
CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

AREA #9
SEWER
RECOMMENDATIONS

APRIL 2018 SCALE: NOTED

Weston & Sampson

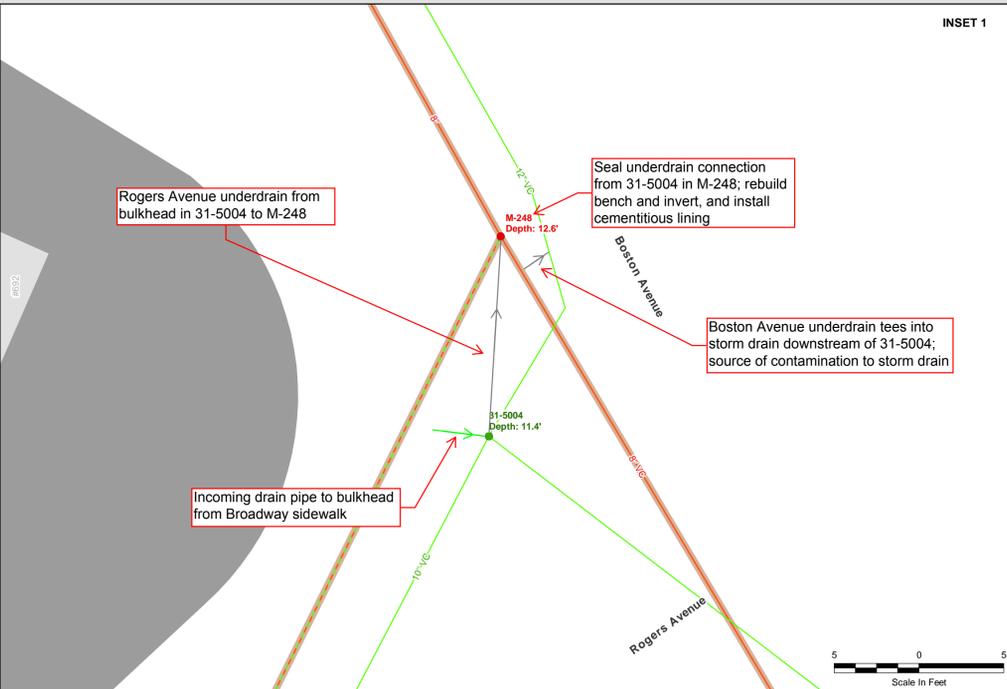
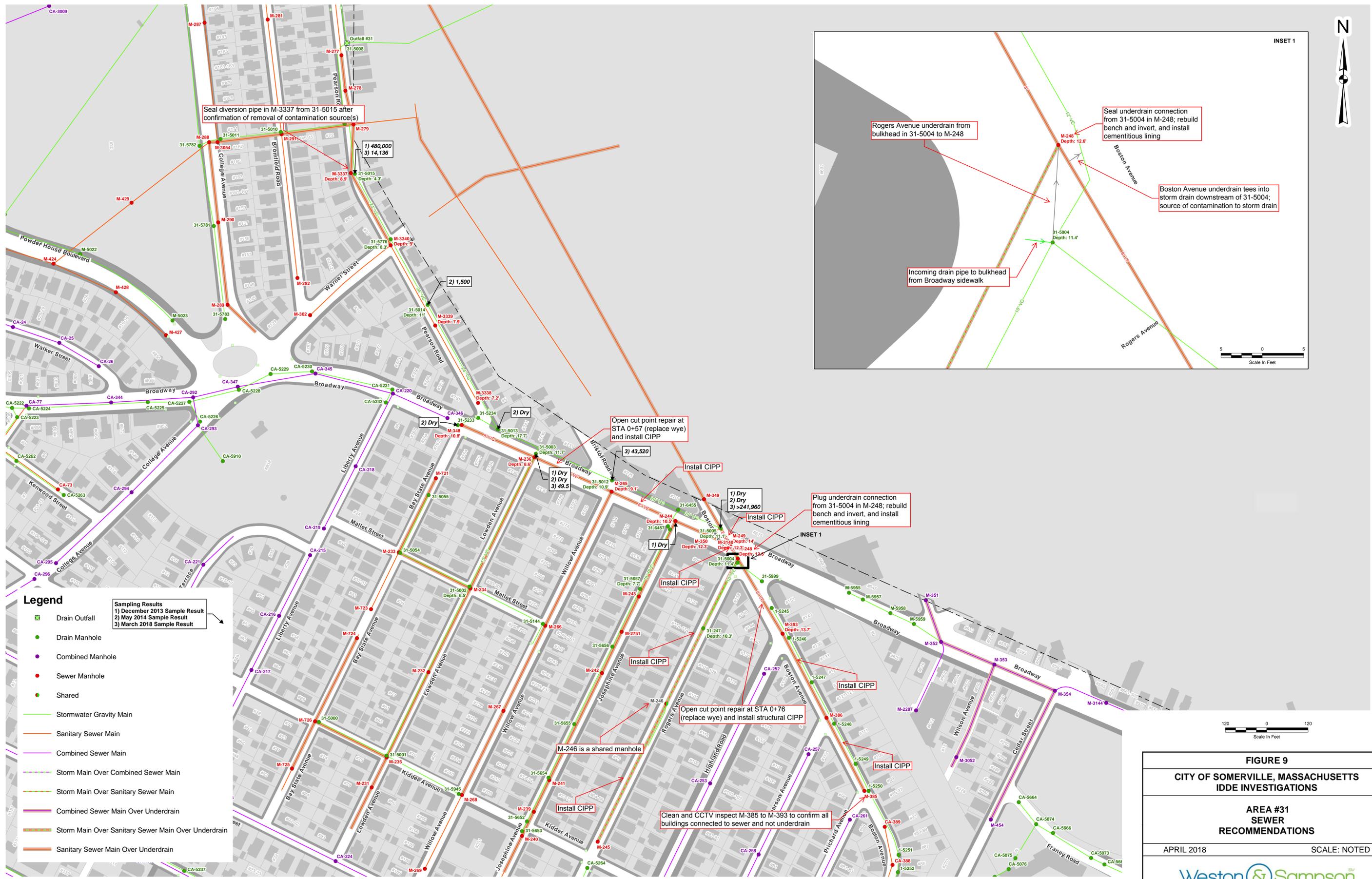
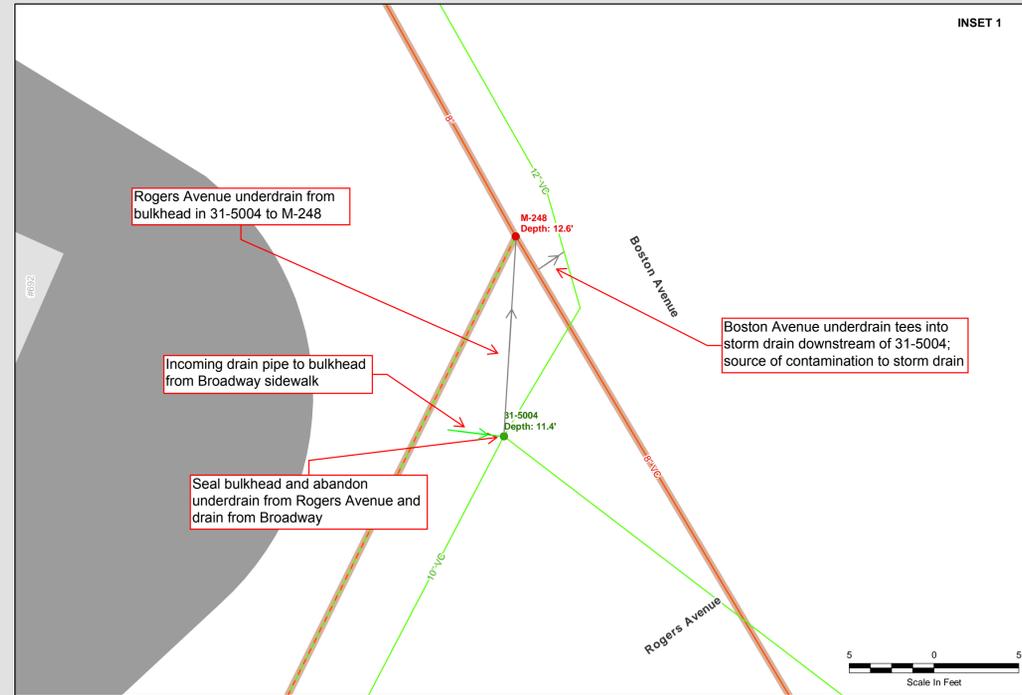
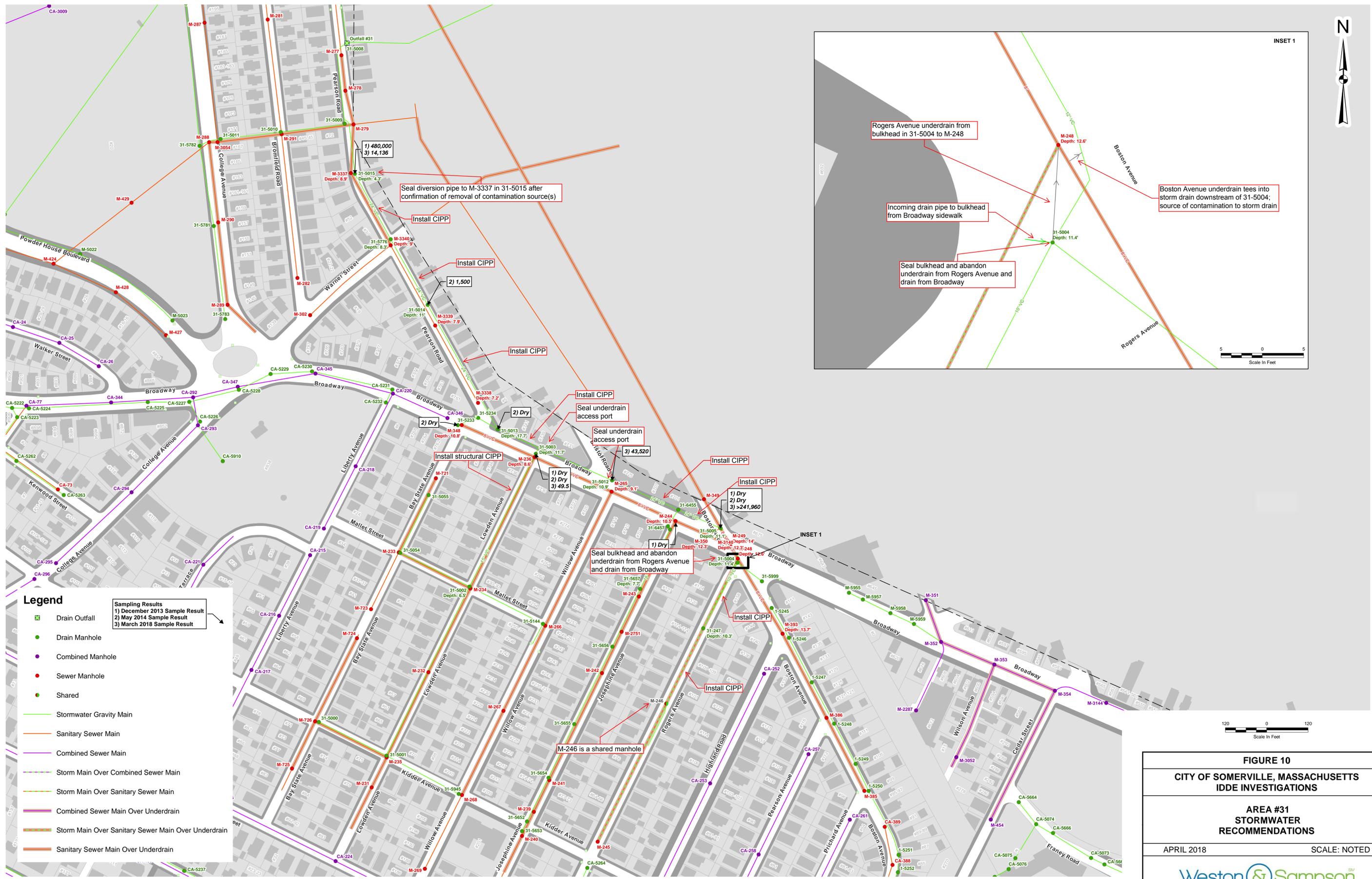


FIGURE 9
CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

AREA #31
SEWER
RECOMMENDATIONS

APRIL 2018 SCALE: NOTED

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Legend

- Drain Outfall
- Drain Manhole
- Combined Manhole
- Sewer Manhole
- Shared
- Stormwater Gravity Main
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- Combined Sewer Main
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- Sanitary Sewer Main Over Underdrain

Sampling Results

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- 2) May 2014 Sample Result
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FIGURE 10
CITY OF SOMERVILLE, MASSACHUSETTS
IDDE INVESTIGATIONS

AREA #31
STORMWATER
RECOMMENDATIONS

APRIL 2018 SCALE: NOTED

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