

January 2020

2019 Sanitary Sewer Evaluation Study

Final Report



Malvern Water Works



rjngroup
Engineering infrastructure for tomorrow

RJN Project No. 18-3337-00

December 31, 2019

Carl Wheatley
 Public Works Director
 Malvern Water Works
 506 Overman St
 Malvern, AR 72104

Subject: Malvern 2019 Sanitary Sewer Evaluation Study

Dear Mr. Wheatley:

In accordance with the August 2018 Engineering Agreement, RJN Group, Inc. is pleased to submit this final report for the above referenced project.

This final report provides a comprehensive analysis of the data and information collected over multiple projects within Basins 2, 3, 3A, 4, 5, and 5A. A summary of recommendations is given in Table 1.

Table 1 Summary of Recommended Plan				
Item	I/I Reduction		Estimated Capital Cost ² (mgd/\$Million)	Estimated Capital Cost ^{2/} (\$Million)
	Inflow ^{1/} (mgd)	Infiltration (mgd)		
Manhole Rehabilitation				
Manhole Rehabilitation	0.471	0.194	1.003	\$0.663
Sewer Line Rehabilitation				
Point Repairs	0.000	0.027	0.044	\$0.615
Complete Rehabilitation	<u>0.000</u>	<u>0.096</u>	<u>0.046</u>	<u>\$2.068</u>
Subtotal	0.000	0.123	0.090	\$2.683
Service Line Rehabilitation				
Private Sector	<u>0.348</u>	<u>0.000</u>	<u>0.853</u>	<u>\$0.408</u>
Total	0.819	0.317	0.251	\$3.754

1/ Based on projected 1-year/60-minute inflow.

2/ Includes estimated construction cost plus a thirty-percent (30%) engineering service and contingency fee.

Mr. Carl Wheatley
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The field investigations include defect findings from manhole inspection, smoke testing, dyed water flooding, and television inspection. The following conclusions were based on the current field work:

- The recommended plan includes rehabilitation of 237 manholes, 231 service line sources, 13,088 linear feet of sewer line rehabilitation, and 860 linear feet of point repairs.
- Implementation of the recommended plan would remove approximately 0.819 mgd of 1-year/60-minute inflow and 0.317 mgd of infiltration.
- The estimated Capital Cost to implement the recommended plan is \$3.754 million.

We appreciate the opportunity to work with the Malvern Water Works and the excellent cooperation from the staff throughout the project. We look forward to working with the City in the future. Should you have any questions, please do not hesitate to call.

Respectfully Submitted,

RJN GROUP, INC.



Mac Compton, P.E.
Project Manager

MC/18-3337-00

Enclosure

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CHAPTER 1 – INTRODUCTION

In August 2018 RJN Group, Inc. (RJN) was retained by Crist Engineers to perform an evaluation of the sanitary sewer collection system in Malvern, AR by means of intensive field investigations on select portions of the City. Figure 1.1 (see page 1-2) depicts the study area from 2018 which consists of six basins referred to as basin 2, 3, 3A, 4, 5, and 5A. Basin 1 is shown in Figure 1.1 but was not part of this project's scope.

This report focuses exclusively on the findings and remedial measures within these six basins, which includes the following field activities:

- ◆ 21,942 linear feet of CCTV – Inspected by AIMS
- ◆ 1,478 Manhole Inspections – FY18 - 19
- ◆ 179,973 linear feet of Smoke Testing – FY19
- ◆ 16 Dye Tests – FY19

OVERVIEW

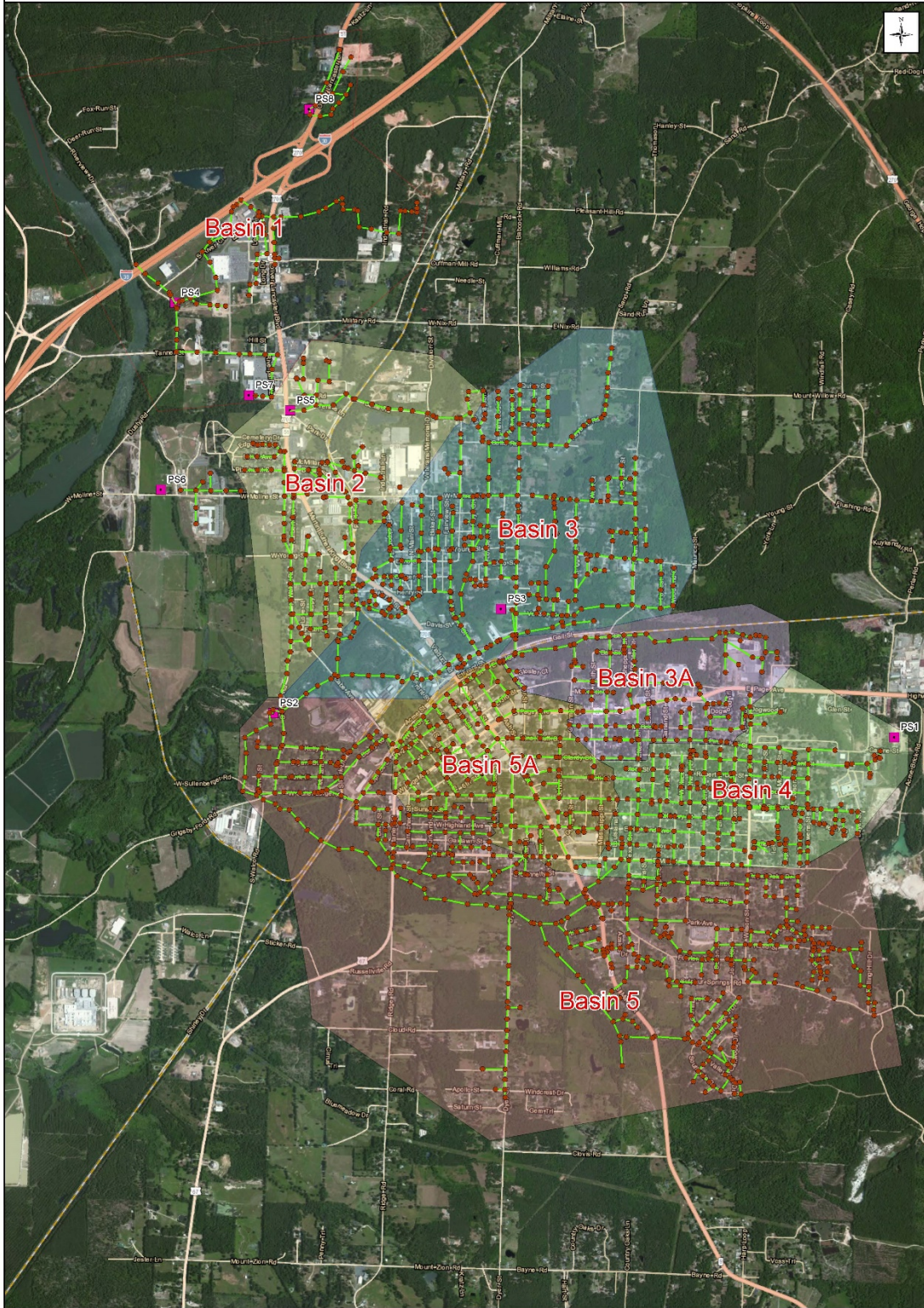
A Sanitary Sewer Evaluation Study (SSES) is a cost-effective evaluation consisting of intensive field procedures and data analysis to determine the condition of sanitary sewer lines and access structures. Sewer lines are susceptible to Infiltration and Inflow (I/I) or extraneous flow entering the system which can be excessive, expensive to treat, and a contributor to wet-weather overflows.

I/I may enter the sanitary sewer system during moderate storm events. Infiltration occurs when groundwater enters sewer lines and manholes. Inflow occurs when storm water runoff enters the sanitary sewer system through both public sector and private sector sources. Some inflow sources include cross connections with storm sewers, main line defects, vented manhole covers, defective frame seals, defective cleanouts, and direct connections to the sanitary sewer from downspouts and/or area drains.

DESCRIPTION OF THE STUDY AREA

Malvern is primarily comprised of residential neighborhoods with a small amount of commercial sections and contains 1,478 manholes and 179,973 linear feet of sewer pipe within these six basins. Basin 5 was previously divided into Basin 5 and Basin 5B for the purposes of flow monitoring but was combined into one basin (Basin 5) for this SSES project.

Malvern, AR



PROJECT APPROACH

The project approach for the Malvern Sewer System Evaluation included conducting field investigations. Based on that data RJN developed a recommended plan to reduce I/I and improve efficiency of the wastewater collection system.

The project team employed the following field investigations to maximize efforts and efficiently identify sources of I/I:

1. Manhole and Visual Pipe Inspections
2. Smoke Testing
3. Dye Testing
4. Television Inspection (Conducted by AIMS)

All collected data is first reviewed by Data Analysts at RJN to ensure no pertinent information is left behind during field investigations. The quality of the data is also reviewed so that quantifications from rainfall simulation are consistent. The recommended plan was formulated after carefully reviewing the results derived from the field investigations and consists of the following:

1. Recommended I/I Removal
2. Line Replacements and Point Repairs
3. Cost to Implement the Recommended Plan

DEFINITIONS AND ABBREVIATIONS

This section contains definitions and abbreviations commonly used throughout this report.

1. Infiltration (as defined by USEPA) - the water entering a sewer system and service connections from the ground through such means as, but not limited to, defective pipes, pipe joints, service connections, service laterals, or manhole walls.
2. Inflow (as defined by USEPA) - the water discharged into a sewer system, including service connections, from such sources as roof leaders; cellar, yard, and area drains; foundation drains; cooling water discharges; drains from springs and swampy areas; manhole covers; cross connections from storm sewers, combined sewers, or catch basins; storm waters; surface runoff; or drainage.
3. Excessive Infiltration and Inflow (I/I) - the extraneous clean water that enters the sanitary sewer system which can be eliminated on a cost-effective basis.
4. Base Flow - wastewater flow exclusive of infiltration or inflow. Generally determined from water records during months when most of the water consumption is returned to the wastewater collection system.
5. Permanent Infiltration - extraneous flow that enters the sewer system through the ground during periods of dry weather/low groundwater. Generally determined by subtracting base flow during winter months from the average daily dry-weather monitored flow.

6. Peak Infiltration - the maximum extraneous flow that enters the wastewater collection system during high groundwater conditions after the inflow effects of a rain event have ended. Generally determined by subtracting dry-weather/low-groundwater flow (average daily dry-weather monitored flow) from flow recorded during periods of high groundwater.
7. Average Daily Dry-Weather Flow - dry-weather/low-groundwater flow exclusive of dry-weather/high-groundwater (peak infiltration) and wet-weather (inflow) flow. Includes base flow and permanent infiltration only.
8. Average Daily Dry-Weather Flow Peaking Factor - the ratio between the peak hourly flow rate and the average daily flow.
9. 1-Year/60-Minute Storm - a storm event that produces 1.63 inches of rain per hour in the Malvern, Arkansas area and is expected to occur once in any given year.
10. 5-Year/60-Minute Storm - a storm event that produces 2.19 inches of rain per hour in the Malvern, Arkansas area and has a 20 percent probability of occurring in a given year.
11. Design Storm Event - a storm event selected for purposes of analyzing its effect on the wastewater collection system.
12. gpd - gallons per day.
13. mgd - million gallons per day.
14. idm - inch-diameter-miles. The product of sewer pipe diameter in inches and length of sewer in feet per 5,280 feet.
15. gpd/idm - gallons per day per inch-diameter-mile.
16. Surcharge Condition (as defined by WEF Manual of Practice FD-6) - when the sewer flow depth equals or exceeds the diameter of the discharging sewer lines.
17. Infiltration and Inflow (I/I) - a combination of infiltration and inflow wastewater volume in sanitary sewer.

CHAPTER 2 – FILED INVESTIGATIONS

RJN conducted sanitary sewer investigation activities in basins 2, 3, 3A, 4, 5, and 5A in Malvern, Arkansas. However, smoke testing was only conducted in Basins 2, 5, and 5A. The objective was to identify sewer maintenance problems, quantify sources of infiltration and inflow (I/I), and recommend a rehabilitation plan to reduce I/I and improve the overall efficiency of the collection system. Field activities included the following:

1. Manhole and Visual Pipe Inspections
2. Rainfall Simulation
 - a. Smoke Testing
 - i. Identification of Public Defects
 - ii. Identification of Private Defects
 - b. Dye Testing
 - i. Potential Mainline/Storm Sewer Connections
 - ii. Manhole Defects
3. Television Inspection (defects identified from smoke testing and visual pipe) conducted by AIMS and reviewed by RJN.

MAPPING

At the initiation of the project Malvern Water Works (WW) provided map data of the wastewater collection system study area, which included existing access structures. All inspected manholes received a sub-meter GPS point and a select 220 manholes connected by large diameter gravity main will receive a sub-centimeter GPS point. During manhole inspections, several manholes were discovered in the study area that were previously unmapped. These manholes and associated gravity main connections were added to the GIS. Updates to the sanitary sewer system are provided to Malvern WW with this report.

FIELD INVESTIGATIONS

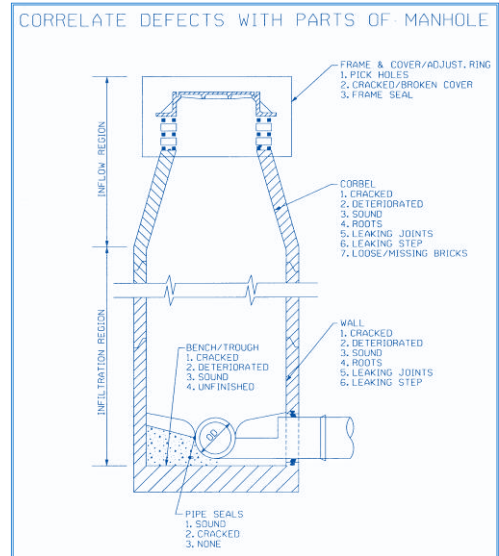
Manhole and Visual Pipe Inspections

Manhole and visual pipe inspections assess the physical condition of the sewer system. These inspections verify manhole location, pipe size, line segment continuity, and evaluate manhole and connecting pipe condition. A sectional elevation of a typical manhole is shown on page 2-2.

Manhole Inspections

The manhole/cleanout inspection procedure included recording the following observations:

1. Location and identification number
2. Potential for ponding or sheeting on manhole cover
3. Cover type, fit, description, distance above or below grade, evidence of inflow
4. Frame adjustment, seal, evidence of inflow
5. Corbel construction, condition, evidence of inflow
6. Wall construction, condition, evidence of infiltration
7. Bench/trough construction, condition, deposition, evidence of infiltration
8. Pipe seal condition, evidence of infiltration
9. Step condition
10. Manhole inside diameter
11. Surcharging or evidence of surcharging
12. Indication of groundwater infiltration



Inspections were performed on 1,160 of the 1,478 manholes (78 percent). Every effort was made to locate each structure, however 318 remained uninspected. These manholes consist of 242 unable to locate, 36 buried, and 40 inaccessible due to various reasons. A list of these structures and corresponding status has been provided to Malvern WW. All manhole inspection information can be found within the report in Appendix A. An access structure inspection summary is given in Table 2.1, and a summary of manhole defects is given in Table 2.2. Map Exhibit A depicts manhole inspection status.



*Defective Chimney
(Basin 3) MH0336*

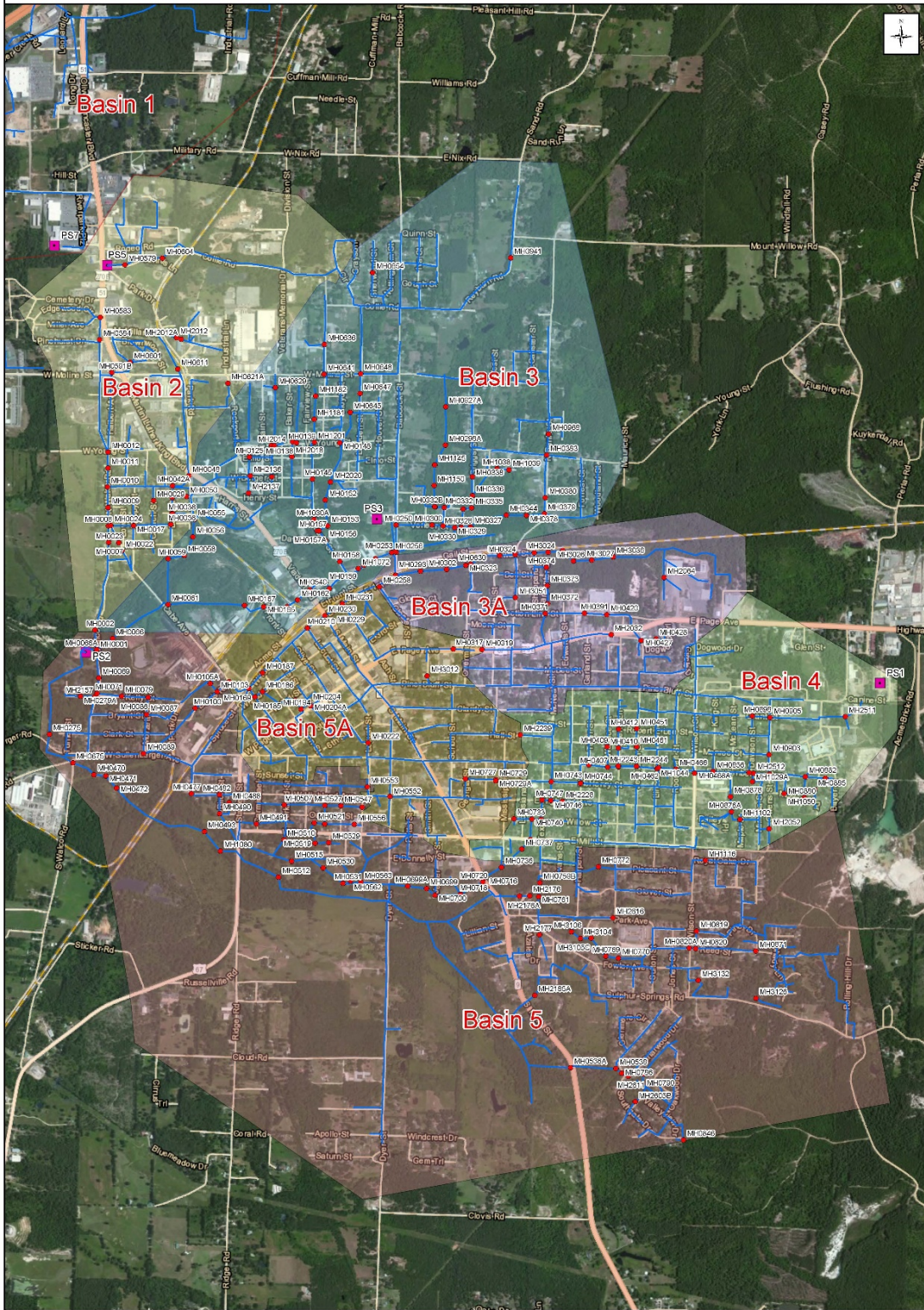
Table 2.1 Access Structure Inspection Summary					
Basin No.	Total Structures	Inspected Structures	Not Found Structures	Buried Structures	Inaccessible Structures
2	155	124	19	5	7
3	333	279	45	4	5
3A	133	104	27	2	0
4	230	168	52	10	0
5	474	370	81	8	15
5A	<u>153</u>	<u>115</u>	<u>18</u>	<u>7</u>	<u>13</u>
Total	1,478	1,160	242	36	40

Table 2.2 Summary of Manhole Defects	
Type of Defect	Number of Defects
Inflow	
Defective Covers	658
Defective Frame Seals	115
Defective Manhole Corbel	597
Broken Frame	<u>35</u>
Subtotal	1,405
Infiltration	
Pipe Seals	377
Defective Manhole Walls	523
Defective Bench	<u>345</u>
Subtotal	<u>1,245</u>
Total	2,650

Manhole inspections resulted in the identification of approximately 0.759 mgd of 1-year inflow and 0.451 mgd of infiltration. The largest contributors of inflow from manholes for this project were defective covers and defective frame seals. Field investigations identified 115 defective frame seals and 658 defective covers combining to contribute approximately 0.521 mgd of inflow. Each defect has been quantified for the inflow that would occur during a one-year storm event.

Defective benches and manhole walls are the main sources of infiltration, totaling 868 defects which contributes approximately 0.325 mgd. A total of 280 manholes located throughout the study area indicated evidence of surcharging. These manholes are shown on Figure 2.1.

Malvern, AR



Visual Pipe Inspections

Visual pipe inspection is performed as part of the manhole inspection program with the following observations recorded:

1. Manhole identification numbers for connecting sewer lines
2. Flow direction in pipes
3. Pipe diameter and construction material
4. Amount of root growth
5. Amount and type of deposition
6. Structural condition and line/grade of pipe
7. Visible infiltration in pipe and/or from pipe seals
8. Depth from manhole rim to each pipe invert
9. Recommended method of cleaning
10. Depth and velocity of flow



(Basin 5A) MH0188-SE-in

Visual pipe inspection verifies pipe diameter, continuity, and aids in identifying pipe defects near the collection system access structure. Sewer lines in the study area are primarily constructed of concrete. The visual pipe inspections revealed 472 broken, collapsed, or cracked segments. A digital report listing the findings of the visual pipe inspections is given in Appendix B.

RAINFALL SIMULATION

A major field task in sewer system evaluation studies is locating inflow sources by rainfall simulation. Types of inflow sources identified by rainfall simulation include the following:

1. Roof downspouts, yard, and area drains
2. Defective building sewers, faulty connections, and defective cleanouts
3. Cross connections between sanitary sewers and storm sewers (indirect or direct)
4. Storm sewer sections, stream sections, ditch sections, and ponding areas which may cause infiltration and inflow
5. Structurally damaged sewers and manholes

Rainfall simulation can also be utilized with flow measurements to quantify inflow from identified sources. Rainfall simulation techniques include smoke testing and dyed water flooding.

Smoke Testing

Smoke testing is a quick method for detecting inflow sources in a sanitary sewer system. This method is very effective in detecting sources such as roof downspouts, yard and area drains, defective building sewers, faulty connections, defective cleanouts, and storm sewer cross connections. It can also be utilized during dry weather periods to detect inflow sources in the sewer main. During testing, observations are recorded by line segment as follows:

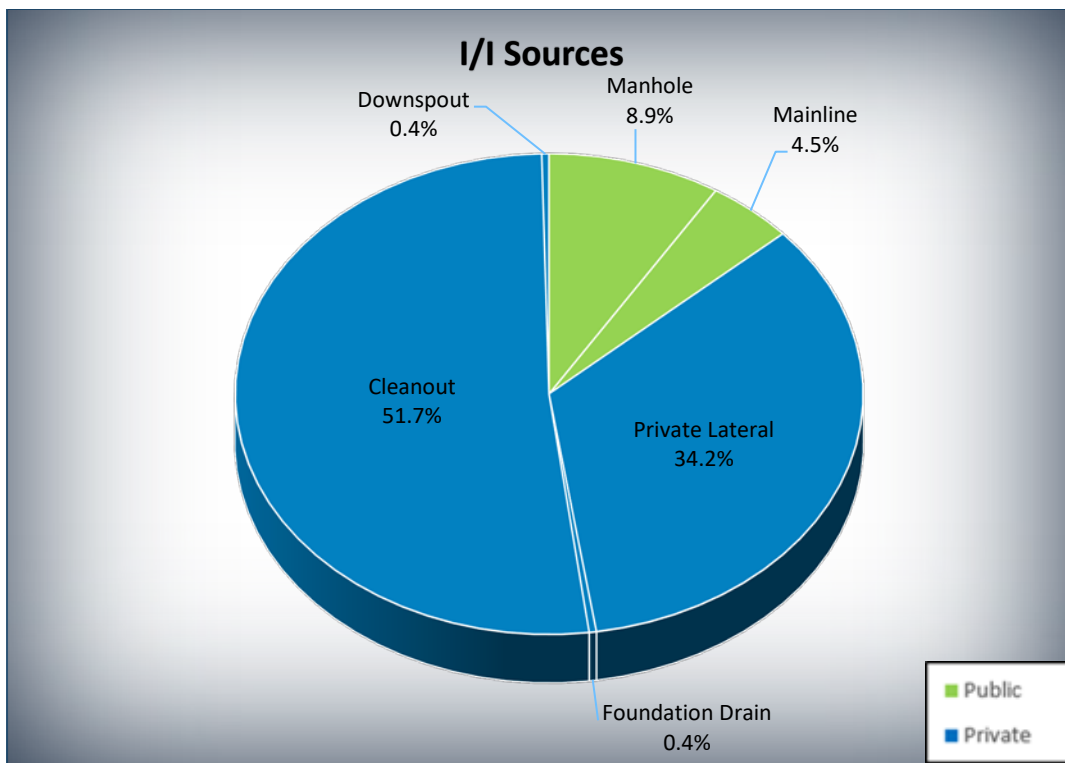
1. Location of line segment
2. Location of observed smoke leaks recorded at:
 - A. Curb
 - B. Sidewalk
 - C. Cleanout
 - D. Building lateral; front, side or rear yard
 - E. Driveway or area drain
 - F. Downspout
 - G. Building interior (resident must inform inspector)
3. Location of smoke observed from storm water conveyance systems
4. Location of smoke along a main sewer line

A total of 269 potential sources of I/I were identified from the 179,973 linear feet of sewer lines that were smoke tested. 232 sources identified are from the private sector and 36 sources are from the public sector. Smoke testing investigations identified 12 possible main line leaks and 24 manholes as public I/I sources. The mainline defect on segment MH0792:MH0790 near Briarwood Dr. was repaired by Malvern WW before dye testing occurred. A total of 11 mainline defects were dye tested. Private I/I sources included 140 defective cleanouts and 91 building laterals. Private building laterals are defined as any potential building lateral leak off the main sewer line. These sources are represented in the pie chart on page 2-7 and a summary is given in Table 2.3. Map Exhibit B shows the locations of defects found during smoke testing. A report listing the findings of the smoke testing program is given in Appendix C.



*Lateral Defect
(Basin 5A) MH0199:MH0197*

Table 2.3 Smoke Test Data	
Type of Source	Quantity
Public Sector	
Manhole	24
Mainline	<u>12</u>
Subtotal	36
Private Sector	
Private Lateral	91
Private Cleanout	140
Foundation Drain	1
Subtotal	<u>232</u>
Total	268



Dye Testing

Public sector dyed water flooding is used to identify and quantify public sector inflow sources more accurately. For this project, testing consisted of 16 segments identified during smoke testing; resulting in 13 positive tests (11 mainline, 1 lateral, and 1 manhole).

During smoke testing, a storm ditch defect was identified on segment (Basin 5) MH0100:MH0094. This defect resulted in 0.181 mgd which was the largest contributor of inflow identified during dye testing. Other positive dye tests include a catch basin on segment (Basin 5A) MH0729:MH0727 and a potential mainline on segment (Basin 5A) MH0204:MH0194, both allowing a significant amount of inflow. The locations of the 16 dye tests are



Dye – Positive
(Basin 5) MH0100:MH0094

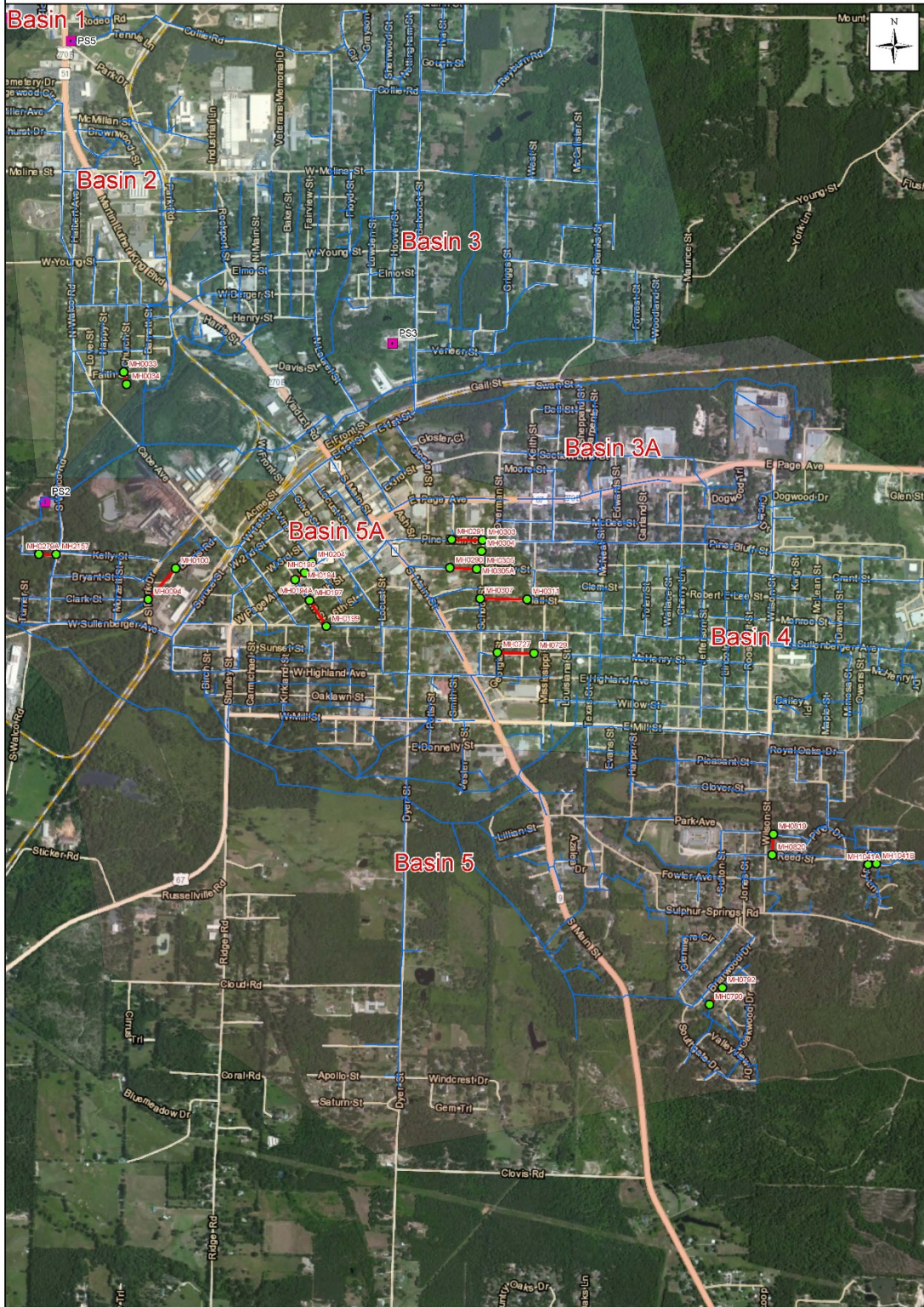


Dye – Positive
(Basin 5A) MH0729:MH0727

shown in Figure 2.2 and dye test data can be found in appendix D. Dye testing identified a total of 0.419 mgd of inflow; addressing these defects should make an immediate impact to the system.

Table 2.4 Dyed Water Flooding			
USMH	DSMH	Defect Type	Result
MH0034	MH0033	Mainline/Storm Ditch	Positive
MH0100	MH0094	Mainline/Storm Ditch	Positive
MH0279A	MH2157	N/A	Negative
MH0819	MH0820	N/A	Negative
MH1041B	MH1041A	Manhole	Positive
MH0194A	MH0195	Mainline	Positive
MH0199	MH0197	Mainline/Storm Ditch	Positive
MH0204	MH0194	Mainline	Positive
MH0303	MH0291	Mainline/Catch Basin	Positive
MH0303	MH0291	Mainline/Catch Basin	Positive
MH0304	MH0305	Lateral	Positive
MH0305	MH305A	Mainline/Storm Ditch	Positive
MH0305A	MH0290	N/A	Negative
MH0305A	MH0290	Mainline	Positive
MH0311	MH0307	Mainline	Positive
MH0729	MH0727	Mainline/Catch Basin	Positive

Malvern, AR



● Dye Test Manhole
— Dye Test Segment
— Gravity Main
■ Pump Station

Figure 2.2
Dye Testing Locations

TELEVISION INSPECTION

A total of 21,942 was successfully televised and coded in PACP by AIMS, then submitted to RJN for review. Due to defects or obstacles such as heavy roots, grease, broken, or collapsed pipe not all segments were completely surveyed; however, most segments were inspected enough to make a recommendation. All information regarding televised line segments are in the PACP database attached with this report. A total of 13 segments have voids visible; making the pipe susceptible to collapse and high I/I. A summary of these segments is given in Table 2.5 and shown in Figure 2.3. Two of the segments, MH0034:MH0033 and MH0173:MH2159, are shown in the photos below, and are recommended for immediate repair.



Pipe with hole

(Basin 2) MH0034:MH0033

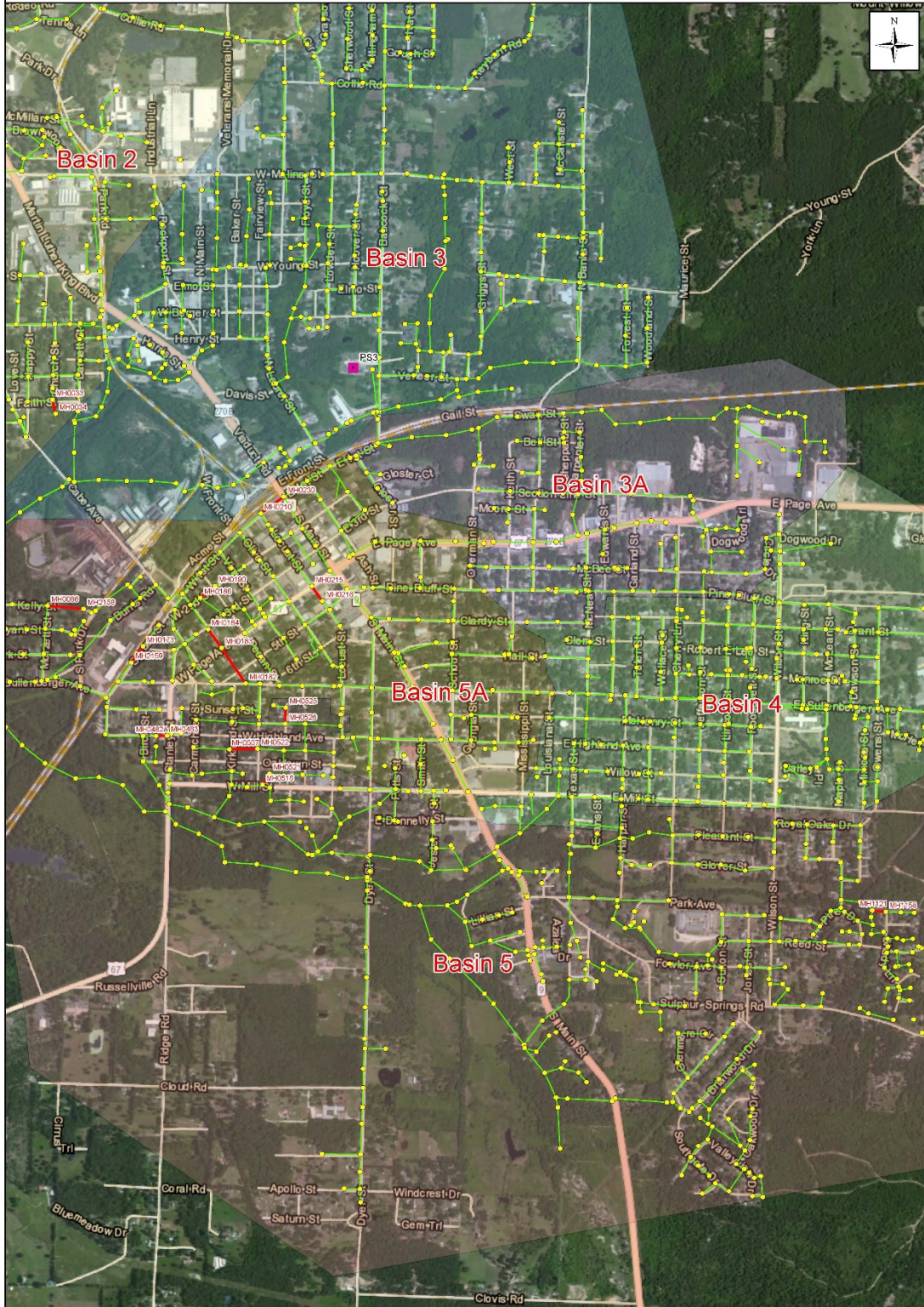


Pipe with hole

(Basin 5) MH0173:MH2159

Table 2.5 Segments with Voids Visible				
USMH	DSMH	Observation	Diameter (in)	Linear Feet (LF)
MH0034	MH0033	Hole	6	186
MH0173	MH2159	Hole	6	259
MH0182	MH0183	Hole	8	564
MH0183	MH0184	Hole	8	302
MH0190	MH0186	Hole	8	249
MH0215	MH0216	Hole	8	237
MH0230	MH0210	Hole	8	375
MH0483	MH0482A	Hole	6	142
MH0507	MH0522	Hole	6	369
MH0521	MH0518	Hole	6	175
MH0525	MH0526	Hole	6	215
MH1158	MH1121	Hole	6	183
MH2158	MH0086	Hole	12	477
Total				3,733

Malvern, AR



CHAPTER 3 – I/I SOURCE ANALYSIS

DETERMINATION OF INFLOW

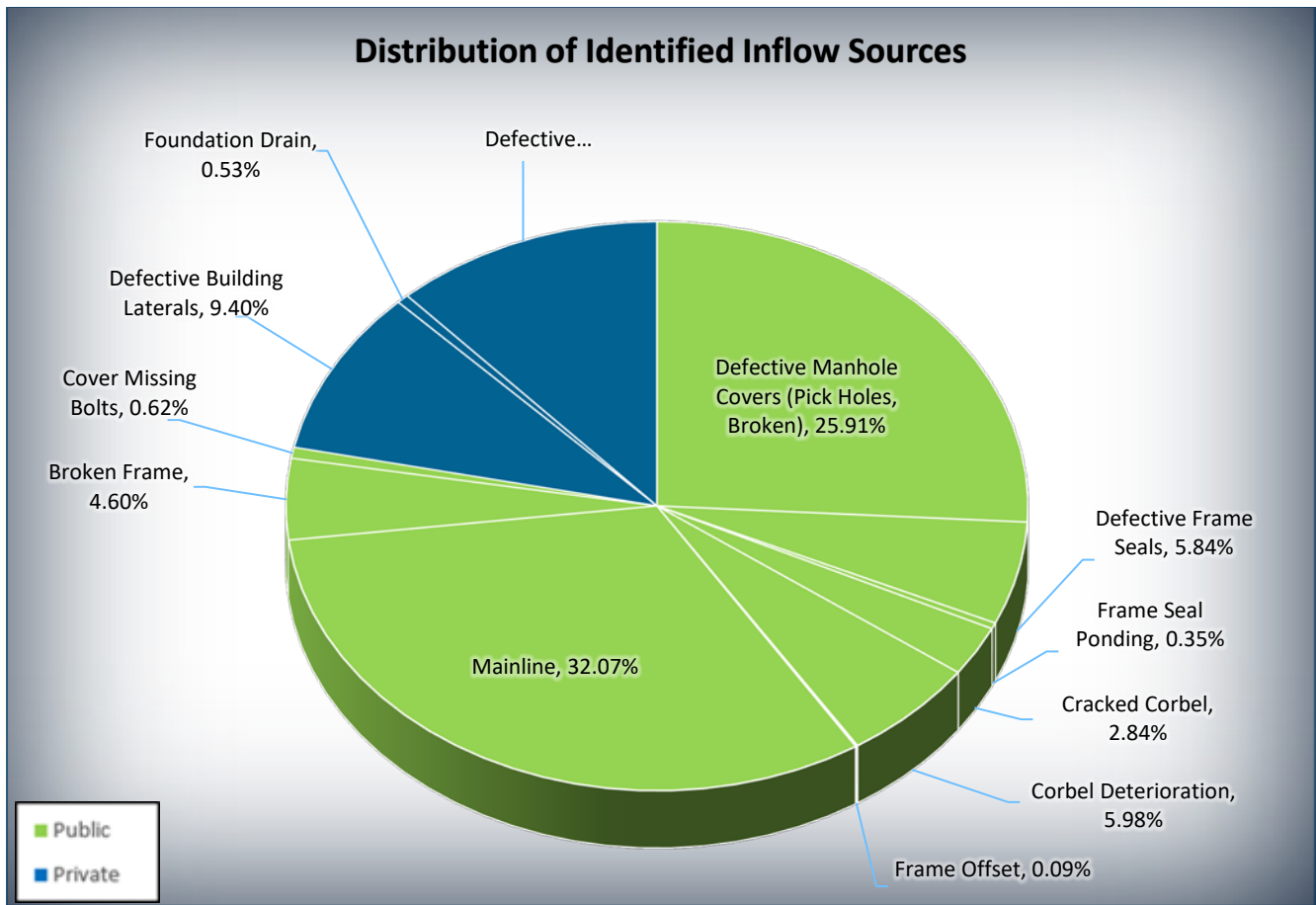
Inflow in a sanitary sewer system is defined as extraneous flow that is a direct result of storm water runoff. Inflow may enter the sanitary sewer system through directly connected downspouts, area drains, cleanouts, and building sewers. Inflow may also enter the system through direct or indirect connections between the sanitary sewers and storm drains or ditches, sewer line defects, and through defective manhole covers, frame seals, and corbels.

INFLOW SOURCE QUANTIFICATION

All inflow sources identified during manhole inspections and rainfall simulation were evaluated and quantified. Quantification of individual sources was based on a 1-year/60-minute storm and calculated using the orifice equation and rational formula. Both methods account for drainage area, slope, and surcharge type to produce an inflow rate. A summary of inflow identified by source type is given in Table 3.1 and shown graphically on page 3-3.

The total quantified inflow from all sources identified through field investigation was estimated to be approximately 1.642 mgd during a 1-year/60-minute design storm. The largest contributor of inflow to the sanitary collection system are mainline defects. Thirty two percent (32%) of inflow in the study area is attributed to this source type.

Table 3.1 Distribution of Identified Inflow Sources			
Source	Quantity	1-Year/60-Minute Projected Inflow (gpd)	Percent of Total Inflow
Public Sector Inflow			
Defective Manhole Covers (Pick Holes, Broken)	658	425,396	25.9%
Defective Frame Seals	112	95,947	5.8%
Frame Seal Ponding	2	5,760	0.4%
Cracked Corbel	145	46,656	2.8%
Corbel Deterioration	452	98,136	6.0%
Frame Offset	1	1,440	0.1%
Mainline	12	526,536	32.1%
Broken Frame	35	75,600	4.6%
Cover Missing Bolts	<u>5</u>	<u>10,224</u>	<u>0.6%</u>
Subtotal	1,422	1,285,695	78.3%
Private Sector Inflow			
Defective Building Laterals	91	154,384	9.4%
Foundation Drain	1	8,640	0.5%
Defective Service Cleanouts	<u>140</u>	<u>193,194</u>	<u>11.8%</u>
Subtotal	<u>232</u>	<u>356,218</u>	<u>21.7%</u>
Total	1,654	1,641,913	100.0%



DETERMINATION OF INFILTRATION

Infiltration in a sanitary sewer system is defined as extraneous flow that enters the system through pipe joints, sewer line defects (including main sewer lines and building sewer lines), and defective manhole walls, benches, and pipe seals. Two types of infiltration can be determined during a study, permanent infiltration and peak infiltration. Permanent infiltration is defined as extraneous flow that enters the system through the ground during periods of dry weather and low groundwater. Peak infiltration is defined as the maximum extraneous flow that enters the sewer system during high groundwater conditions after inflow effects of a rain event have ended.

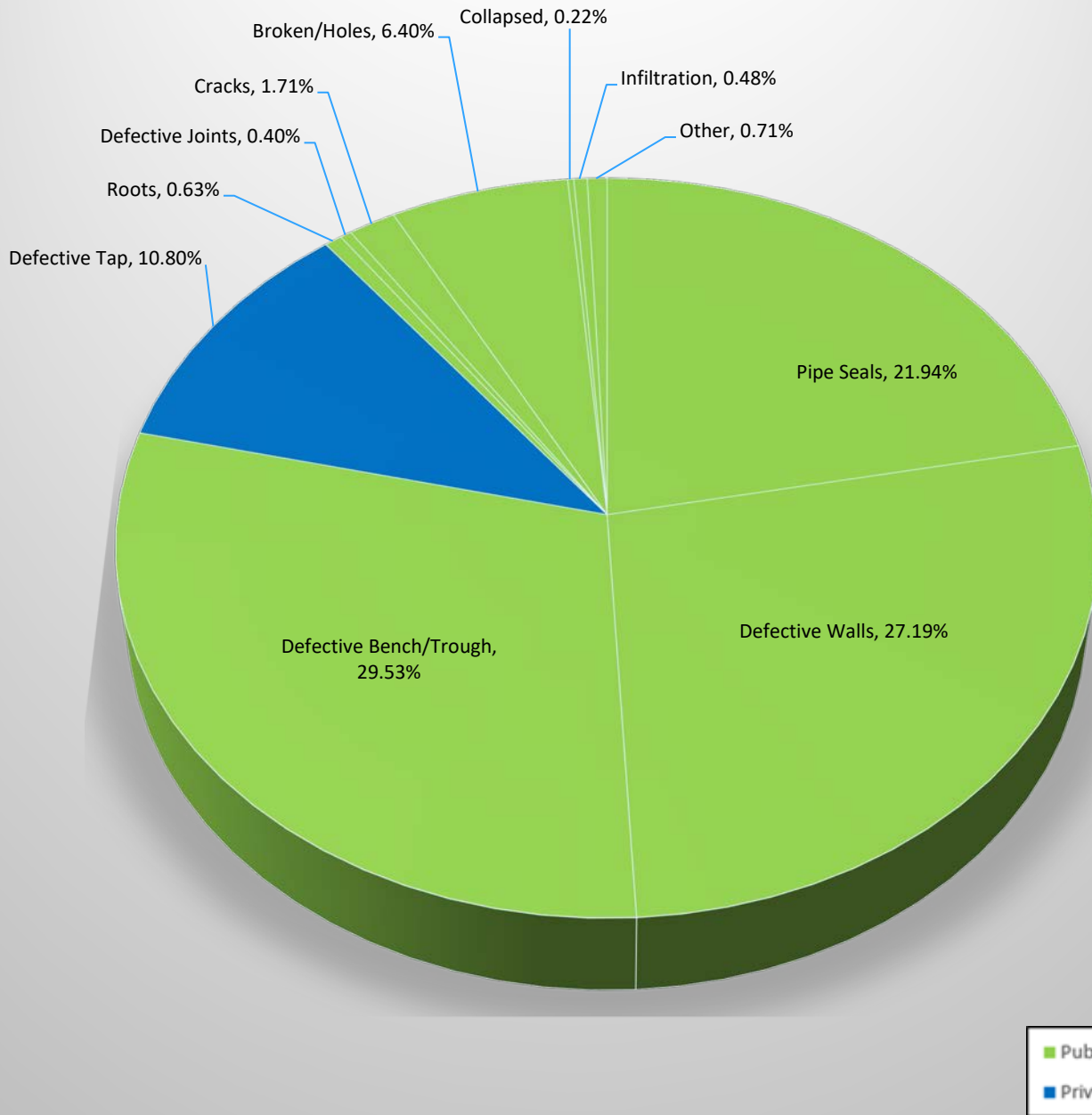
Analysis of wastewater infiltration were based on I/I source data from field investigations, specifically manhole and visual pipe inspection, rainfall simulation, and internal television inspection of sewer lines.

INFILTRATION SOURCE QUANTIFICATION

Each of the infiltration sources identified during field investigations was evaluated and quantified in reference to the corresponding sub-basin and line segment. The infiltration rate was estimated based on the severity of the defect. A potential infiltration rate was estimated for each manhole and pipe defect that was observed but not actively leaking. The sum of all observed infiltration sources is referred to as total identified infiltration. Total identified infiltration was calculated to be 0.573 mgd. The total identified infiltration is summarized by source type in Table 3.2 and shown graphically on page 3-5.

Table 3.2 Distribution of Identified Infiltration Sources			
Source	Quantity	Estimated Infiltration Rate (gpd)	Percent of Total Infiltration
Manhole Defects			
Pipe Seals	377	125,654	21.94%
Defective Walls	523	155,751	27.19%
Defective Bench/Trough	<u>345</u>	<u>169,127</u>	<u>29.53%</u>
Subtotal	900	450,532	78.66%
Pipeline Defects			
Defective Tap	249	61,852	10.80%
Roots	148	3,610	0.63%
Defective Joints	17	2,318	0.40%
Cracks	48	9,770	1.71%
Broken/Holes	43	36,680	6.40%
Collapsed	1	1,242	0.22%
Infiltration	5	2,732	0.48%
Other	<u>23</u>	<u>4,057</u>	<u>0.71%</u>
Subtotal	<u>511</u>	<u>122,261</u>	<u>21.34%</u>
Total	905	572,793	100.00%

Distribution of Identified Infiltration Sources



CHAPTER 4 – RECOMMENDED REHABILITATION

RECOMMENDED MANHOLE REHABILITATION

Manhole I/I defects identified during field investigation were analyzed together to obtain recommendations for rehabilitation. Recommendations were based upon total I/I allowed and associated cost per repair. Of the 1,160 manholes studied, a total of 1,018 manholes are recommended for rehabilitation. RJN is recommending the immediate rehabilitation of 273 manholes due to cost effectiveness. These 273 manholes are divided into a Priority 1 and Priority 2 list. The Priority 1 list consists of manholes with a “Repair Cost to I/I Removed Ratio” less than or equal to 1.179 (\$/gpd removed). This list consists of 115 manholes and is included in Appendix E, along with a summary in Table 4.1. The remaining 158 manholes have a repair cost to I/I removed ratio greater than 1.179 but less than 1.719 and are included in Appendix F. Priority 1 manholes requiring rehabilitation are shown in Map Exhibit C. All 1,018 manholes recommended for rehabilitation are provided with this report.

Table 4.1
Recommended Manhole Rehabilitation – Priority 1

Rehabilitation Description	Number of Manholes	Estimated Inflow (gpd)	Estimated Infiltration (gpd)	Construction Cost (\$)
Cementitious Coating	2	216	720	\$858
Cementitious Coating and Grout Pipe Seals	5	2,592	8,899	\$8,330
Cementitious Coating and Install Bolts/Gasket for Bolted Cover	1	2,448	288	\$1,028
Cementitious Coating and Replace Cover/Frame/Frame Seal	3	26,245	1,570	\$8,100
Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	5	7,200	7,747	\$9,482
Complete Manhole Rehab w/ New Frame and Cover	2	4,608	720	\$5,730
Complete Manhole Rehab w/ New Cover	15	58,323	12,208	\$29,343
Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	3	11,628	3,053	\$10,413
Complete Manhole Rehab w/o New Frame and Cover	1	216	2,088	\$1,563
Complete Manhole Rehab, Internal Chimney Seal w/o New Frame and Cover	1	864	893	\$1,966
Complete Manhole Rehab, Internal Chimney Seal, and New Cover	3	4,104	1,324	\$5,942
Grout Lower 18" of Manhole and Repair Bench/Trough	4	^{1/}	9,302	\$4,000
Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	19	133,217	21,411	\$61,300
Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	1	864	2,880	\$1,700
Grout Walls/Joints	3	^{1/}	951	\$993
Install Bolts/Gasket for Bolted Cover	3	5,904	^{1/}	\$300
Repair Bench/Trough	2	^{1/}	1,094	\$1,000
Repair Corbel	1	2,880	^{1/}	\$500
Repair Corbel, and Replace Cover/Frame/Frame Seal	1	1,872	^{1/}	\$1,950
Replace Bench/Trough	1	^{1/}	21,600	\$1,000
Replace Bench/Trough and Replace Cover	3	2,592	1,987	\$3,450
Replace Bench/Trough, Install External Chimney Seal, and Replace Bolts	1	3,024	576	\$1,600
Replace Cover/Frame/Frame Seal	19	20,376	25,603	\$21,950
Replace Cover/Frame/Frame Seal and Adjustment	<u>16</u>	<u>41,544</u>	<u>1,411</u>	<u>\$24,000</u>
Total	115	330,717	126,325	\$206,498

^{1/} Negligible

SEWER REPLACEMENT/REHABILITATION

Television inspection data was evaluated for repair of specific I/I and maintenance defects. I/I defects are determined where smoke is visible along a main line; dyed water flooding confirms the defect. Maintenance defects justify repair or replacement based on their potential to cause future maintenance problems in the sewer system. Maintenance defects include sections of broken or cracked pipe and sections of pipe with sags, root intrusion, or other defects. The maintenance defects may not be large sources of I/I and would not be recommended for repair based on I/I removal alone, but they are recommended for repair to improve system reliability. The television inspection data was evaluated to determine if a sewer segment should be completely rehabilitated or if a point repair should be made. Other considerations used were existing or known problematic areas, diameter of the line, and recommendations for adjacent line segments.

A total of 21,942 linear feet of sewer was televised and coded in PACP by AIMS and reviewed by RJN. A summary of the line segments reviewed can be found in the PACP database.

Based on the review of television inspection, point repairs are recommended for approximately 860 linear feet and complete rehabilitation/replacement is recommended for 45-line segments (13,088 linear feet). One segment (MH0564:MH0565) is recommended for additional cleaning (31 linear feet). The mainline defect on segment MH0100:MH0094 was observed after CCTV lists were finalized but is recommended for CCTV inspection and review so that a repair method can be properly assigned to address the mainline defect. Table 4.2 summarizes the recommended point repairs and lines for complete rehabilitation. The PACP database and Appendices G and H list the lines televised, point repairs, and lines requiring complete rehabilitation. Preliminary construction recommendations for complete line rehabilitation have been made based on television review. Based on the desired construction method of cured-in-place pipe (CIPP) by Malvern WW, RJN utilized CIPP as the primary method wherever possible. Pipe bursting and open cut were also recommended when CIPP was not a viable option. CIPP for six-inch (6”) lines is problematic and could require several point repairs prior to lining. This was considered when making the preliminary construction recommendations and where lining a six-inch (6”) line would cause capacity issues due to liner thickness. Lines requiring rehabilitation are shown on Map Exhibit D.

It should be emphasized that the rehabilitation of the line segments will improve transport performance and system reliability, in addition to the assistance of reducing overflows by reducing I/I.

Table 4.2
Summary of Lines Recommended for Rehabilitation

	CIPP		Pipe Bursting		Open Cut		Point Repair		Estimated Construction Cost
	Number of Lines	Length (LF)	Number of Lines	Length (LF)	Number of Lines	Length (LF)	Number of Lines	Length (LF)	
Total	11	3,205	21	5,529	12	4,323	33	860	\$2,063,896

SERVICE LINE RECOMMENDATIONS

Inflow into the wastewater collection system comprised the largest component of extraneous flow during wet-weather periods. A total of 231 service line sources identified during the field survey investigations are recommended for removal. The elimination of these sources will provide the greatest I/I reduction in the most cost-effective manner. The indicated sources consist of only private sector sources that will be eliminated through

rehabilitation. This will remove 0.348 mgd of 1 year/60-minute inflow at an estimated construction cost of \$314,000. A summary of recommended inflow removal is given in Table 4.3 and a detailed report is included in Appendix I.

Table 4.3 Summary of Recommended Inflow Removal from Service Line Sources			
Source	Quantity	1-Year/60 Minute Projected Peak Inflow (gpd)	Estimated Construction Cost (\$)
Private Sector Inflow			
Cleanout	140	193,194	\$41,000
Sewer Service Defects	<u>91</u>	<u>154,384</u>	<u>\$273,000</u>
Total	231	347,578	\$314,000

CHAPTER 5 – SUMMARY OF RECOMMENDED PLAN

The recommended rehabilitation plan consists of work to be performed in the public and private sector of the collection system. The plan includes inflow repairs, infiltration repairs, sewer line replacement/rehabilitation, and maintenance repairs. The cost to perform the recommended plan is given in capital cost, which includes construction cost plus a twenty-percent (20%) contingency and 10-percent (10%) engineering costs. Cost for right-of-way is not included since the line work is rehabilitation. Costs in this report are in 2019 dollars. Any inflation that occurs between the submission of this report and start of construction is not accounted for. The recommended plan is discussed in the following sections.

RECOMMENDED MANHOLE REHABILITATION

The recommended manhole rehabilitation plan for manholes includes the rehabilitation of 237 manholes contributing approximately 0.471 mgd of inflow and 0.194 mgd of infiltration. The estimated capital cost would be approximately \$0.663 million. This will eliminate a substantial amount of I/I at a low cost. The sources of inflow and infiltration recommended for removal are presented in Appendices I and J. A summary of the recommended plan for inflow and infiltration removal is given in Table 5.1.

Table 5.1
Summary of Recommended Manhole Rehabilitation Plan

Rehabilitation Description	Number of Manholes	Estimated Inflow (gpd)	Estimated Infiltration (gpd)	Estimated Capital Cost ^{2/} (\$)
Cementitious Coating	4	720	1,728	\$3,805
Cementitious Coating and Grout Pipe Seals	17	8,784	14,931	\$35,177
Cementitious Coating and Install Bolts/Gasket for Bolted Cover	1	2,448	288	\$1,336
Cementitious Coating and Replace Cover/Frame/Frame Seal	3	26,245	1,570	\$10,530
Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	9	9,936	9,388	\$20,938
Complete Manhole Rehab w/ New Frame and Cover	11	15,408	6,120	\$41,012
Complete Manhole Rehab and External Chimney Seal w/o New Frame and Cover	3	2,880	1,195	\$7,801
Complete Manhole Rehab w/ New Cover	48	81,435	27,435	\$110,050
Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	10	24,012	5,903	\$42,023
Complete Manhole Rehab w/o New Frame and Cover	4	504	4,853	\$8,542
Complete Manhole Rehab, Internal Chimney Seal w/o New Frame and Cover	2	1,944	1,440	\$5,844
Complete Manhole Rehab, Internal Chimney Seal, and New Cover	6	8,208	2,101	\$16,305
Grout Lower 18" of Manhole and Repair Bench/Trough	5	^{1/}	9,907	\$6,500

Table 5.1
Summary of Recommended Manhole Rehabilitation Plan

Rehabilitation Description	Number of Manholes	Estimated Inflow (gpd)	Estimated Infiltration (gpd)	Estimated Capital Cost ^{2/} (\$)
Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	42	164,897	39,626	\$176,020
Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	8	7,200	4,896	\$18,070
Grout Walls/Joints	6	^{1/}	1,902	\$2,935
Install Bolts/Gasket for Bolted Cover	3	5,904	^{1/}	\$390
Repair Bench/Trough	3	^{1/}	1,454	\$1,950
Repair Corbel	1	2,880	^{1/}	\$650
Repair Corbel and Replace Bench/Trough	3	864	2,520	\$5,850
Repair Corbel, and Replace Cover/Frame/Frame Seal	6	8,856	259	\$15,210
Replace Bench/Trough	2	^{1/}	22,248	\$2,600
Replace Bench/Trough and Replace Cover	3	2,592	1,987	\$4,485
Replace Bench/Trough and Replace Cover/Frame/Frame Seal and Adjustment	1	1,584	259	\$3,250
Replace Bench/Trough, Install External Chimney Seal, and Replace Bolts	1	3,024	576	\$2,080
Replace Bench/Trough, Install Internal Chimney Seal, and Repair Corbel	2	2,160	576	\$4,680
Replace Cover/Frame/Frame Seal	52	46,296	29,015	\$81,380
Replace Cover/Frame/Frame Seal and Adjustment	<u>17</u>	<u>42,696</u>	<u>1,411</u>	<u>\$33,150</u>
Total	273	471,477	193,588	\$662,563

^{1/} Negligible

^{2/} Includes estimated construction cost plus a thirty-percent (30%) engineering service and contingency fee.

RECOMMENDED LINE REHABILITATION

Sewer line rehabilitation is recommended for 45-line segment totaling 13,088 LF and sewer line point repairs are 860 LF. A detailed discussion of the recommended plan for sewer line repair is included in Chapter 4. A summary of the plan is given in Table 5.2.

Table 5.2
Summary of Recommended Sewer Rehabilitation^{1/}

Item	Estimated Capital Cost ^{2/} (\$)
Point Repairs	\$614,900
Complete Rehabilitation	<u>\$2,068,164</u>
Total	\$2,683,064

^{1/} Lines recommended for complete rehabilitation to correct structural or maintenance defects and are not directly related to any sanitary sewer overflows.

^{2/} Includes estimated construction cost plus a 30 percent engineering service and contingency fee.

SERVICE LINE RECOMMENDATIONS

The recommended plan for inflow removal includes the repair of all identified sources discovered through field procedures. There are 231 identified private sector sources contributing 0.348 mgd of 1-year/60-minute inflow. The capital cost to remove these private sector sources is approximately \$408,200.

The projected inflow reduction assumes that comprehensive rehabilitation repairs will be completed for the identified I/I sources and that the repairs will effectively eliminate I/I from those identified sources. A table of the inflow sources recommended for repair is given in Appendix I.

SUMMARY OF RECOMMENDED PLAN

The recommended plan includes repairing 231 service line inflow sources, rehabilitation of 273 manholes, 45 sewer line, and point repairs for 860 LF. Approximately 0.317 mgd of infiltration will be eliminated by implementing the recommended plan. The peak 1-year inflow in the basins is projected to be reduced by 0.819 mgd after rehabilitation of the recommended inflow sources. Overall, a total of 1.136 mgd of I/I is projected to be removed from the system by following the recommended plan.

The total capital cost to implement the recommended plan is approximately \$3.754 million. The total capital cost consists of approximately \$0.408 million for inflow removal in the private sector, \$0.663 million for manhole rehabilitation, and \$2.683 million for main sewer rehabilitation. A summary of the recommended plan is given in Table 5.3.

Item	I/I Reduction		Estimated Capital Cost ² (mgd/\$Million)	Estimated Capital Cost ^{2/} (\$Million)
	Inflow ^{1/} (mgd)	Infiltration (mgd)		
Manhole Rehabilitation				
Manhole Rehabilitation	0.471	0.194	1.003	\$0.663
Sewer Line Rehabilitation				
Point Repairs	0.000	0.027	0.044	\$0.615
Complete Rehabilitation	<u>0.000</u>	<u>0.096</u>	<u>0.046</u>	<u>\$2.068</u>
Subtotal	0.000	0.123	0.090	\$2.683
Service Line Rehabilitation				
Private Sector	<u>0.348</u>	<u>0.000</u>	<u>0.853</u>	<u>\$0.408</u>
Total	0.819	0.317	0.251	\$3.754

1/ Based on projected 1-year/60-minute inflow.

2/ Includes estimated construction cost plus a thirty-percent (30%) engineering service and contingency fee.

APPENDIX A

MANHOLE INSPECTION REPORT

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(2)MH0002	920	WALCO RD	Grass Esmt	46	6.0	No	Concealed	Brick	Cracked	Yes	1,296	288
(2)MH0003	404	S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0004	224	S WALCO RD	Center Street	48	12.1	No	Concealed	Rehab	Deteriorated	No	547	216
(2)MH0005	209	S WALCO RD	Center Street	48	11.0	No	Pick	Brick	Deteriorated	No	547	504
(2)MH0006	126	S WALCO RD	Center Street	48	10.1	No	Concealed	Brick	Roots	No	936	216
(2)MH0007	104	S WALCO RD	Center Street	48	9.8	No	Concealed	Rehab	Deteriorated	Yes	547	216
(2)MH0008	1324	HOPE ST	Center Street	48	6.8	No	Pick	Rehab	Deteriorated	Yes	547	504
(2)MH0009	223	N WALCO RD	Center Street	48	5.6	No	Concealed	None	N/A	Yes	288	1,080
(2)MH0010	402	N WALCO RD	Center Street	48	5.4	No	Pick	None	N/A	Yes	547	504
(2)MH0011	502	N WALCO RD	Center Street	48	5.4	No	Concealed	None	N/A	Yes	259	216
(2)MH0012	519	N WALCO RD	Center Street	48	6.2	No	Concealed	None	N/A	Yes	547	216
(2)MH0013	1206	W YOUNG ST	Center Street	48	7.2	No	Pick	Brick	Deteriorated	No	259	288
(2)MH0014	420	HAPPY ST	Center Street	48	6.0	No	Concealed	Rehab	Deteriorated	No	547	216
(2)MH0015	1311	BERGER ST	Center Street	48	5.3	No	Pick	Rehab	Sound	No	259	504
(2)MH0016	317	HAPPY ST	Center Street	46	3.2	No	Pick	Rehab	Cracked	No	360	504
(2)MH0017	227	HOPE ST	Center Street	47	5.7	No	Pick	Rehab	Sound	Yes	288	576
(2)MH0018	103	HAPPY ST	Center Street	46	3.3	No	Pick	Rehab	Sound	No		1,440
(2)MH0019	119	HAPPY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0020	236	CABE AVE	Center Street	46	4.3	No	Pick	Rehab	Deteriorated	No	259	576
(2)MH0021	223	CABE AVE	Center Street	44	7.1	No	Pick	Rehab	Cracked	No	648	288

Manhole Inspection Report

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(2)MH0022	203	CABE AVE	Center Street	48	3.3	No	Pick	Precast	Sound	Yes		288
(2)MH0023	128	CABE AVE	Center Street	45	8.6	No	Concealed	Rehab	Cracked	Yes	360	288
(2)MH0024	1324	HOPE ST	Center Street	48	5.4	No	Pick	Rehab	Deteriorated	Yes	259	504
(2)MH0025	526	CHURCH ST	Center Street	48	6.1	No	Pick	Rehab	Roots	No	648	504
(2)MH0026	417	CHURCH ST	Center Street	48	5.9	No	Concealed	Rehab	Sound	No	288	216
(2)MH0027	1210	W BERGER ST	Center Street	48	6.1	No	Pick	Rehab	Deteriorated	No	806	504
(2)MH0028	1136	W BERGER ST	Center Street	40	9.3	No	Pick	Rehab	Deteriorated	No	547	504
(2)MH0029	307	CHURCH ST	Center Street	46	5.4	No	Pick	Rehab	Cracked	Yes	547	576
(2)MH0030	218	CHURCH ST	Center Street	46	5.0	No	Pick	Rehab	Sound	No	288	576
(2)MH0031	1125	HOPE ST	Center Street	46	5.6	No	Pick	Rehab	Sound	No	288	576
(2)MH0032	122	CHURCH ST	Center Street	46	3.6	No	Concealed	Rehab	Cracked	No	360	216
(2)MH0033	1126	FAITH ST	Center Street	46	3.8	No	Pick	Rehab	Deteriorated	No	259	504
(2)MH0034	1101	FAITH ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0035	101	BARNETT ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0036	1027	HOPE ST	Center Street	46	8.2	No	Pick	Brick	Sound	Yes	288	576
(2)MH0038	227	BARNETT ST	Center Street	46	7.5	No	Pick	Rehab	Cracked	Yes	648	576
(2)MH0038A	227	BARNETT ST	Center Street	48	7.2	No	Pick	Poured	Sound	Yes		288
(2)MH0040	1125	HENRY ST	Center Street	47	5.4	No	Pick	Rehab	Cracked	No	360	576
(2)MH0041	1119	W BERGER ST	Center Street	48	5.6	No	Pick	Rehab	Deteriorated	No	547	504
(2)MH0041A	1125	HENRY ST	Center Street	46	5.6	No	Pick	Poured	Sound	Yes		288

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(2)MH0042	1012	HENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0042A	1036	BERGER ST	Grass Esmt	48	5.7	No	Pick	Poured	Sound	Yes		720
(2)MH0043	1320	N PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0043A	1320	N PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0045	425	N BARNETT ST	Grass Esmt	48	4.0	No	Pick	Rehab	Sound	No		504
(2)MH0046	608	N PARK DR	Center Street	48	6.6	No	Concealed	Poured	Sound	No		
(2)MH0047	571	W MARTIN LUTHER KIN	Center Street	40	6.9	No	Concealed	Brick	Deteriorated	No	547	216
(2)MH0048	1320	N PARK DR	Center Street	48	8.6	No	Concealed	Poured	Deteriorated	Yes	259	
(2)MH0050	1125	HENRY ST	Center Street	47	6.0	No	Pick	Rehab	Cracked	Yes	648	576
(2)MH0051	1125	HENRY ST	Grass Esmt	46	4.9	No	Pick	Poured	Sound	Yes		288
(2)MH0054	1107	CHARITY ST	Center Street	47	5.0	No	Pick	Rehab	Cracked	No	360	1,008
(2)MH0579	1339	MARTIN LUTHER KING B	Center Street	48	8.2	No	Pick	Precast	Sound	Yes		288
(2)MH0580	0	PAVILLION RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0581	1225	BROWNWOOD ST	Grass Esmt	48	2.6	No	Pick	Brick	Deteriorated	No	518	288
(2)MH0582	1235	BROWNWOOD ST	Grass Esmt	48	3.3	No	Pick	Brick	Deteriorated	No	518	288
(2)MH0582A	1220	BROWNWOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0583	1517	EDGEWOOD ST	Center Street	48	8.3	No	Pick	Rehab	Sound	Yes		288
(2)MH0584	1503	PINEHURST DR	Grass Esmt	48	7.4	No	Pick	Rehab	Sound	Yes		288
(2)MH0585	1503	PINEHURST DR	Center Street	48	6.1	No	Concealed	None	N/A	No		
(2)MH0589	846	W MOLINE ST	Center Street	48	9.3	No	Pick	Rehab	Deteriorated	No	259	504

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(2)MH0590	846 W MOLINE ST	Center Street	48	4.8	No	Pick	Rehab	Sound	No	2,880	504
(2)MH0591	829 HALBERT ST	Center Street	48	4.9	No	Pick	Rehab	Sound	No		288
(2)MH0591A	829 HALBERT ST	Center Street	48	6.9	No	Pick	Poured	Sound	No	288	288
(2)MH0591B	902 MARTIN LUTHER KING B	Grass Esmt	48	5.5	Yes	Concealed	Poured	Sound	Yes		
(2)MH0594	720 N WALCO RD	Center Street	32	11.9	No	Pick	Rehab	Deteriorated	No	547	504
(2)MH0595	720 N WALCO RD	Center Street	48	5.2	No	Pick	None	N/A	No	288	504
(2)MH0595A	711 N WALCO RD	Center Street	48	5.5	No	Concealed	N/A	N/A	No	259	
(2)MH0596	709 HALBERT ST	Center Street	46	2.8	No	Pick	Brick	Deteriorated	No	259	288
(2)MH0597	709 HALBERT ST	Center Street	48	5.4	No	Pick	Brick	Deteriorated	No	518	1,368
(2)MH0598	711 N WALCO RD	Center Street	48	4.7	No	Pick	None	N/A	No	259	504
(2)MH0599	622 HALBERT ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0600	1211 BROWNWOOD ST	Grass Esmt	48	4.8	Yes	Pick	Poured	Deteriorated	No	547	27,749
(2)MH0601	1209 BROWNWOOD ST	Grass Esmt	48	6.8	No	Pick	Poured	Sound	Yes	288	1,152
(2)MH0603	1224 BROWNWOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0603A	1241 BROWNWOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0604	339 MARTIN LUTHER KING B	Grass Esmt	48	6.5	No	Pick	Rehab	Sound	Yes	288	2,880
(2)MH0605	579 COLLIE RD	Grass Esmt	48	6.0	No	Pick	Precast	Leaking Joints	No	605	288
(2)MH0606	579 COLLIE RD	Grass Esmt	48	7.5	No	Concealed	Poured	Sound	No	288	
(2)MH0607	830 COLLIE RD	Grass Esmt	48	8.7	No	Concealed	Poured	Deteriorated	No	259	
(2)MH0608	1212 MCMILLAN ST	Grass Esmt	48	5.2	No	Pick	Rehab	Deteriorated	No	259	936

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(2)MH0608A	1212 MCMILLAN ST	Grass Esmt	48	5.6	No	Pick	Rehab	Deteriorated	No	259	936
(2)MH0610	1239 BROWNWOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0611	1247 BROWNWOOD ST	Grass Esmt	48	5.5	Yes	Pick	Brick	Deteriorated	Yes	259	19,837
(2)MH0612	1119 W MOLINE ST	Center Street	48	6.7	No	Pick	Brick	Deteriorated	No	259	504
(2)MH0613	714 N PARK DR	Center Street	40	11.8	No	Pick	Brick	Deteriorated	No	259	504
(2)MH0614	805 N PARK DR	Center Street	48	8.0	No	Pick	Brick	Deteriorated	No	547	504
(2)MH0615	608 N PARK DR	Center Street	48	6.2	No	Pick	Brick	Deteriorated	No	259	504
(2)MH0616	933 MCKINNEY ST	Center Street	48	5.8	No	Pick	Brick	Deteriorated	No	518	504
(2)MH0618	936 MCKINNEY ST	Center Street	48	9.0	Yes	Pick	Brick	Roots	No	936	21,061
(2)MH0621	824 ROCKPORT ST	Grass Esmt	48	5.4	No	Pick	None	N/A	No	288	576
(2)MH0621A	831 ROCKPORT ST	Grass Esmt	48	5.9	No	Pick	Rehab	Roots	Yes	360	576
(2)MH0622	803 COLLIE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0623	308 COLLIE RD	Grass Esmt	48	7.3	No	Concealed	Poured	Sound	No		
(2)MH0624	830 COLLIE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0625	1430 DIVISION ST	Grass Esmt	48	5.6	No	Concealed	Poured	Sound	No	288	
(2)MH0632	611 COLLIE RD	Center Street	48	7.6	No	Pick	Poured	Deteriorated	No	259	288
(2)MH0632A	611 COLLIE RD	Center Street	48	6.6	No	Pick	Poured	Sound	No	360	288
(2)MH0633	502 DIVISION ST	Center Street	48	5.5	No	Concealed	Poured	Sound	No		
(2)MH0677	1632 EDGEWOOD DR	Center Street	42	3.1	No	Pick	None	N/A	No	259	288
(2)MH0678	1523 MILLER AVE	Center Street	42	3.5	No	Pick	None	N/A	No	288	288

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(2)MH0679	1517 PINEHURST DR	Center Street	48	3.4	No	Concealed	Rehab	Deteriorated	No	518	
(2)MH0680	1512 PINEHURST DR	Center Street	48	4.0	No	Pick	None	N/A	No	21,600	504
(2)MH0682	1624 EDGEWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0682A	1526 MILLER AVE	Center Street	48	6.4	No	Pick	Rehab	Sound	No		504
(2)MH0683	1604 EDGEWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0684	1505 EDGEWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0684A	1502 EDGEWOOD ST	Center Street	48	9.1	No	Pick	Rehab	Sound	No		504
(2)MH0685	1517 EDGEWOOD CIR	Center Street	48	10.1	No	Pick	Brick	Deteriorated	No	259	504
(2)MH0686	1430 MILLER AVE	Center Street	48	9.6	No	Pick	Rehab	Sound	No		504
(2)MH0688	1506 PINEHURST DR	Center Street	46	5.1	No	Concealed	Rehab	Deteriorated	No	547	216
(2)MH0854	707 MARTIN LUTHER KING B	Grass Esmt	48	10.2	No	Concealed	Poured	Sound	No		
(2)MH0972	1243 GRAYSON CIR	Grass Esmt	48	8.0	No	Concealed	Rehab	Sound	No		288
(2)MH0973	1226 GRAYSON CIR	Grass Esmt	48	4.1	No	Concealed	Rehab	Roots	No	936	288
(2)MH0973A	1234 GRAYSON CIR	Grass Esmt	48	7.4	No	Concealed	Rehab	Deteriorated	No	547	
(2)MH0975	1220 GRAYSON CIR	Grass Esmt	48	8.8	No	Concealed	Rehab	Deteriorated	No	835	
(2)MH0976	1235 DIVISION ST	Grass Esmt	48	9.8	No	Concealed	Rehab	Roots	No	648	
(2)MH0976A	1214 GRAYSON CIR	Grass Esmt	48	12.5	No	Concealed	Rehab	Roots	No	360	864
(2)MH0976B	1212 GRAYSON CIR	Grass Esmt	49	6.7	No	Concealed	Rehab	Deteriorated	No	547	
(2)MH0977	1302 COLLIE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0979	1119 W MOLINE ST	Center Street	48	7.8	No	Pick	Brick	Deteriorated	No	259	504

Manhole Inspection Report

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(2)MH0980A	850	W MOLINE ST	Paved Esmt	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH0981	634	MARTIN LUTHER KING B	Grass Esmt	48	12.1	No	Concealed	Poured	Sound	No		
(2)MH1023	1407	MARTIN LUTHER KING B	Grass Esmt	48	10.9	No	Concealed	Poured	Deteriorated	No	547	
(2)MH1024	1302	COLLIE RD	Center Street	48	7.2	No	Concealed	Poured	Sound	No		
(2)MH1142	611	MARTIN LUTHER KING B	Center Street	48	8.5	No	Concealed	Poured	Sound	No		
(2)MH1143	923	W MOLINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH1154	1301	COLLIE RD	Center Street	48	6.7	No	Concealed	Poured	Sound	No		864
(2)MH1155	1301	COLLIE RD	Center Street	48	3.6	No	Concealed	None	N/A	No		
(2)MH2012	1011	N PARK DR	Grass Esmt	48	5.3	No	Concealed	Precast	Roots	Yes	936	288
(2)MH2012A	1011	N PARK DR	Grass Esmt	48	4.5	No	Concealed	Precast	Sound	Yes		
(2)MH2013	1407	MARTIN LUTHER KING B	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH2102	1205	WOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH2102A	1311	W MOLINE ST	Center Street	46	3.0	No	Pick	None	N/A	No	288	504
(2)MH2103	1212	BROWNWOOD ST	Grass Esmt	48	4.8	No	Concealed	Brick	Deteriorated	No	518	
(2)MH2105A	123	W MOLINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH2107	1131	W MOLINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH2108	1229	BROWNWOOD ST	Paved Esmt	48	4.4	No	Pick	Brick	Deteriorated	No	518	288
(2)MH2108A	1218	BROWNWOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH2109	1225	BROWNWOOD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(2)MH2110	1212	MCMILLAN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(2)MH2111	1609	MARTIN LUTHER KING B	Not Found	N/A	N/A	No	N/A	N/A	No		
(2)MH2113	1605	MARTIN LUTHER KING B	Grass Esmt	48	3.5	No	Concealed	Precast	Sound	No	288
(2)MH2114	1302	COLLIE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(2)MH2114A	1625	MARTIN LUTHER KING B	Grass Esmt	48	16.0	No	Bolts Missing	Precast	Sound	No	288 2,880
(2)MH2115	1627	MARTIN LUTHER KING B	Paved Esmt	48	14.5	No	Concealed	Precast	Leaking Step/Lifting Hole	No	317
(2)MH2116	1011	N PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(2)MH2117	1	ONE COLLEGE CIR	Paved Esmt	32	6.0	No	Pick	Brick	Roots	No	936 576
(2)MH2118	1	COLLEGE CIR	Grass Esmt	48	5.2	No	Pick	Precast	Sound	No	1,152
(2)MH2119	1	COLLEGE CIR	Grass Esmt	48	3.3	No	Concealed	Poured	Sound	No	
(2)MH2120	1	COLLEGE CIR	Paved Esmt	48	5.9	No	Concealed	Poured	Sound	No	288
(2)MH2121	1	ONE COLLEGE CIR	Paved Esmt	32	6.0	No	Pick	Brick	Deteriorated	No	259 576
(2)MH2122	1	ONE COLLEGE CIR	Grass Esmt	48	5.8	No	Pick	Brick	Deteriorated	No	547 288
(2)MH2125	508	DIVISION ST	Center Street	48	7.4	No	Concealed	Poured	Sound	No	
(2)MH2200	426	CHURCH ST	Grass Esmt	48	4.7	No	Concealed	Precast	Sound	No	
(2)MH2510	824	ROCKPORT ST	Grass Esmt	48	4.6	No	Pick	None	N/A	No	576

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						

Totals for Basin 2

64,022 118,543

Total Manholes	155
Manholes Inspected	124
Manholes Not Inspected	31
Manholes Buried	5
Manholes Not Found	19
Manholes Inaccessible	7
Location Not Specified	30

Percent:	
Inspected	80.00%
Not Inspected	20.00%
Buried	3.23%
Not Found	12.26%
Inaccessible	4.52%

Evidence of Surcharge	30
Subject to Ponding	4
Subject to Sheeting	106

Surcharge	19.35%
Ponding	2.58%
Sheeting	68.39%

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3)MH0052	1012 HENRY ST	Center Street	46	5.0	No	Concealed	None	N/A	No		288
(3)MH0053	1012 PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0055	103 BARNETT ST	Grass Esmt	46	7.9	No	Pick	Brick	Cracked	Yes	648	1,008
(3)MH0056	103 BARNETT ST	Grass Esmt	47	5.2	No	Pick	Rehab	Roots	Yes	360	1,872
(3)MH0057	107 BARNETT ST	Grass Esmt	46	6.3	No	Pick	Rehab	Sound	No	288	1,872
(3)MH0058	107 BARNETT ST	Grass Esmt	46	8.4	No	Pick	Brick	Cracked	Yes	648	1,152
(3)MH0059	117 BARNETT ST	Grass Esmt	47	5.8	No	Pick	Rehab	Deteriorated	Yes	547	1,008
(3)MH0060	107 BARNETT ST	Grass Esmt	44	6.9	No	Concealed	Rehab	Sound	No	288	288
(3)MH0061	160 CABE AVE	Grass Esmt	48	8.7	No	Concealed	Precast	Sound	Yes	1,440	
(3)MH0061A	160 CABE AVE	Ditch	48	8.7	No	Concealed	Precast	Sound	No		144
(3)MH0063	160 CABE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0064	669 CABE ST	Grass Esmt	48	9.9	No	Concealed	Precast	Sound	No		
(3)MH0065	712 S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0068	712 S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0108	160 CABE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0109	601 CABE ST	Grass Esmt	48	8.4	No	Concealed	Precast	Deteriorated	No	547	
(3)MH0110	160 CABE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0111	400 MARTIN LUTHER KING B	Grass Esmt	48	10.0	No	Pick	Rehab	Roots	No	936	720
(3)MH0113	118 N MAIN ST	Grass Esmt	48	8.8	Yes	Pick	Brick	Deteriorated	No	835	10,132
(3)MH0113A	201 HOT SPRINGS ST	Grass Esmt	48	5.2	No	Pick	Rehab	Deteriorated	No	259	504

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH0113B	201	HOT SPRINGS ST	Grass Esmt	48	6.3	No	Pick	Rehab	Sound	No	720
(3)MH0114	400	MARTIN LUTHER KING B	Center Street	48	5.6	No	Pick	Poured	Sound	No	2,448
(3)MH0115	400	MLK BLVD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(3)MH0116	1012	HENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(3)MH0116A	1012	HENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(3)MH0118	1002	ELMO ST	Ditch	48	7.8	No	Concealed	Poured	Sound	No	21,600
(3)MH0118A	431	MARTIN LUTHER KING B	Grass Esmt	48	7.9	No	Pick	Rehab	Deteriorated	No	835 2,880
(3)MH0118B	320	HOT SPRINGS ST	Grass Esmt	48	5.8	No	Pick	Poured	Sound	No	835 1,584
(3)MH0120	328	HOT SPRINGS ST	Grass Esmt	48	7.2	No	Pick	Rehab	Deteriorated	No	259 1,872
(3)MH0121	932	ELMO ST	Center Street	48	6.5	No	Pick	Rehab	Deteriorated	No	259 504
(3)MH0122	604	ROCKPORT ST	Not Found	48	7.2	No	Pick	Rehab	Deteriorated	No	518 288
(3)MH0122A	817	W YOUNG ST	Center Street	48	7.3	No	Pick	Rehab	Deteriorated	No	259 504
(3)MH0124	614	N MAIN ST	Paved Esmt	48	5.1	No	Concealed	Precast	Sound	No	259
(3)MH0124A	614	N MAIN ST	Paved Esmt	48	4.9	No	Pick	Rehab	Deteriorated	No	259 504
(3)MH0125	817	W YOUNG ST	Center Street	48	5.1	No	Pick	Rehab	Deteriorated	Yes	835 720
(3)MH0126	93	W BERGER ST	Center Street	48	6.9	No	Pick	Rehab	Deteriorated	No	547 576
(3)MH0127	328	HOT SPRINGS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(3)MH0129	118	N MAIN ST	Grass Esmt	48	8.6	No	Pick	Rehab	Deteriorated	No	907 1,872
(3)MH0129A	118	N MAIN ST	Grass Esmt	48	4.1	No	Pick	Poured	Sound	No	288 1,008
(3)MH0130	118	N MAIN ST	Grass Esmt	48	4.4	No	Pick	None	N/A	No	2,664

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(3)MH0131	201	HOT SPRINGS ST	Grass Esmt	48	8.8	No	Concealed	Precast	Sound	No		2,880
(3)MH0133	237	N MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0133A	303N	N MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0134	406	BAKER ST	Center Street	48	5.0	No	Pick	Poured	Sound	Yes	576	1,152
(3)MH0135	429	N MAIN ST	Center Street	48	5.1	No	Pick	Rehab	Sound	No	288	288
(3)MH0137	517	W YOUNG ST	Grass Esmt	48	4.3	No	Pick	Rehab	Roots	Yes	648	576
(3)MH0138	603	BAKER ST	Grass Esmt	48	8.2	No	Pick	Brick	Deteriorated	Yes	259	720
(3)MH0139	603	BAKER ST	Grass Esmt	48	9.5	No	Pick	Rehab	Deteriorated	Yes	1,123	720
(3)MH0140	609	BERGER ST	Center Street	48	7.8	No	Pick	Rehab	Roots	No	648	504
(3)MH0141	304	FAIRVIEW ST	Center Street	48	8.1	No	Pick	Rehab	Sound	No		1,440
(3)MH0145	331	LAUREL ST	Center Street	48	7.8	No	Pick	Brick	Roots	Yes	965	1,152
(3)MH0148	604	FLOYD ST	Center Street	48	7.5	No	Pick	Rehab	Sound	Yes	259	504
(3)MH0148A	318	W YOUNG ST	Center Street	48	9.6	No	Pick	Rehab	Sound	No	547	288
(3)MH0148C	611	FLOYD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0149	320	ELMO ST	Grass Esmt	48	5.4	No	Pick	Rehab	Sound	No		936
(3)MH0150	328	BERGER ST	Grass Esmt	48	5.3	No	Pick	Rehab	Deteriorated	No	259	936
(3)MH0152	229	N LAUREL ST	Grass Esmt	48	5.8	No	Bolts Missing	Rehab	Leaking Joints	Yes	288	2,448
(3)MH0153	211	N LAUREL ST	Grass Esmt	39	5.1	No	Bolts Missing	None	N/A	Yes	576	3,024
(3)MH0156	170	N LAUREL ST	Grass Esmt	48	4.7	No	Concealed	Poured	Cracked	Yes	360	
(3)MH0157	170	N LAUREL ST	Center Street	39	4.0	No	Bolts Missing	None	N/A	Yes		864

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH0157A	170 N LAUREL ST	Grass Esmt	48	4.7	No	Concealed	Precast	Sound	Yes		2,880
(3)MH0158	104 N LAUREL ST	Ditch	35	5.7	No	Concealed	Poured	Sound	Yes	259	2,160
(3)MH0158B	331 N LAUREL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0159	132 E FRONT ST	Grass Esmt	48	11.9	No	Pick	Brick	Roots	Yes	360	936
(3)MH0160	121 MARTIN LUTHER KING B	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0162	126 MARTIN LUTHER KING B	Grass Esmt	48	14.9	No	Pick	Rehab	Deteriorated	Yes	547	720
(3)MH0163	137 W FRONT ST	Grass Esmt	48	14.5	No	Pick	Brick	Roots	Yes	360	1,008
(3)MH0164	137 W FRONT ST	Grass Esmt	48	11.7	No	Pick	Brick	Leaking Step/Lifting Hole	Yes	144	936
(3)MH0165	137 W FRONT ST	Grass Esmt	48	11.8	No	Concealed	Brick	Roots	Yes	360	288
(3)MH0166	669 CABE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0167	160 CABE AVE	Grass Esmt	48	8.3	No	Concealed	Precast	Sound	Yes		1,152
(3)MH0234	100 BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0234A	100 BABCOCK ST	Grass Esmt	48	6.7	No	Concealed	Not Visibl	N/A	Yes		
(3)MH0237	303 BERGER ST	Center Street	48	6.0	No	Pick	Rehab	Sound	No		936
(3)MH0238	427 LOWDEN ST	Center Street	48	6.0	No	Pick	Rehab	Deteriorated	No	259	504
(3)MH0239	228 W YOUNG ST	Center Street	48	4.8	No	Pick	Rehab	Sound	No		576
(3)MH0240	523 HOOVER ST	Center Street	48	4.8	No	Pick	Rehab	Deteriorated	No	259	504
(3)MH0241	218 ELMO ST	Center Street	48	4.4	No	Pick	Rehab	Sound	No	144	504
(3)MH0242	429 HOOVER ST	Center Street	48	5.4	No	Pick	Rehab	Sound	No		504
(3)MH0243	528 W YOUNG ST	Center Street	46	5.3	No	Pick	Rehab	Sound	No	259	576

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3)MH0244	428 BABCOCK ST	Center Street	47	5.0	No	Pick	Rehab	Sound	No		576
(3)MH0245	115 BERGER ST	Center Street	48	5.9	No	Pick	Rehab	Sound	No	288	936
(3)MH0245A	104 BERGER ST	Center Street	47	7.4	No	Pick	Rehab	Deteriorated	No	547	576
(3)MH0245B	338 BABCOCK ST	Center Street	47	4.4	No	Pick	Rehab	Sound	No		576
(3)MH0246	211 BERGER ST	Center Street	48	5.2	No	Pick	Rehab	Sound	No	288	504
(3)MH0249	124 BABCOCK ST	Center Street	46	5.3	No	Concealed	Rehab	Sound	No	259	288
(3)MH0250	100 BABCOCK ST	Paved Esmt	47	5.5	No	Pick	Rehab	Sound	Yes		576
(3)MH0250A	100 BABCOCK ST	Grass Esmt	48	4.6	No	Concealed	Precast	Sound	No	288	
(3)MH0252	100 BABCOCK ST	Grass Esmt	48	7.8	No	Concealed	Rehab	Deteriorated	Yes	259	216
(3)MH0253	100 BABCOCK ST	Center Street	47	10.0	No	Pick	Not Visibl	N/A	Yes		576
(3)MH0253A	100 BABCOCK ST	Grass Esmt	47	9.9	No	Pick	Not Visibl	N/A	Yes		1,008
(3)MH0256	100 BABCOCK ST	Grass Esmt	46	10.3	No	Concealed	Not Visibl	N/A	Yes		3,024
(3)MH0294	109 BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0295	208 VENEER ST	Center Street	47	3.9	No	Pick	Rehab	Deteriorated	No	547	576
(3)MH0296	403 GRIGGS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0298	403 GRIGGS ST	Grass Esmt	48	5.5	No	Pick	Precast	Deteriorated	No	259	1,584
(3)MH0298A	403 GRIGGS ST	Grass Esmt	48	7.9	No	Pick	Precast	Sound	Yes		1,584
(3)MH0299	341 BABCOCK ST	Grass Esmt	48	4.6	No	Concealed	Poured	Sound	No	288	
(3)MH0299A	208 VENEER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0300	239 VENEER ST	Center Street	48	4.0	No	Pick	Not Visibl	N/A	Yes		720

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH0326	400 N BANKS ST	Grass Esmt	48	9.1	No	Pick	Precast	Sound	Yes		720
(3)MH0327	203 GRIGGS ST	Grass Esmt	48	7.8	No	Concealed	Precast	Roots	Yes	360	1,152
(3)MH0328	203 GRIGGS ST	Grass Esmt	49	8.0	No	Pick	Precast	Sound	Yes	288	1,152
(3)MH0329	UKN VENEER ST	Grass Esmt	48	8.9	No	Pick	Not Visibl	N/A	Yes		720
(3)MH0329A	426 GAIL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0330	UKN VENEER ST	Center Street	48	7.2	No	Pick	Not Visibl	N/A	Yes		2,448
(3)MH0331	243 VENEER ST	Center Street	48	7.2	No	Pick	Not Visibl	N/A	Yes		288
(3)MH0332	226 ELIZABETH ANN ST	Paved Esmt	48	6.6	No	Pick	Precast	Sound	Yes		288
(3)MH0332A	226 ELIZABETH ANN ST	Grass Esmt	30	4.8	No	Pick	None	N/A	Yes		720
(3)MH0332B	216 ELIZABETH ANN ST	Grass Esmt	48	4.8	No	Pick	None	N/A	Yes	576	720
(3)MH0333	304 MCCLURE ST	Center Street	48	5.6	No	Pick	Precast	Sound	No		288
(3)MH0335	221 GRIGGS ST	Grass Esmt	48	5.8	No	Pick	Precast	Sound	Yes	288	1,152
(3)MH0335A	317 MCCLURE ST	Center Street	48	6.4	No	Pick	Precast	Sound	Yes		720
(3)MH0336	505 GRIGGS ST	Not Found	48	6.4	No	Pick	Precast	Sound	Yes	288	288
(3)MH0337	304 MCCLURE ST	Grass Esmt	48	7.1	No	Pick	Precast	Sound	No		288
(3)MH0338	505 GRIGGS ST	Not Found	48	7.1	No	Pick	Precast	Sound	Yes		288
(3)MH0340	1104 E YOUNG ST	Center Street	48	5.8	No	Pick	Precast	Sound	No		288
(3)MH0340A	428 GRIGGS ST	Center Street	48	6.5	No	Pick	Precast	Sound	No		720
(3)MH0341	501 STADIUM DR	Center Street	48	6.4	No	Pick	Precast	Sound	No	288	288
(3)MH0342	603 E YOUNG ST	Center Street	48	5.9	No	Pick	Precast	Sound	No	288	288

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH0343	1136 E YOUNG ST	Center Street	48	4.7	No	Pick	None	Sound	No		720
(3)MH0344	400 N BANKS ST	Grass Esmt	48	9.3	No	Pick	Precast	Sound	Yes	259	1,584
(3)MH0378	400 N BANKS ST	Grass Esmt	48	9.3	No	Pick	Precast	Cracked	Yes	360	1,008
(3)MH0379	400 N BANKS ST	Grass Esmt	48	10.1	No	Pick	Precast	Roots	Yes	648	3,744
(3)MH0380	318 N BANKS ST	Grass Esmt	48	7.7	No	Pick	Precast	Leaking Joints	Yes	605	504
(3)MH0382	404 N BANKS ST	Center Street	48	9.5	No	Pick	Precast	Sound	No		720
(3)MH0383	503 N BANKS ST	Center Street	48	15.1	No	Pick	Precast	Deteriorated	Yes	547	288
(3)MH0383A	407 N BANKS ST	Grass Esmt	48	13.3	No	Pick	Precast	Deteriorated	No	259	288
(3)MH0384	1309 E YOUNG ST	Center Street	48	6.1	No	Pick	Precast	Sound	No	288	288
(3)MH0385	1314 E YOUNG ST	Center Street	48	9.3	No	Pick	Precast	Deteriorated	No	835	720
(3)MH0386	1314 E YOUNG ST	Center Street	48	5.5	No	Pick	Precast	Sound	No	288	288
(3)MH0388	339 FORREST ST	Center Street	48	5.8	No	Pick	Precast	Sound	No	576	288
(3)MH0389	318 N BANKS ST	Grass Esmt	48	6.9	No	Concealed	Poured	Sound	No	288	
(3)MH0390	303 FORREST ST	Grass Esmt	48	7.8	No	Pick	Precast	Sound	No	605	720
(3)MH0423	304 WOODLAND ST	Center Street	48	7.2	No	Pick	Precast	Sound	No	1,440	720
(3)MH0424	406 WOODLAND ST	Center Street	48	6.0	No	Pick	Precast	Sound	No	259	720
(3)MH0425	430 FORREST ST	Center Street	48	6.0	No	Pick	Precast	Sound	No	634	288
(3)MH0425A	506 WOODLAND ST	Center Street	48	7.5	No	Pick	Precast	Deteriorated	No	547	288
(3)MH0540	132 E FRONT ST	Grass Esmt	48	12.4	No	Concealed	Precast	Sound	Yes		
(3)MH0618A	714 ROCKPORT ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

Manhole Inspection Report

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(3)MH0626	726	N MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0627	705	N MAIN ST	Grass Esmt	48	6.1	No	Pick	Rehab	Roots	No	648	1,872
(3)MH0628	1005	S MAIN ST	Grass Esmt	48	10.4	No	Pick	Rehab	Roots	No	648	288
(3)MH0629	1005	S MAIN ST	Grass Esmt	48	7.8	No	Pick	Brick	Roots	Yes	648	720
(3)MH0631	725	W MOLINE ST	Center Street	33	4.6	No	Pick	None	N/A	No		576
(3)MH0636	614	W MOLINE ST	Center Street	48	6.1	No	Concealed	Poured	Deteriorated	Yes	518	
(3)MH0638	702	FAIRVIEW ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0639	616	FLOYD ST	Center Street	48	8.9	No	Concealed	Rehab	Roots	No	648	288
(3)MH0640	802	FLOYD ST	Center Street	48	8.9	No	Pick	Rehab	Roots	No	360	504
(3)MH0641	830	DIVISION ST	Center Street	48	6.7	No	Concealed	Brick	Leaking Joints	Yes	893	864
(3)MH0642	329	W MOLINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0643	614	LOWDEN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0644	614	LOWDEN ST	Center Street	48	6.1	No	Pick	Rehab	Deteriorated	No	259	504
(3)MH0645	714	LOWDEN ST	Grass Esmt	48	7.8	No	Pick	Brick	Leaking Joints	Yes	317	504
(3)MH0645A	724	FLOYD ST	Center Street	48	9.1	No	Concealed	Precast	Sound	No	288	
(3)MH0646	714	LOWDEN ST	Center Street	48	7.7	No	Pick	Rehab	Roots	No	648	504
(3)MH0647	801	LOWDEN ST	Center Street	48	6.1	No	Concealed	Rehab	Sound	Yes		216
(3)MH0648	228	W MOLINE ST	Center Street	48	6.4	No	Concealed	Rehab	Sound	Yes	360	
(3)MH0648A	309	W MOLINE ST	Center Street	38	5.4	No	Pick	Rehab	Cracked	No	648	288
(3)MH0649	930	LOWDEN ST	Grass Esmt	48	7.6	No	Pick	Precast	Sound	No	619	720

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltration (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3)MH0650	833	BAKER ST	Grass Esmt	48	4.4	No	Concealed	Precast	Sound	No		
(3)MH0651	212	W MOLINE ST	Grass Esmt	48	9.8	No	Pick	Precast	Sound	No	576	2,448
(3)MH0652	1203	GRAYSON CIR	Center Street	48	11.7	No	Pick	Precast	Deteriorated	No	619	1,152
(3)MH0653	1220	SHERWOOD DR	Grass Esmt	46	5.2	No	Pick	Rehab	Deteriorated	No	547	1,008
(3)MH0654	1324	SHERWOOD DR	Grass Esmt	47	4.9	No	Pick	Rehab	Cracked	Yes	648	1,584
(3)MH0658	1508	SHERWOOD DR	Center Street	47	5.4	No	Pick	Rehab	Roots	No	648	1,440
(3)MH0658A	1426	SHERWOOD DR	Grass Esmt	46	6.8	No	Concealed	Rehab	Cracked	No	504	1,152
(3)MH0659	1327	NOTTINGHAM ST	Grass Esmt	48	6.5	No	Concealed	Rehab	Sound	No	288	864
(3)MH0660	1512	NOTTINGHAM ST	Grass Esmt	46	4.2	No	Pick	Rehab	Sound	No	288	1,008
(3)MH0660A	1615	BABCOCK ST	Center Street	48	4.9	No	Pick	None	N/A	No		576
(3)MH0661	1423	NOTTINGHAM ST	Grass Esmt	47	5.6	No	Concealed	Rehab	Sound	No	259	288
(3)MH0661A	1511	BABCOCK ST	Center Street	48	6.1	No	Pick	Precast	Sound	No	605	288
(3)MH0662	100	GOUGH ST	Center Street	48	6.8	No	Pick	Precast	Sound	No		288
(3)MH0663	1221	NOTTINGHAM ST	Center Street	48	7.1	No	Pick	Precast	Sound	No	288	504
(3)MH0664	1301	NOTTINGHAM ST	Grass Esmt	46	6.7	No	Pick	Rehab	Cracked	No	360	720
(3)MH0665	1221	NOTTINGHAM ST	Grass Esmt	46	5.7	No	Pick	Rehab	Cracked	No	1,008	720
(3)MH0665A	1213	NOTTINGHAM ST	Grass Esmt	46	5.9	No	Pick	Rehab	Sound	No	288	1,008
(3)MH0668	1006	BABCOCK ST	Center Street	38	7.6	No	Concealed	Rehab	Cracked	No	360	288
(3)MH0669	834	BABCOCK ST	Center Street	47	7.7	No	Pick	Rehab	Cracked	No	648	576
(3)MH0670	202	W MOLINE ST	Center Street	46	6.3	No	Pick	Brick	Deteriorated	No	547	576

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH0671	717 HOOVER ST	Center Street	46	5.7	No	Pick	Rehab	Cracked	No	907	576
(3)MH0672	643 HOOVER ST	Center Street	48	5.9	No	Pick	Rehab	Sound	No		504
(3)MH0673	611 HOOVER ST	Center Street	48	4.9	No	Pick	Rehab	Sound	No		1,368
(3)MH0674	642 BABCOCK ST	Center Street	46	7.7	No	Pick	Rehab	Sound	No	259	576
(3)MH0676	1019 HENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0851	1005 N BANKS ST	Center Street	48	14.7	No	Pick	Precast	Deteriorated	No	835	288
(3)MH0908	1619 BABCOCK ST	Center Street	48	5.6	No	Pick	Precast	Sound	No		288
(3)MH0908A	325 IVA ST	Center Street	48	5.7	No	Pick	Precast	Cracked	No	648	720
(3)MH0909	310 IVA ST	Center Street	48	6.8	No	Pick	Precast	Sound	No		288
(3)MH0910	322 BROADWAY ST	Center Street	48	6.3	No	Pick	Precast	Sound	No	288	1,152
(3)MH0911	310 BROADWAY ST	Center Street	48	4.9	No	Pick	Precast	Sound	No	547	288
(3)MH0912	302 BROADWAY ST	Center Street	48	5.8	No	Pick	Precast	Sound	No		288
(3)MH0913	212 IVA ST	Center Street	48	7.4	No	Pick	Precast	Sound	No	288	288
(3)MH0914	208 IVA ST	Center Street	48	6.2	No	Pick	Precast	Sound	No	288	1,152
(3)MH0915	313 BROADWAY ST	Center Street	48	6.3	No	Pick	Precast	Sound	No		288
(3)MH0916	211 GOUGH ST	Grass Esmt	48	7.5	No	Pick	Precast	Sound	No		936
(3)MH0917	102 GOUGH ST	Center Street	48	3.7	No	Pick	None	N/A	No		288
(3)MH0917A	203 GOUGH ST	Center Street	48	9.9	No	Pick	Precast	Sound	No	259	504
(3)MH0919	110 IVA ST	Center Street	48	7.1	No	Pick	Precast	Sound	No		288
(3)MH0920	204 SAND RD	Center Street	48	7.9	No	Pick	Precast	Sound	No		288

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3)MH0921	214	SAND RD	Center Street	48	13.4	No	Pick	Precast	Sound	No	288	288
(3)MH0923	804	E MOLINE ST	Center Street	48	6.5	No	Pick	Precast	Sound	No		1,584
(3)MH0923A	804	E MOLINE ST	Center Street	48	6.6	No	Pick	Rehab	Sound	No	576	288
(3)MH0924	932	E MOLINE ST	Center Street	48	8.1	No	Concealed	Precast	Deteriorated	No	835	
(3)MH0925	403	GRIGGS ST	Grass Esmt	48	5.7	No	Concealed	Poured	Sound	No	1,382	
(3)MH0926	403	GRIGGS ST	Grass Esmt	48	5.7	No	Concealed	Poured	Sound	No	288	
(3)MH0927	403	GRIGGS ST	Grass Esmt	48	5.7	No	Concealed	Poured	Sound	No		
(3)MH0927A	403	GRIGGS ST	Grass Esmt	48	6.3	No	Pick	Precast	Sound	Yes	648	1,584
(3)MH0928	624	GRIGGS ST	Center Street	48	8.7	No	Pick	Precast	Sound	No	547	288
(3)MH0929	710	GRIGGS ST	Center Street	48	6.5	No	Pick	Precast	Deteriorated	No	547	576
(3)MH0930	724	GRIGGS ST	Center Street	48	7.4	No	Pick	Precast	Deteriorated	No	864	288
(3)MH0931	818	GRIGGS ST	Center Street	48	6.4	No	Pick	Precast	Sound	No		288
(3)MH0932	430	E MOLINE ST	Center Street	48	7.1	No	Pick	Rehab	Sound	No		288
(3)MH0933	403	E MOLINE ST	Center Street	48	6.5	No	Pick	Precast	Sound	No	288	288
(3)MH0934	932	E MOLINE ST	Center Street	36	4.0	No	Pick	None	N/A	No	547	720
(3)MH0935	237	SAND RD	Paved Esmt	48	13.0	No	Pick	Precast	Sound	No	288	288
(3)MH0936	405	SAND RD	Center Street	36	11.3	No	Pick	Poured	Sound	No		1,152
(3)MH0938	405	SAND RD	Center Street	48	9.9	No	Pick	Poured	Sound	No	288	288
(3)MH0939	501	SAND RD	Center Street	48	9.4	No	Pick	Poured	Cracked	No	360	1,152
(3)MH0939A	404	SAND RD	Center Street	48	10.2	No	Concealed	Poured	Sound	No		720

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3)MH0940	501	SAND RD	Center Street	36	7.0	No	Pick	Poured	Sound	No		1,152
(3)MH0941	501	SAND RD	Center Street	48	7.9	No	Concealed	Poured	Cracked	Yes	360	1,008
(3)MH0942	639	SAND RD	Center Street	48	7.3	No	Concealed	Poured	Sound	No	288	
(3)MH0942A	633	SAND RD	Center Street	48	6.1	No	Pick	Poured	Sound	No		288
(3)MH0944	1112	N BANKS ST	Not Found	48	5.6	No	Pick	None	N/A	No		2,448
(3)MH0945	1018	MCALISTER ST	Center Street	48	4.6	No	Pick	None	N/A	No		576
(3)MH0947	942	MAGNOLIA ST	Center Street	48	8.5	No	Pick	Precast	Sound	No		288
(3)MH0947A	942	MAGNOLIA ST	Center Street	48	6.1	No	Pick	Precast	Sound	No	288	576
(3)MH0950	927	WEST ST	Paved Esmt	48	6.4	No	Pick	Precast	Sound	No		720
(3)MH0950A	920	WEST ST	Center Street	48	5.9	No	Pick	Precast	Sound	No		288
(3)MH0951	1105	E MOLINE ST	Center Street	48	6.9	No	Pick	Precast	Sound	No		288
(3)MH0952	915	MAGNOLIA ST	Center Street	48	6.2	No	Pick	Precast	Sound	No		288
(3)MH0952A	530	E MOLINE ST	Center Street	48	8.0	No	Pick	Precast	Deteriorated	No	547	288
(3)MH0953	530	E MOLINE ST	Center Street	48	5.8	No	Pick	Precast	Sound	No		288
(3)MH0954	930	MCALISTER ST	Grass Esmt	48	6.8	No	Pick	Precast	Deteriorated	No	259	1,584
(3)MH0955	1209	WATTS ST	Center Street	48	16.1	No	Pick	Precast	Deteriorated	No	547	288
(3)MH0956	724	N BANKS ST	Center Street	48	6.0	No	Pick	Precast	Sound	No		288
(3)MH0957	728	E MOLINE ST	Center Street	48	7.1	No	Pick	Precast	Deteriorated	No	907	288
(3)MH0958	706	E MOLINE ST	Center Street	48	5.2	No	Pick	None	N/A	No	288	3,312
(3)MH0959	625	N BANKS ST	Center Street	48	12.1	No	Pick	Precast	Cracked	No	648	288

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(3)MH0960	613	N BANKS ST	Center Street	48	7.4	No	Pick	Precast	Sound	No		288
(3)MH0961	1105	FALL ST	Paved Esmt	48	5.1	No	Pick	Precast	Sound	No	288	288
(3)MH0961A	1130	FALL ST	Center Street	48	10.5	No	Pick	Precast	Deteriorated	No	547	288
(3)MH0962	658	STEWART ST	Center Street	48	5.4	No	Pick	Precast	Sound	No	288	288
(3)MH0964	1200	FALL ST	Center Street	48	7.5	No	Pick	Precast	Deteriorated	No	259	720
(3)MH0964A	1211	FALL ST	Center Street	48	6.6	No	Pick	Precast	Sound	No		1,872
(3)MH0967	519	N BANKS ST	Center Street	48	15.8	No	Concealed	Precast	Cracked	No	936	
(3)MH0967A	601	N BANKS ST	Center Street	48	7.3	No	Pick	Precast	Sound	No		288
(3)MH0968	519	N BANKS ST	Center Street	48	5.6	No	Pick	Precast	Deteriorated	Yes	864	288
(3)MH0969	521	N BANKS ST	Grass Esmt	48	12.2	No	Pick	Precast	Sound	No	288	1,152
(3)MH0970	514	MCNEELEY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH0971	1246	GRAYSON CIR	Grass Esmt	47	4.6	No	Concealed	Rehab	Roots	No	648	
(3)MH0980	844	N MAIN ST	Grass Esmt	48	3.5	No	Pick	None	N/A	No	288	936
(3)MH1022	400	MLK BLVD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH1030	217	LAUREL ST	Center Street	48	5.5	No	Pick	Rehab	Sound	No		288
(3)MH1030A	170	N LAUREL ST	Center Street	48	4.8	No	Concealed	Rehab	Leaking Joints	Yes	317	3,024
(3)MH1031	229	LAUREL ST	Center Street	48	6.5	No	Concealed	Poured	Sound	No		
(3)MH1031A	305	LAUREL ST	Center Street	48	6.5	No	Pick	Rehab	Sound	No	288	288
(3)MH1031B	305	LAUREL ST	Center Street	48	6.1	No	Pick	Rehab	Deteriorated	No	547	1,368
(3)MH1033	121	MARTIN LUTHER KING B	Not Found	48	9.8	No	Pick	Brick	Deteriorated	Yes	259	504

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH1033A	132 E FRONT ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH1034	511 ELMO ST	Center Street	48	5.3	No	Pick	Rehab	Sound	No	259	720
(3)MH1036	502 STADIUM DR	Grass Esmt	48	5.1	No	Concealed	Poured	Sound	No	288	
(3)MH1037	532 STADIUM DR	Center Street	48	6.7	No	Pick	Poured	Cracked	No	360	576
(3)MH1038	554 STADIUM DR	Grass Esmt	46	8.7	No	Concealed	Rehab	Roots	Yes	691	288
(3)MH1039	560 STADIUM DR	Center Street	N/A	5.7	No	Concealed	Not Visibl	N/A	Yes		
(3)MH1040	726 BABCOCK ST	Center Street	46	4.8	No	Concealed	Rehab	Sound	No	259	288
(3)MH1042	1119 FAITH ST	Not Found	48	4.5	No	Concealed	Precast	Roots	No	648	
(3)MH1067	224 HARRIS ST	Grass Esmt	28	1.8	No	Concealed	Poured	Sound	No	259	864
(3)MH1068	400 MLK BLVD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH1069	400 MARTIN LUTHER KING B	Center Street	26	3.1	No	Concealed	Rehab	Roots	No	360	864
(3)MH1070	145 N LAUREL ST	Inaccessible	48	9.2	No	Concealed	Poured	Sound	Yes		
(3)MH1071	145 N LAUREL ST	Inaccessible	48	9.5	No	Pick	Brick	Deteriorated	Yes	259	504
(3)MH1072	145 N LAUREL ST	Grass Esmt	48	8.1	No	Concealed	Not Visibl	Sound	Yes		
(3)MH1073	955 DIVISION ST	Center Street	46	7.1	No	Pick	Brick	Cracked	No	648	576
(3)MH1074	1206 GRAYSON CIR	Grass Esmt	48	6.4	No	Concealed	Precast	Leaking Joints	No	317	2,160
(3)MH1074A	1203 GRAYSON CIR	Grass Esmt	47	3.7	No	Concealed	None	N/A	No	2,880	
(3)MH1074B	1203 GRAYSON CIR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH1076	1248 GRAYSON CIR	Grass Esmt	47	6.4	No	Concealed	Rehab	Roots	No	648	288
(3)MH1141	403 GRIGGS ST	Grass Esmt	48	7.0	No	Concealed	Poured	Cracked	No	648	216

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH1145	403 GRIGGS ST	Grass Esmt	48	6.7	No	Pick	Precast	Sound	Yes	288	720
(3)MH1150	403 GRIGGS ST	Grass Esmt	48	6.7	No	Pick	Precast	Sound	Yes	288	1,584
(3)MH1172	629 FLOYD ST	Center Street	48	5.1	No	Concealed	Precast	Roots	No	648	
(3)MH1173	405 PACIFIC ST	Grass Esmt	48	8.5	No	Concealed	Precast	Roots	No	648	
(3)MH1174	625 DIVISION ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH1175	412 W YOUNG ST	Grass Esmt	60	9.6	No	Pick	Brick	Roots	No	936	936
(3)MH1181	513 PACIFIC ST	Center Street	48	11.1	No	Pick	Brick	Roots	Yes	936	576
(3)MH1182	803 FAIRVIEW ST	Center Street	48	5.7	No	Concealed	Rehab	Leaking Joints	Yes	893	
(3)MH1186	341 BABCOCK ST	Grass Esmt	48	5.1	No	Concealed	Poured	Sound	No		
(3)MH1187	341 BABCOCK ST	Grass Esmt	48	4.2	No	Concealed	Poured	Sound	No		
(3)MH1195	132 E FRONT ST	Inaccessible	48	6.9	No	Pick	Rehab	Deteriorated	No	835	288
(3)MH1201	603 FAIRVIEW ST	Grass Esmt	48	10.0	No	Pick	Rehab	Roots	Yes	648	576
(3)MH1201A	513 FAIRVIEW ST	Grass Esmt	48	12.3	No	Pick	Rehab	Deteriorated	No	547	288
(3)MH2011	1208 DIVISION ST	Center Street	46	6.2	No	Pick	Rehab	Sound	No	288	288
(3)MH2011A	1212 DIVISION ST	Center Street	45	5.1	No	Pick	Rehab	Sound	No	288	576
(3)MH2014	520 BAKER ST	Grass Esmt	48	4.2	No	Pick	Rehab	Roots	Yes	907	576
(3)MH2014A	602 BAKER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2015	1005 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2016	733 BAKER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2017	819 FAIRVIEW ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3)MH2018	614	ELMO ST	Center Street	48	9.2	No	Pick	Rehab	Roots	Yes	360	288
(3)MH2020	328	BERGER ST	Grass Esmt	48	5.9	No	Pick	Rehab	Deteriorated	Yes	259	936
(3)MH2020A	328	BERGER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2022	328	BERGER ST	Center Street	48	6.4	No	Pick	Rehab	Sound	No		288
(3)MH2023	351	BERGER ST	Grass Esmt	48	6.1	No	Concealed	Precast	Sound	No		
(3)MH2023A	365	BERGER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2024	315	BERGER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2123	329	W MOLINE ST	Center Street	46	6.9	No	Pick	Brick	Cracked	No	648	576
(3)MH2124	614	W MOLINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2126	212	W MOLINE ST	Grass Esmt	48	7.5	No	Pick	Precast	Sound	No	288	288
(3)MH2127	614	W MOLINE ST	Grass Esmt	48	6.1	No	Concealed	Poured	Sound	No		
(3)MH2128	1111	BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2129	1021	BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2130	806	HOOVER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2131	740	BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2136	330	N MAIN ST	Center Street	48	6.5	No	Concealed	Rehab	Sound	Yes		
(3)MH2137	310	N MAIN ST	Grass Esmt	48	4.1	No	Concealed	None	N/A	Yes		
(3)MH2138	330	N MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2139	3038	HENRY ST	Paved Esmt	48	4.7	No	Pick	Rehab	Sound	No	288	1,152
(3)MH2140	234	HARRIS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3)MH2142	320 HOT SPRINGS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2143	237 N MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2203	341 BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2204	341 BABCOCK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH2509	132 E FRONT ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH3042	719 DIVISION ST	Grass Esmt	24	4.0	No	Concealed	Precast	Roots	No	648	864
(3)MH3078	1810 SAND RD	Center Street	48	6.5	No	Concealed	Precast	Sound	No		
(3)MH3079	1712 SAND RD	Center Street	48	7.8	No	Concealed	Precast	Sound	No		
(3)MH3080	1585 SAND RD	Center Street	48	10.1	No	Concealed	Precast	Sound	No		
(3)MH3081	243 VENEER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH3082	426 GAIL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3)MH3083	612 GAIL ST	Grass Esmt	48	6.5	No	Bolts Missing	Precast	Sound	No		2,160
(3)MH6012A	604 ROCKPORT ST	Center Street	48	8.5	No	Concealed	Precast	Sound	No		

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
Totals for Basin 3									115,214	200,572	

Total Manholes	333
Manholes Inspected	279
Manholes Not Inspected	54
Manholes Buried	4
Manholes Not Found	45
Manholes Inaccessible	5
Location Not Specified	54

Percent:	
Inspected	83.78%
Not Inspected	16.22%
Buried	1.20%
Not Found	13.51%
Inaccessible	1.50%

Evidence of Surcharge	78
Subject to Ponding	1
Subject to Sheeting	159

Surcharge	23.42%
Ponding	0.30%
Sheeting	47.75%

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3A)MH0225	506 KEITH ST	Center Street	40	7.6	No	Pick	Brick	Deteriorated	No	806	1,008
(3A)MH0255	100 BABCOCK ST	Center Street	48	10.1	No	Pick	Rehab	Sound	No		504
(3A)MH0257	425 E FIRST ST	Center Street	48	5.7	No	Pick	Rehab	Sound	No		720
(3A)MH0257A	425 E FIRST ST	Grass Esmt	48	9.9	No	Pick	Rehab	Deteriorated	Yes	547	936
(3A)MH0258	425 E FIRST ST	Center Street	48	5.7	No	Pick	Rehab	Deteriorated	Yes	259	936
(3A)MH0258A	425 E FIRST ST	Center Street	48	5.5	No	Pick	Rehab	Deteriorated	No	259	504
(3A)MH0260	1 GLOSTER CT	Center Street	48	5.6	No	Concealed	Rehab	Deteriorated	No	259	216
(3A)MH0283	75 GLOSTER CT	Center Street	48	7.2	No	Concealed	Brick	Sound	No		216
(3A)MH0284	75 GLOSTER CT	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0293	425 E FIRST ST	Grass Esmt	48	6.4	No	Concealed	Rehab	Deteriorated	Yes	259	216
(3A)MH0302	201 OVERMAN ST	Grass Esmt	48	8.0	No	Concealed	Rehab	Roots	Yes	648	216
(3A)MH0314	541 MCBEE ST	Center Street	30	3.2	No	Concealed	Brick	Deteriorated	No	518	216
(3A)MH0315	515 MCBEE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0316	702 OVERMAN ST	Center Street	48	3.9	No	Concealed	None	N/A	No		216
(3A)MH0319	528 E PAGE AVE	Center Street	25	5.9	No	Concealed	None	N/A	Yes		216
(3A)MH0320	320 KEITH ST	Center Street	48	8.1	No	Pick	Precast	Deteriorated	No	547	504
(3A)MH0321	506 SECTION LINE ST	Center Street	48	5.0	No	Pick	Rehab	Deteriorated	No	259	504
(3A)MH0322	617 BELL ST	Center Street	48	4.1	No	Pick	Rehab	Deteriorated	No	547	504
(3A)MH0323	201 S OVERMANN ST	Grass Esmt	48	6.0	No	Pick	Rehab	Deteriorated	Yes	547	936
(3A)MH0324	507 SWAN ST	Grass Esmt	48	6.6	No	Concealed	Rehab	Deteriorated	Yes	547	864

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltration (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(3A)MH0325	513	SWAN ST	Grass Esmt	48	3.9	No	Concealed	None	N/A	Yes		
(3A)MH0345	103	S BANKS ST	Center Street	48	6.7	No	Pick	Rehab	Sound	Yes		288
(3A)MH0346	132	BANKS ST	Center Street	48	10.7	No	Pick	Rehab	Deteriorated	No	806	288
(3A)MH0347	703	SECTION LINE ST	Center Street	48	5.6	No	Pick	Rehab	Sound	No		288
(3A)MH0348	411	S BANKS ST	Center Street	48	5.8	No	Pick	Brick	Deteriorated	No	806	576
(3A)MH0349	702	E PAGE AVE	Center Street	48	4.7	No	Concealed	Brick	Deteriorated	No	835	216
(3A)MH0351	706	MCBEE ST	Center Street	40	3.8	No	Pick	None	N/A	No	317	504
(3A)MH0351A	720	MCBEE ST	Center Street	48	4.6	No	Pick	None	N/A	No		504
(3A)MH0352	631	PINE BLUFF ST	Center Street	48	4.9	No	Pick	Brick	Deteriorated	No	518	504
(3A)MH0353	622	CLARDY ST	Center Street	40	3.3	No	Concealed	None	N/A	No	288	216
(3A)MH0354	728	CLARDY ST	Center Street	45	4.5	No	Pick	None	N/A	No	288	504
(3A)MH0362	836	MC NEAL ST	Center Street	40	4.3	No	Pick	None	N/A	No	288	504
(3A)MH0364	906	PINE BLUFF ST	Center Street	45	4.3	No	Pick	None	N/A	No	576	504
(3A)MH0364A	906	PINE BLUFF ST	Center Street	45	4.5	No	Pick	None	N/A	No	288	504
(3A)MH0365	722	PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0366	639	MC NEAL ST	Center Street	48	6.5	No	Pick	None	N/A	No		792
(3A)MH0367	903	E PAGE AVE	Center Street	48	4.9	No	Concealed	None	N/A	No	576	216
(3A)MH0368	826	E PAGE AVE	Center Street	48	5.8	No	Concealed	Rehab	Deteriorated	No	259	216
(3A)MH0369	725	E PAGE AVE	Center Street	48	5.6	No	Concealed	None	N/A	No	288	936
(3A)MH0370	730	SECTION LINE ST	Center Street	48	6.3	No	Pick	Rehab	Sound	No		504

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3A)MH0371	910 SECTION LINE ST	Center Street	22	7.8	No	Concealed	Rehab	Deteriorated	Yes	547	
(3A)MH0372	910 SECTION LINE ST	Grass Esmt	48	3.6	No	Pick	Precast	Roots	Yes	648	720
(3A)MH0373	205 SHEPPARD ST	Grass Esmt	48	4.9	No	Pick	Rehab	Deteriorated	Yes	259	936
(3A)MH0374	121 SHEPPARD ST	Grass Esmt	48	3.9	No	Pick	Rehab	Roots	Yes	360	1,008
(3A)MH0376	126 SHEPPARD ST	Center Street	48	4.8	No	Pick	Rehab	Deteriorated	No	835	504
(3A)MH0377	719 SWAN ST	Grass Esmt	48	5.5	No	Pick	Rehab	Sound	Yes		288
(3A)MH0391	1002 SECTION LINE ST	Center Street	48	8.0	No	Pick	Rehab	Sound	Yes	288	288
(3A)MH0393	1015 E PAGE AVE	Center Street	40	3.3	No	Pick	None	N/A	No		288
(3A)MH0393A	1015 E PAGE AVE	Grass Esmt	48	3.5	No	Pick	None	N/A	No		576
(3A)MH0394	900 E PAGE AVE	Center Street	48	4.8	No	Concealed	None	N/A	No	288	216
(3A)MH0395	632A EDWARDS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0396	1007 PINE BLUFF ST	Center Street	48	4.5	No	Concealed	None	N/A	No	317	216
(3A)MH0397	1031 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0417	1308 PINE BLUFF ST	Center Street	48	4.1	No	Concealed	None	N/A	No		216
(3A)MH0418	640 CHERRY LN	Center Street	48	3.7	No	Pick	Brick	Deteriorated	No	518	504
(3A)MH0419	641 ORCHARD ST	Center Street	48	6.3	No	Pick	Brick	Sound	No	288	504
(3A)MH0420	1002 SECTION LINE ST	Center Street	48	12.3	No	Concealed	Brick	Roots	Yes	648	216
(3A)MH0422	1322 E PAGE AVE	Grass Esmt	40	3.0	No	Pick	Brick	Roots	No	648	576
(3A)MH0422A	1002 SECTION LINE ST	Center Street	40	2.8	No	Pick	Rehab	Sound	No	576	288
(3A)MH0426	1322 E PAGE AVE	Grass Esmt	48	14.4	No	Pick	Brick	Deteriorated	No	259	936

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3A)MH0427	1304 DOGWOOD TRL	Center Street	48	8.4	No	Pick	Brick	Deteriorated	Yes	259	691
(3A)MH0427A	1308 DOGWOOD TRL	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0428	1416 DOGWOOD TRL	Grass Esmt	48	9.0	No	Pick	Precast	Sound	Yes		720
(3A)MH0429	1518 DOGWOOD TRL	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0430	1664 CIRCLE DR	Center Street	48	5.3	No	Pick	Rehab	Deteriorated	No	518	504
(3A)MH0431	1658 CIRCLE DR	Center Street	48	5.7	No	Pick	Rehab	Deteriorated	No	547	504
(3A)MH0433	1621 CIRCLE DR	Center Street	48	5.6	No	Pick	Rehab	Deteriorated	No	806	504
(3A)MH0434	1518 MCBEE ST	Center Street	48	5.1	No	Pick	Rehab	Deteriorated	No	835	504
(3A)MH0435	1501 DOGWOOD TRL	Grass Esmt	48	7.1	No	Pick	Brick	Roots	No	648	1,008
(3A)MH0436	1405 DOGWOOD TRL	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0437	1415 MCBEE ST	Center Street	48	4.7	No	Pick	Brick	Deteriorated	No	259	504
(3A)MH0438	1404 MCBEE ST	Center Street	48	5.5	No	Pick	Rehab	Deteriorated	No	547	576
(3A)MH0439	1330 PINE BLUFF ST	Center Street	48	4.5	No	Pick	None	N/A	No	288	504
(3A)MH0441	1428 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0442	1507 PINE BLUFF ST	Center Street	30	2.0	No	Pick	None	N/A	No	288	576
(3A)MH0630	201 OVERMAN ST	Grass Esmt	48	5.5	No	Concealed	None	N/A	Yes		
(3A)MH0826	1904 CAROLYN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH0850	1904 CAROLYN ST	Grass Esmt	48	8.2	No	Concealed	Precast	Roots	No	936	288
(3A)MH1045	615 J. W. HARRISON ST	Grass Esmt	48	4.1	No	Pick	Rehab	Deteriorated	No	259	1,368
(3A)MH1046	307 OVERMAN ST	Grass Esmt	48	4.3	No	Pick	Precast	Sound	No		2,160

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)	
			Diam. (in.)	Depth (ft.)								
(3A)MH1078	201	OVERMAN ST	Not Found	N/A	N/A	No	N/A	N/A	No			
(3A)MH1078A	317	OVERMAN ST	Grass Esmt	48	6.8	No	Pick	Rehab	Sound	No	288	720
(3A)MH1079	317	OVERMAN ST	Grass Esmt	48	9.5	No	Concealed	Rehab	Roots	No	648	
(3A)MH1144	1131	PINE BLUFF ST	Center Street	48	6.5	No	Pick	Rehab	Deteriorated	No	806	504
(3A)MH1197	542	PINE BLUFF ST	Center Street	30	3.5	No	Concealed	None	N/A	No	288	
(3A)MH2026	425	E FIRST ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2029	5	GLOSTER CT	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2030	1103	E PAGE AVE	Center Street	48	3.5	No	Concealed	None	N/A	No		216
(3A)MH2031	1140	E PAGE AVE	Center Street	48	4.5	No	Concealed	Rehab	Sound	No	259	216
(3A)MH2032	1135	E PAGE AVE	Grass Esmt	48	5.1	No	Concealed	None	N/A	Yes		
(3A)MH2033	133	SHEPPARD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2033A	133	SHEPPARD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2059	214	MOCKINGBIRD LN	Grass Esmt	48	7.1	No	Concealed	Precast	Sound	No		
(3A)MH2060	1730	E PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2061	1740	E PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2061A	1740	E PAGE AVE	Paved Esmt	48	5.2	No	Pick	Rehab	Deteriorated	No	547	504
(3A)MH2063	1620	E PAGE AVE	Grass Esmt	48	6.1	No	Concealed	Rehab	Deteriorated	No	518	216
(3A)MH2064	1616	E PAGE AVE	Grass Esmt	48	4.9	No	Concealed	Rehab	Roots	Yes	360	288
(3A)MH2064A	1616	E PAGE AVE	Grass Esmt	48	5.5	No	Concealed	Fiberglas	Sound	No	576	
(3A)MH2065	1628	E PAGE AVE	Grass Esmt	48	5.2	No	Concealed	Precast	Sound	No		

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3A)MH2079	1616 E PAGE AVE	Grass Esmt	48	4.2	No	Concealed	Rehab	Roots	No	648	288
(3A)MH2080	1647 E PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2201	824 MCBEE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2202	1016 MCBEE ST	Center Street	48	4.4	No	Concealed	Precast	Sound	No	360	
(3A)MH2202A	1016 MCBEE ST	Grass Esmt	48	3.8	No	Concealed	Precast	Sound	No		
(3A)MH2202B	1020 MCBEE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2207	606 CHERRY LN	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2208	610 ORCHARD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2210	1607 E PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2214	527 MOORE ST	Center Street	48	7.0	No	Concealed	Precast	Sound	No	259	
(3A)MH2216	514 KEITH ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2217	411 S BANKS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2219	912 SECTION LINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2220	814 E PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH2280	728 PINE BLUFF ST	Paved Esmt	48	3.2	Yes	Pick	Rehab	Deteriorated	No	547	504
(3A)MH2503	1016 MCBEE ST	Grass Esmt	48	6.0	No	Concealed	Poured	Sound	No		
(3A)MH3010	825 PINE BLUFF ST	Paved Esmt	48	3.1	No	Pick	None	N/A	No	288	504
(3A)MH3011	729 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(3A)MH3024	117 SHEPPARD ST	Grass Esmt	48	4.1	No	Concealed	Precast	Sound	Yes		
(3A)MH3025	117 SHEPPARD ST	Grass Esmt	48	5.0	No	Concealed	Precast	Sound	Yes		

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(3A)MH3026	1002 SECTION LINE ST	Grass Esmt	48	4.1	No	Concealed	Precast	Sound	Yes		
(3A)MH3027	1002 SECTION LINE ST	Grass Esmt	48	3.0	No	Concealed	Precast	Sound	Yes		
(3A)MH3028	1616 E PAGE AVE	Grass Esmt	48	8.5	No	Concealed	Precast	Deteriorated	No	547	864
(3A)MH3029	1616 E PAGE AVE	Grass Esmt	48	5.2	No	Concealed	Precast	Deteriorated	No	547	
(3A)MH3030	1616 E PAGE AVE	Grass Esmt	48	7.4	No	Concealed	Precast	Sound	No		
(3A)MH3031	1616 E PAGE AVE	Grass Esmt	48	8.6	No	Concealed	Precast	Sound	No		
(3A)MH3032	1628 E PAGE AVE	Grass Esmt	48	5.3	No	Concealed	Precast	Sound	No		2,880
(3A)MH3034	1628 E PAGE AVE	Grass Esmt	48	6.6	No	Concealed	Precast	Sound	No		
(3A)MH3036	1002 SECTION LINE ST	Grass Esmt	48	9.3	No	Concealed	Precast	Sound	Yes	547	
(3A)MH3037	1616 E PAGE AVE	Grass Esmt	48	6.4	No	Concealed	Precast	Leaking Joints	No	317	
(3A)MH3038	1616 E PAGE AVE	Grass Esmt	48	5.7	No	Concealed	Precast	Leaking Joints	No	317	
(3A)MH3051	301 BANKS ST	Center Street	48	9.5	No	Pick	Rehab	Sound	Yes	288	288
(3A)MH6016	1416 DOGWOOD TRL	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						

Totals for Basin 3A 33,768 44,179

Total Manholes	133
Manholes Inspected	104
Manholes Not Inspected	29
Manholes Buried	2
Manholes Not Found	27
Manholes Inaccessible	0
Location Not Specified	29

Percent:	
Inspected	78.20%
Not Inspected	21.80%
Buried	1.50%
Not Found	20.30%
Inaccessible	0.00%

Evidence of Surcharge	27
Subject to Ponding	1
Subject to Sheeting	59

Surcharge	20.30%
Ponding	0.75%
Sheeting	44.36%

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH0356	828 E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0358	826 HALL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0359	919 E SULLENBERGER AVE	Center Street	48	8.6	No	Concealed	Brick	Roots	No	936	216
(4)MH0360	1017 MCNEAL ST	Center Street	48	8.0	No	Concealed	Brick	Deteriorated	No	547	216
(4)MH0361	917 MCNEAL ST	Center Street	48	5.1	No	Pick	Brick	Deteriorated	No	547	504
(4)MH0398	903 EDWARDS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0399	1102 CLARDY ST	Center Street	25	3.3	No	Pick	Rehab	Sound	No		288
(4)MH0400	928 EDWARDS ST	Center Street	48	5.6	No	Concealed	Precast	Sound	No		
(4)MH0401	1003 TOLER ST	Center Street	25	3.3	No	Concealed	Rehab	Sound	No	288	
(4)MH0402	1025 EDWARDS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0403	1031 TOLER ST	Center Street	25	2.9	No	Pick	Rehab	Sound	No		288
(4)MH0405	1001 E SULLENBERGER AVE	Center Street	48	4.2	No	Concealed	Rehab	Sound	No		216
(4)MH0405A	1103 E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0406	1109 E SULLENBERGER AVE	Center Street	48	4.8	No	Concealed	Brick	Deteriorated	Yes	259	216
(4)MH0407	1205 E SULLENBERGER AVE	Center Street	48	7.0	No	Pick	Brick	Deteriorated	Yes	259	504
(4)MH0408	1213 E SULLENBERGER AVE	Center Street	48	7.2	No	Pick	Rehab	Deteriorated	Yes	259	504
(4)MH0409	1101 WALLACE ST	Center Street	48	3.2	No	Pick	None	N/A	Yes		504
(4)MH0410	1304 MONROE ST	Center Street	48	6.3	No	Pick	Rehab	Deteriorated	Yes	936	504
(4)MH0411	1312 MONROE ST	Center Street	48	3.8	No	Pick	Rehab	Sound	No	288	288
(4)MH0412	1003 CHERRY LN	Center Street	48	8.6	No	Pick	Brick	Deteriorated	Yes	547	504

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH0413	929 WALLACE ST	Center Street	48	3.6	No	Concealed	None	N/A	No		216
(4)MH0414	835 CHERRY LN	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0415	835 CHERRY LN	Center Street	48	4.9	No	Pick	Rehab	Roots	No	1,008	1,368
(4)MH0432	1707 DELANO DR	Center Street	48	7.2	No	Concealed	Brick	Deteriorated	No	259	216
(4)MH0440	820 JEFFERSON ST	Center Street	48	3.7	No	Pick	Rehab	Roots	No	936	2,448
(4)MH0443	1603 PINE BLUFF ST	Center Street	48	8.9	No	Pick	Rehab	Sound	No		504
(4)MH0444	801 WILSON ST	Center Street	48	4.5	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0444A	801 WILSON ST	Center Street	48	4.3	No	Concealed	Rehab	Sound	No	288	
(4)MH0446	904 WILSON ST	Center Street	48	5.0	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0447	1604 GRANT ST	Center Street	48	8.0	No	Concealed	Brick	Deteriorated	No	547	216
(4)MH0448	815 LINCOLN ST	Center Street	48	4.4	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0449	834 LINCOLN ST	Center Street	48	8.9	No	Pick	Rehab	Deteriorated	No	806	504
(4)MH0450	905 JEFFERSON ST	Center Street	48	9.0	No	Pick	Rehab	Deteriorated	No	547	2,664
(4)MH0451	1004 JEFFERSON ST	Center Street	48	6.0	No	Pick	Rehab	Deteriorated	Yes	835	576
(4)MH0452	930 LINCOLN ST	Center Street	48	6.7	No	Pick	Rehab	Roots	No	648	504
(4)MH0452A	1523 ROBERT E LEE ST	Center Street	48	3.8	No	Pick	Rehab	Deteriorated	No	259	288
(4)MH0454	925 ROOSEVELT ST	Center Street	48	4.1	No	Pick	Rehab	Deteriorated	No	547	504
(4)MH0455	924 WILSON ST	Center Street	48	3.8	No	Pick	Brick	Deteriorated	No	259	288
(4)MH0456	1004 WILSON ST	Center Street	48	6.2	No	Pick	Rehab	Roots	No	648	504
(4)MH0457	1104 WILSON ST	Center Street	48	5.5	No	Concealed	Brick	Sound	No		216

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH0457A	1613 MONROE ST	Center Street	48	4.4	No	Pick	Rehab	Sound	No		288
(4)MH0458	1120 ROOSEVELT ST	Center Street	48	4.2	No	Pick	Rehab	Leaking Joints	No	144	576
(4)MH0459	1609 MONROE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0459A	1023 ROOSEVELT ST	Center Street	48	3.7	No	Concealed	Rehab	Deteriorated	No	259	
(4)MH0461	1026 JEFFERSON ST	Center Street	48	7.5	No	Pick	Rehab	Deteriorated	Yes	259	2,664
(4)MH0462	1327 E SULLENBERGER AVE	Center Street	48	5.3	No	Pick	Rehab	Deteriorated	Yes	576	504
(4)MH0463	1920 LINCOLN ST	Center Street	48	3.6	No	Pick	Rehab	Deteriorated	No	259	288
(4)MH0463A	1106 LINCOLN ST	Center Street	48	5.6	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0466	1127 ROOSEVELT ST	Center Street	48	5.2	No	Pick	Rehab	Deteriorated	Yes	259	504
(4)MH0467	1626 E SULLENBERGER AVE	Center Street	48	4.2	No	Concealed	Precast	Sound	No		
(4)MH0468	1627 E SULLENBERGER AVE	Center Street	48	5.6	No	Concealed	Rehab	Deteriorated	No	547	216
(4)MH0468A	1627 E SULLENBERGER AVE	Center Street	48	4.2	No	Concealed	None	N/A	Yes		288
(4)MH0588	999 SCHNEIDER DR	Center Street	48	5.0	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0588A	1839 PINE BLUFF ST	Grass Esmt	48	4.7	No	Concealed	Precast	Sound	No		
(4)MH0588B	999 SCHNEIDER DR	Grass Esmt	48	3.5	No	Concealed	Precast	Sound	No		
(4)MH0721	1625 SOUTH MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0733	723 WILLOW ST	Center Street	48	7.3	No	Pick	Brick	Deteriorated	Yes	259	504
(4)MH0734	723 WILLOW ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0734A	705 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0735	625 MISSISSIPPI ST	Center Street	48	6.6	No	Pick	Brick	Roots	No	360	504

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(4)MH0736	1620	MARTIN LUTHER KING B Grass Esmt	48	10.4	No	Pick	Brick	Roots	Yes	936	504
(4)MH0737	805	E MILL ST Grass Esmt	48	7.2	No	Concealed	Precast	Sound	Yes		
(4)MH0738	805	E MILL ST Not Found	48	10.4	No	Concealed	Poured	Sound	Yes	288	
(4)MH0740	820	WILLOW ST Center Street	48	9.9	No	Pick	Brick	Deteriorated	Yes	432	504
(4)MH0741	820	WILLOW ST Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0742	729	MCHENRY ST Center Street	48	7.7	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0743	918	MCHENRY ST Center Street	48	9.0	No	Pick	Brick	Deteriorated	Yes	259	504
(4)MH0744	1027	MCHENRY ST Center Street	48	5.8	No	Concealed	Rehab	Deteriorated	Yes	259	216
(4)MH0744A	1001	E SULLENBERGER AVE Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0745	1028	E HIGHLAND AVE Center Street	48	10.2	No	Pick	Brick	Deteriorated	No	259	504
(4)MH0745A	1103	MCHENRY ST Center Street	48	4.5	No	Pick	Precast	Sound	Yes		288
(4)MH0746	920	E HIGHLAND AVE Center Street	48	5.2	No	Concealed	Rehab	Deteriorated	Yes	547	216
(4)MH0747	905	E HIGHLAND AVE Center Street	48	12.6	No	Concealed	Brick	Deteriorated	Yes	547	216
(4)MH0748	906	WILLOW ST Center Street	48	6.3	No	Concealed	Brick	Deteriorated	Yes	259	216
(4)MH0749	922	WILLOW ST Center Street	48	7.9	No	Pick	Brick	Deteriorated	No	259	504
(4)MH0750	1024	WILLOW ST Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0751	1506	HARPER ST Center Street	4	4.6	No	Concealed	Precast	Sound	No		
(4)MH0752	925	E MILL ST Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0754	907	E MILL ST Center Street	48	6.4	No	Pick	Brick	Deteriorated	No	518	504
(4)MH0755	1703	TEXAS ST Center Street	48	5.9	No	Pick	Brick	Roots	No	648	1,440

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH0756	1706 HARPER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0774	1131 E MILL ST	Center Street	48	5.2	No	Pick	Brick	Deteriorated	No	547	504
(4)MH0775	1204 WILLOW ST	Center Street	48	5.5	No	Pick	Brick	Deteriorated	No	547	288
(4)MH0775A	1111 WILLOW ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0776	1204 E HIGHLAND AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0777	1304 MCGENRY ST	Center Street	48	7.3	No	Pick	Brick	Deteriorated	No	547	504
(4)MH0778	1328 MCHENRY ST	Center Street	48	7.0	No	Pick	Brick	Deteriorated	No	259	504
(4)MH0779	1321 CHERRY LN	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0780	1325 JEFFERSON ST	Center Street	48	6.1	No	Pick	Brick	Deteriorated	No	259	504
(4)MH0781	1503 JEFFERSON ST	Center Street	48	7.5	No	Pick	Brick	Deteriorated	No	259	792
(4)MH0782	1327 E MILL ST	Center Street	48	7.8	No	Pick	Brick	Roots	No	648	576
(4)MH0805	1505 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0806	1503 LINCOLN ST	Center Street	48	5.1	No	Concealed	Precast	Sound	No	288	
(4)MH0807	1501 E HIGHLAND ST	Center Street	48	7.0	No	Pick	Brick	Roots	No	1,195	2,664
(4)MH0808	1427 MCHENRY ST	Center Street	48	7.8	No	Pick	Brick	Deteriorated	No	547	504
(4)MH0809	1603 MCHENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0810	1528 HIGHLAND AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0855	1826 E SULLENBERGER AVE	Center Street	48	5.7	No	Pick	Rehab	Sound	No		1,368
(4)MH0856	1726 E SULLENBERGER AVE	Center Street	48	5.8	No	Pick	Rehab	Deteriorated	Yes	259	504
(4)MH0856A	1735 E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(4)MH0856B	1735 E SULLENBERGER AVE	Grass Esmt	48	3.1	No	Concealed	None	N/A	No		216
(4)MH0859	2021 E. SULLENBURGER AVE	Grass Esmt	48	3.8	No	Concealed	Rehab	Sound	No	288	1,152
(4)MH0876	1406 MAPLE ST	Grass Esmt	48	4.2	No	Concealed	Rehab	Deteriorated	No	547	936
(4)MH0876A	1324 MAPLE ST	Grass Esmt	48	4.2	No	Pick	None	N/A	Yes		936
(4)MH0876B	1729 BAILEY PL	Grass Esmt	48	9.0	No	Concealed	Precast	Sound	No		
(4)MH0877	1735 E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0878	1735 E SULLENBERGER AVE	Grass Esmt	48	5.3	No	Concealed	Rehab	Deteriorated	Yes	259	216
(4)MH0879	1735 E SULLENBERGER AVE	Grass Esmt	48	6.2	No	Concealed	Rehab	Roots	No	936	
(4)MH0880	2326 MCHENRY CIR	Center Street	48	4.6	No	Pick	None	N/A	Yes	288	504
(4)MH0881	2225 E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0882	2204 E SULLENBERGER AVE	Center Street	48	5.0	No	Pick	None	N/A	Yes		288
(4)MH0883	1203 BAYER ST	Grass Esmt	48	9.0	No	Pick	Rehab	Deteriorated	No	835	504
(4)MH0884	1220 BAYER ST	Grass Esmt	48	9.8	No	Concealed	Rehab	Sound	No		
(4)MH0885	2324 MCHENRY CIR	Grass Esmt	48	4.8	No	Pick	None	N/A	Yes	259	936
(4)MH0886	2319 MCHENRY CIR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0887	2345 MCHENRY CIR	Grass Esmt	48	5.1	No	Pick	None	N/A	No	288	720
(4)MH0888	1320 BAYER ST	Center Street	48	4.4	No	Pick	None	N/A	No	576	792
(4)MH0889	2225 E SULLENBERGER AVE	Center Street	48	8.7	No	Concealed	Rehab	Deteriorated	Yes	835	288
(4)MH0890	1719 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0891	1725 GRANT ST	Center Street	48	6.8	No	Pick	Rehab	Sound	No		504

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(4)MH0892	1725	GRANT ST	Center Street	48	5.2	No	Pick	Rehab	Sound	No		504
(4)MH0893	1804	MONROE ST	Center Street	48	7.5	No	Pick	Rehab	Deteriorated	No	259	576
(4)MH0893A	1725	MONROE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0895	1828	ROBERT E LEE ST	Center Street	48	4.6	No	Pick	Rehab	Sound	No		504
(4)MH0896	1904	GRANT ST	Center Street	48	6.1	No	Pick	Rehab	Deteriorated	No	547	504
(4)MH0896A	1910	GRANT ST	Center Street	48	6.0	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0897	1910	GRANT ST	Center Street	48	5.8	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH0898	2003	GRANT ST	Center Street	48	7.4	No	Pick	Rehab	Deteriorated	Yes	547	504
(4)MH0899	918	DAWSON ST	Center Street	48	4.4	No	Pick	Rehab	Sound	No		504
(4)MH0899A	923	DAWSON ST	Center Street	48	5.3	No	Pick	Precast	Sound	No		288
(4)MH0901	1925	MONROE ST	Center Street	48	6.2	No	Pick	Rehab	Sound	No	288	1,368
(4)MH0902	1120	OWEN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH0902A	1128	OWEN ST	Center Street	48	7.2	No	Pick	Rehab	Deteriorated	Yes	259	504
(4)MH0903	1104	OWEN ST	Center Street	48	5.7	No	Pick	Rehab	Deteriorated	Yes	259	504
(4)MH0904	1001	OWEN ST	Center Street	48	6.5	No	Pick	Rehab	Deteriorated	No	259	792
(4)MH0905	903	OWEN ST	Center Street	48	9.3	No	Pick	Rehab	Deteriorated	Yes	547	504
(4)MH0906	1801	PINE BLUFF ST	Center Street	48	4.9	No	Pick	Rehab	Sound	No		504
(4)MH1029	2005	E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH1029A	1212	MIMOSA ST	Grass Esmt	48	2.1	No	Concealed	None	N/A	Yes		
(4)MH1043	1217	LINCOLN ST	Grass Esmt	48	4.8	No	Concealed	Precast	Sound	No		

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH1044	1205 LINCOLN ST	Center Street	48	5.0	No	Pick	Rehab	Deteriorated	Yes	259	504
(4)MH1044A	1205 LINCOLN ST	Center Street	48	5.1	No	Concealed	Precast	Sound	Yes		
(4)MH1050	2121 MCHENRY CIR	Center Street	48	4.1	No	Concealed	Rehab	Deteriorated	Yes	259	216
(4)MH1081	1728 ROBERT E LEE ST	Center Street	24	4.4	No	Pick	Rehab	Deteriorated	No	259	288
(4)MH1081A	1814 ROBERT E LEE ST	Center Street	48	4.5	No	Pick	Precast	Sound	No		288
(4)MH1084	2122 E SULLENBERGER AVE	Center Street	48	5.9	No	Pick	Rehab	Deteriorated	No	547	504
(4)MH1096	2122 E SULLENBERGER AVE	Center Street	48	5.3	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH1098	2204 MCHENRY CIR	Grass Esmt	48	3.4	No	Pick	Rehab	Deteriorated	No	259	504
(4)MH1099	1513 MIMOSA ST	Grass Esmt	48	5.1	No	Concealed	Rehab	Sound	No	288	720
(4)MH1100	1511 MAPLE ST	Grass Esmt	48	8.7	No	Pick	Rehab	Sound	No		720
(4)MH1101	1419 MIMOSA ST	Grass Esmt	48	6.3	No	Pick	Rehab	Cracked	No	648	720
(4)MH1102	1405 MIMOSA ST	Grass Esmt	48	5.1	No	Concealed	Rehab	Cracked	Yes	360	936
(4)MH1103	1325 MIMOSA ST	Grass Esmt	48	6.0	No	Concealed	Rehab	Sound	No		720
(4)MH1104	1715 DELANO DR	Center Street	48	3.1	No	Pick	Rehab	Deteriorated	No	547	792
(4)MH1104A	1801 DOGWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH1132	2119 MCHENRY CIR	Grass Esmt	48	6.3	No	Concealed	Rehab	Deteriorated	No	259	216
(4)MH1134	2302 MCHENRY CIR	Center Street	48	5.8	No	Pick	None	N/A	No	288	288
(4)MH1134A	2327 MCHENRY CIR	Center Street	48	4.4	No	Pick	None	N/A	No	288	288
(4)MH1136	1411 MIMOSA ST	Grass Esmt	48	5.1	No	Concealed	Rehab	Roots	No	936	1,008
(4)MH1136A	1329 MIMOSA ST	Grass Esmt	48	7.3	No	Concealed	Rehab	Deteriorated	No	547	1,008

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH1137	1317 MIMOSA ST	Grass Esmt	48	4.4	No	Concealed	Rehab	Deteriorated	No	259	216
(4)MH1138	1317 MIMOSA ST	Paved Esmt	48	3.2	Yes	Concealed	None	N/A	No		216
(4)MH1139	1227 MIMOSA ST	Grass Esmt	48	4.3	No	Concealed	Rehab	Sound	No		
(4)MH1151	1603 E MILL ST	Center Street	45	7.9	No	Concealed	None	N/A	No	259	2,448
(4)MH1153	1524 WILSON ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH1156	1709 BAILEY PL	Center Street	35	2.6	No	Concealed	None	N/A	No		
(4)MH1156A	1702 BAILEY PL	Grass Esmt	40	2.8	Yes	Concealed	None	N/A	No		
(4)MH1156B	1702 BAILEY PL	Grass Esmt	35	3.9	No	Concealed	None	N/A	No		
(4)MH1156C	1712 BAILEY PL	Grass Esmt	48	4.7	Yes	Concealed	Precast	Sound	No		
(4)MH1157	804 MCLEAN ST	Grass Esmt	48	7.4	No	Concealed	Poured	Sound	No		
(4)MH1188	2605 CANINE RD	Paved Esmt	48	3.5	No	Concealed	Precast	Sound	No		
(4)MH1189	2605 CANINE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH1189A	2605 CANINE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH1190	2605 CANINE RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH1190A	2505 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2038	1903 MONROE ST	Center Street	48	6.1	No	Pick	Rehab	Deteriorated	No	259	1,368
(4)MH2038A	1911 MONROE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2039	1105 DAWSON ST	Center Street	48	4.9	No	Concealed	Precast	Sound	No	288	
(4)MH2040	1920 MONROE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2041	1839 PINE BLUFF ST	Center Street	48	4.2	No	Pick	Rehab	Deteriorated	No	259	504

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH2045	2001 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2045A	2001 PINE BLUFF ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2049	822 WILSON ST	Center Street	48	4.2	No	Pick	Rehab	Sound	No		288
(4)MH2050	2204 E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2052	1401 OWEN ST	Grass Esmt	48	6.6	No	Concealed	Precast	Sound	Yes	288	
(4)MH2052A	1401 OWEN ST	Grass Esmt	48	8.7	No	Concealed	Precast	Sound	No		
(4)MH2053	1515 OWEN ST	Grass Esmt	48	7.4	No	Concealed	Precast	Leaking Joints	No	605	
(4)MH2054	1728 BAILEY PL	Grass Esmt	48	4.8	No	Concealed	Precast	Sound	No		
(4)MH2054A	1708 BAILEY PL	Paved Esmt	35	2.4	No	Concealed	None	N/A	No		
(4)MH2209	1643 CIRCLE DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2209A	1643 CIRCLE DR	Center Street	48	8.6	No	Pick	Brick	Deteriorated	No	259	504
(4)MH2209B	1643 CIRCLE DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2221	1713 TEXAS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2222	811 WILLOW ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2226	1115 MCHENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2227	1027 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2227A	1106 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2228	1006 E HIGHLAND AVE	Center Street	48	5.4	No	Pick	Brick	Deteriorated	Yes	576	504
(4)MH2232	1412 LINCOLN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2235	1214 WILLOW ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH2237	1627 WILLOW ST	Center Street	48	5.6	No	Pick	Precast	Sound	No		288
(4)MH2238	1423 ROOSEVELT ST	Center Street	24	2.7	Yes	Pick	Precast	Sound	No	288	2,736
(4)MH2239	726 HALL ST	Center Street	N/A	2.1	No	Concealed	Not Visibl	N/A	Yes		
(4)MH2240	1018 CLARDY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2241	921 WALLACE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2242	819 CHERRY LN	Center Street	48	4.0	No	Pick	Rehab	Deteriorated	No	259	288
(4)MH2242A	823 CHERRY LN	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2243	1125 CHERRY LN	Center Street	48	7.2	No	Concealed	Poured	Sound	Yes	288	2,160
(4)MH2244	1128 JEFFERSON ST	Center Street	48	5.1	No	Concealed	Poured	Sound	Yes		
(4)MH2245	1312 MONROE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2246	1027 LINCOLN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2246A	1520 MONROE ST	Center Street	48	3.2	No	Concealed	Precast	Sound	No		
(4)MH2247	1027 JEFFERSON ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2249	1523 ROBERT E LEE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2277	1126 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2281	835 CHERRY LN	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2330	1204 MCHENRY ST	Center Street	48	7.1	No	Concealed	Precast	Sound	No		
(4)MH2331	1514 JEFFERSON ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH2511	2505 PINE BLUFF ST	Grass Esmt	48	6.9	No	Concealed	Precast	Sound	Yes	288	
(4)MH2511A	1003 SCHNEIDER DR	Grass Esmt	48	4.1	No	Concealed	Precast	Sound	No	360	

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(4)MH2512	2005 E SULLENBERGER AVE	Center Street	48	5.5	No	Pick	Rehab	Deteriorated	Yes	259	2,664
(4)MH2512A	1124 DAWSON ST	Center Street	48	6.2	No	Pick	Rehab	Sound	Yes		504
(4)MH4011	1617 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH6006	1625 S MAIN ST	Grass Esmt	48	9.2	No	Concealed	Precast	Roots	No	936	
(4)MH6008	1003 SCHNEIDER DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH6009	1125 MCNEAL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(4)MH6010	1301 E MILL ST	Center Street	48	5.3	No	Concealed	Precast	Sound	No		
(4)MH6011	1610 MCHENRY ST	Center Street	48	8.5	No	Concealed	Precast	Sound	No		
(4)MH9999	1224 HIGHLAND AVE	Center Street	26	N/A	No	Concealed	Precast	Sound	No	288	
(4)MH9999A	1224 HIGHLAND AVE	Center Street	26	N/A	No	Concealed	Precast	Sound	No	288	

Totals for Basin 4 48,413 80,928

Total Manholes	230
Manholes Inspected	168
Manholes Not Inspected	62
Manholes Buried	10
Manholes Not Found	52
Manholes Inaccessible	0
Location Not Specified	62

Percent:	
Inspected	73.04%
Not Inspected	26.96%
Buried	4.35%
Not Found	22.61%
Inaccessible	0.00%

Evidence of Surcharge	46
Subject to Ponding	4
Subject to Sheeting	110

Surcharge	20.00%
Ponding	1.74%
Sheeting	47.83%

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(5)MH0001	712	S WALCO RD	Center Street	48	8.8	No	Concealed	Brick	Deteriorated	Yes	547	216
(5)MH0066	712	S WALCO RD	Grass Esmt	48	8.3	No	Concealed	Rehab	Sound	Yes		
(5)MH0066A	712	S WALCO RD	Grass Esmt	48	7.9	No	Bolts Missing	Poured	Deteriorated	Yes	835	3,744
(5)MH0069	712	S WALCO RD	Center Street	48	6.4	No	Concealed	Rehab	Deteriorated	Yes	259	216
(5)MH0071	903	S WALCO RD	Center Street	46	6.4	No	Concealed	Rehab	Sound	Yes	288	216
(5)MH0073	1003	WALCO RD	Center Street	48	12.6	Yes	Concealed	Brick	Deteriorated	No	547	936
(5)MH0073A	1003	WALCO RD	Center Street	48	12.0	No	Concealed	Rehab	Deteriorated	No	547	216
(5)MH0073B	1328	BRYANT ST	Center Street	46	2.9	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0074	1106	WALCO RD	Center Street	48	8.6	No	Concealed	Rehab	Deteriorated	No	259	216
(5)MH0075	1132	S WALCO RD	Center Street	48	6.0	No	Pick	Rehab	Sound	No		504
(5)MH0075A	1418	W SULLENBERGER AVE	Center Street	45	4.4	No	Pick	None	N/A	No	288	288
(5)MH0077	1403	CLARK ST	Center Street	48	3.9	No	Pick	Rehab	Sound	No		504
(5)MH0079	1320	KELLY ST	Center Street	48	11.4	No	Pick	Rehab	Roots	Yes	965	504
(5)MH0080	1318	BRYANT ST	Center Street	48	5.3	No	Pick	Rehab	Sound	No		504
(5)MH0081	1403	CLARK ST	Center Street	48	4.4	No	Pick	None	N/A	No		504
(5)MH0082	1314	W SULLENBERGER AVE	Center Street	45	4.3	No	Concealed	None	N/A	No	605	216
(5)MH0083	1208	W SULLENBERGER AVE	Center Street	48	4.8	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH0084	1223	CLARK ST	Center Street	48	4.5	No	Pick	None	N/A	No	259	504
(5)MH0085	1224	BRYANT ST	Center Street	48	5.3	No	Pick	Rehab	Deteriorated	No	835	504
(5)MH0086	1156	KELLY ST	Center Street	46	5.7	No	Concealed	Rehab	Deteriorated	Yes	547	216

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5)MH0087	1138 BRYANT ST	Center Street	48	6.2	No	Pick	Rehab	Deteriorated	Yes	547	504
(5)MH0089	1208 W SULLENBERGER AVE	Center Street	48	6.5	No	Concealed	Brick	Deteriorated	Yes	547	216
(5)MH0090	1139 CLARK ST	Center Street	48	7.2	No	Concealed	Rehab	Deteriorated	No	259	216
(5)MH0091	1126 ACME ST	Center Street	46	5.7	No	Concealed	Rehab	Sound	No	288	216
(5)MH0092	910 W SULLENBERGER AVE	Center Street	48	5.7	No	Pick	Rehab	Deteriorated	No	547	936
(5)MH0093	1126 ACME ST	Center Street	72	4.3	No	Concealed	Precast	Sound	No	547	
(5)MH0094	1110 CLARK ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0095	1110 CLARK ST	Center Street	48	5.3	No	Pick	Brick	Deteriorated	No	259	504
(5)MH0096	1008 S PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0096A	932 S PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0097	923 S PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0098	1008 PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0098A	1008 PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0100	932 BURRIS RD	Center Street	45	5.9	No	Pick	Brick	Roots	Yes	619	792
(5)MH0101	902 BURRIS RD	Center Street	48	4.9	No	Concealed	None	N/A	No	288	216
(5)MH0102	1008 PARK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0103	824 BURRIS RD	Center Street	45	4.4	No	Pick	None	N/A	Yes		288
(5)MH0105	826 MARIGOLD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0105A	826 MARIGOLD ST	Grass Esmt	40	2.2	No	Concealed	None	N/A	Yes		1,080
(5)MH0106	811 MARIGOLD ST	Grass Esmt	42	2.5	No	Concealed	Rehab	Deteriorated	No	259	864

Manhole Inspection Report

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(5)MH0172	925	SPRUCE ST	Center Street	48	3.8	No	Pick	Rehab	Sound	No		504
(5)MH0173	1103	SPRUCE ST	Center Street	48	5.0	No	Pick	None	N/A	No	547	288
(5)MH0174	730	W SULLENBERGER AVE	Center Street	48	6.3	No	Pick	Rehab	Deteriorated	No	835	504
(5)MH0175	712	W SULLENBERGER AVE	Center Street	48	5.5	No	Concealed	Rehab	Sound	No		288
(5)MH0176	724	W SULLENBERGER AVE	Center Street	48	5.8	No	Pick	Rehab	Cracked	No	360	576
(5)MH0270	1612	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0270A	1612	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0271	1612	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0272	1620	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0273	1119	TURNER ST	Center Street	45	3.7	No	Pick	Rehab	Sound	No		504
(5)MH0274	1101	TURNER ST	Center Street	48	8.6	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH0275	1620	W SULLENBERGER AVE	Grass Esmt	48	11.4	No	Pick	Rehab	Deteriorated	Yes	547	720
(5)MH0276	1620	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0277	1612	KELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0278	810	TURNER ST	Center Street	42	3.8	No	Pick	Rehab	Deteriorated	No	547	288
(5)MH0279	810	TURNER ST	Center Street	48	4.3	No	Concealed	Precast	Sound	No		
(5)MH0279A	1612	KELLY ST	Center Street	48	4.9	No	Pick	Rehab	Deteriorated	Yes	259	504
(5)MH0280	1612	KELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0281	712	S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0281A	712	S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

Manhole Inspection Report

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5)MH0357	1848 S MAIN ST	Grass Esmt	48	8.2	No	Pick	Precast	Sound	No		720
(5)MH0469	1352 S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0470	1352 S WALCO DR	Grass Esmt	45	5.7	No	Pick	Rehab	Deteriorated	Yes	547	936
(5)MH0471	1352 S WALCO RD	Grass Esmt	48	7.1	No	Pick	Rehab	Deteriorated	Yes	259	1,008
(5)MH0472	1352 S WALCO RD	Grass Esmt	48	8.6	No	Pick	Rehab	Deteriorated	Yes	547	720
(5)MH0473	1352 S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0474	1352 S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0475	1514 STANLEY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0476	1514 STANLEY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0477	1310 SPRUCE ST	Center Street	48	11.4	No	Pick	Rehab	Roots	Yes	648	1,872
(5)MH0478	87 LACKMAN HTS	Center Street	48	7.8	No	Concealed	Rehab	Deteriorated	No	259	288
(5)MH0479	910 W SULLENBERGER AVE	Center Street	48	7.7	No	Concealed	Rehab	Deteriorated	No	259	216
(5)MH0480	810 SUNSET ST	Center Street	48	7.0	No	Concealed	Rehab	Deteriorated	No	475	216
(5)MH0481	710 SUNSET ST	Center Street	45	4.8	No	Concealed	None	N/A	No		216
(5)MH0482	1406 BIRCH ST	Center Street	48	20.1	No	Pick	Rehab	Deteriorated	Yes	1,440	288
(5)MH0482A	717 W HIGHLAND AVE	Center Street	48	4.9	No	Pick	Rehab	Deteriorated	No	835	504
(5)MH0483	1328 STANLEY ST	Center Street	48	6.4	No	Concealed	Rehab	Sound	No	288	1,080
(5)MH0485	1220 CARMICHEAL ST	Center Street	46	4.6	No	Concealed	Rehab	Sound	No		216
(5)MH0486	544 OAKLAWN ST	Center Street	48	5.5	No	Concealed	Rehab	Sound	No		216
(5)MH0487	1402 STANLEY ST	Center Street	46	3.2	No	Concealed	Rehab	Sound	No	360	

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				Diam. (in.)	Depth (ft.)							
(5)MH0487A	613	W HIGHLAND AVE	Center Street	48	8.1	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH0488	717	W HIGHLAND AVE	Grass Esmt	45	5.4	No	Pick	Rehab	Sound	Yes		1,008
(5)MH0489	712	OAKLAWN ST	Center Street	48	5.6	No	Pick	Rehab	Roots	No	648	504
(5)MH0490	722	OAKLAWN ST	Grass Esmt	48	14.4	No	Concealed	Brick	Roots	Yes	360	1,080
(5)MH0491	1518	CARMICHEAL ST	Center Street	48	8.7	No	Concealed	Rehab	Roots	Yes	360	216
(5)MH0491A	535	OAKLAWN ST	Grass Esmt	6	10.9	No	Concealed	Other	Sound	No	288	864
(5)MH0492	617	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0493	1514	STANLEY ST	Grass Esmt	48	6.8	No	Pick	Rehab	Sound	Yes		3,744
(5)MH0494	617	W MILL ST	Grass Esmt	48	8.9	No	Bolts Missing	Precast	Sound	Yes		2,880
(5)MH0495	1514	STANLEY ST	Grass Esmt	48	8.6	No	Concealed	Rehab	Deteriorated	No	547	
(5)MH0496	545	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0497	617	W MILL ST	Grass Esmt	48	6.6	No	Pick	Rehab	Deteriorated	No	835	576
(5)MH0501	1314	CARMICHEAL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0505A	429	SUNSET ST	Center Street	48	8.3	No	Pick	Rehab	Roots	No	648	1,008
(5)MH0507	1419	KIRKLAND ST	Center Street	48	5.3	No	Concealed	Rehab	Sound	Yes	576	288
(5)MH0508	430	W MILL ST	Center Street	48	6.0	No	Concealed	Brick	Roots	No	648	216
(5)MH0508A	414	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0509	501	W MILL ST	Center Street	48	9.5	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH0510	501	W MILL ST	Grass Esmt	48	9.1	No	Pick	Brick	Deteriorated	Yes	518	936
(5)MH0511	617	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(5)MH0512	545	W MILL ST	Grass Esmt	48	7.1	No	Pick	Rehab	Sound	Yes	288	720
(5)MH0513	545	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0514	545	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0515	617	W MILL ST	Grass Esmt	48	4.1	No	Pick	Rehab	Deteriorated	Yes	547	504
(5)MH0516	617	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0517	404	W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0518	353	W MILL ST	Center Street	45	5.9	No	Concealed	Rehab	Deteriorated	Yes	547	216
(5)MH0519	341	W MILL ST	Grass Esmt	40	4.6	No	Pick	Rehab	Roots	Yes	648	576
(5)MH0520	341	W MILL ST	Grass Esmt	47	5.4	No	Concealed	Rehab	Deteriorated	No	547	216
(5)MH0521	335	OAKLAWN ST	Grass Esmt	48	10.8	No	Pick	Rehab	Sound	Yes	288	3,168
(5)MH0522	1411	EARNEST ST	Center Street	48	14.3	No	Pick	Brick	Deteriorated	No	547	1,800
(5)MH0523A	1311	EARNEST ST	Center Street	48	6.0	No	Pick	Rehab	Deteriorated	No	864	936
(5)MH0525	1227	SUNSET ST	Center Street	46	5.2	No	Pick	None	N/A	No		936
(5)MH0526	1323	SUNSET ST	Center Street	48	9.6	No	Pick	Brick	Deteriorated	No	259	936
(5)MH0527	332	OAKLAWN ST	Grass Esmt	48	7.2	No	Pick	Rehab	Roots	Yes	648	576
(5)MH0528	317	OAKLAWN ST	Grass Esmt	48	11.0	Yes	Pick	Brick	Roots	Yes	648	6,444
(5)MH0529	1620	ROCK ST	Center Street	48	8.8	No	Pick	Rehab	Roots	Yes	360	2,736
(5)MH0530	323	W DONNELLY ST	Grass Esmt	40	4.5	No	Pick	Rehab	Deteriorated	Yes	835	576
(5)MH0531	221	W DONNELLY ST	Grass Esmt	48	6.4	No	Pick	Rehab	Roots	Yes	648	1,872
(5)MH0532	1810	DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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			Diam. (in.)	Depth (ft.)							
(5)MH0533	1810 DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0534	2426 S MAIN ST	Grass Esmt	48	5.2	No	Concealed	Precast	Leaking Joints	No	317	
(5)MH0535	2506 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0536	2589 S MAIN ST	Grass Esmt	45	6.0	No	Pick	Rehab	Deteriorated	No	259	720
(5)MH0536A	2510 S MAIN ST	Grass Esmt	45	6.9	No	Pick	Precast	Roots	Yes	648	720
(5)MH0537	2508 SOUTHGATE DR	Ditch	48	10.1	No	Pick	Rehab	Roots	No	360	288
(5)MH0538	2508 SOUTHGATE DR	Grass Esmt	48	4.1	No	Pick	None	N/A	Yes		936
(5)MH0543	139 W DONNELLY ST	Grass Esmt	46	6.5	No	Pick	Rehab	Roots	No	648	576
(5)MH0544	211 W DONNELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0545	1608 HOWARD ST	Grass Esmt	48	7.3	No	Pick	Rehab	Roots	No	648	936
(5)MH0546	303 OAKLAWN ST	Center Street	48	6.9	No	Pick	Rehab	Sound	No	547	504
(5)MH0547	234 OAKLAWN ST	Center Street	48	8.5	No	Concealed	Rehab	Deteriorated	Yes	1,267	216
(5)MH0548	232 W HIGHLAND AVE	Grass Esmt	48	7.7	No	Pick	Rehab	Deteriorated	No	4,867	936
(5)MH0553	1322 LOCUST ST	Not Found	46	4.7	No	Pick	Brick	Roots	Yes	360	288
(5)MH0554A	1421 LOCUST ST	Center Street	46	6.8	No	Concealed	Not Visibl	N/A	Yes		1,080
(5)MH0556	224 W MILL ST	Center Street	46	4.4	No	Pick	Rehab	Sound	Yes		504
(5)MH0557	141 W MILL ST	Center Street	48	7.6	No	Concealed	Rehab	Deteriorated	No	259	216
(5)MH0559	103 E MILL ST	Center Street	48	7.5	No	Concealed	Rehab	Deteriorated	No	518	216
(5)MH0562	221 W DONNELLY ST	Grass Esmt	36	4.6	No	Pick	Rehab	Sound	Yes	835	1,008
(5)MH0562A	139 W DONNELLY ST	Grass Esmt	48	8.0	No	Pick	Rehab	Roots	No	936	1,008

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				Diam. (in.)	Depth (ft.)							
(5)MH0563	211	W DONNELLY ST	Grass Esmt	36	7.0	No	Concealed	Precast	Sound	Yes		864
(5)MH0564	1810	DYER ST	Grass Esmt	48	9.5	No	Concealed	Rehab	Deteriorated	No	518	216
(5)MH0565	1810	DYER ST	Grass Esmt	48	8.4	No	Pick	Rehab	Sound	No		2,448
(5)MH0566	1828	DYER ST	Grass Esmt	48	8.9	No	Pick	Rehab	Deteriorated	No	1,627	576
(5)MH0567	1810	DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0569	1919	DYER ST	Center Street	48	9.1	No	Concealed	Poured	Sound	No	187	
(5)MH0569A	1919	DYER ST	Grass Esmt	48	8.7	Yes	Pick	Rehab	Deteriorated	No	547	22,074
(5)MH0569B	1919	DYER ST	Grass Esmt	48	9.0	Yes	Pick	Rehab	Deteriorated	No	259	72
(5)MH0571	1919	DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0572	2020	DYER ST	Center Street	48	5.0	No	Pick	Poured	Sound	No	288	288
(5)MH0573	2202	DYER ST	Center Street	48	6.4	No	Pick	Poured	Sound	No		2,880
(5)MH0574	2328	DYER ST	Center Street	48	6.9	No	Concealed	Poured	Sound	No		
(5)MH0575	2416	DYER ST	Center Street	48	6.4	No	Pick	Poured	Sound	No		288
(5)MH0576	2415	DYER ST	Center Street	48	6.1	No	Concealed	Poured	Sound	No		
(5)MH0577	2425	DYER ST	Center Street	48	6.2	No	Pick	Poured	Deteriorated	No	806	720
(5)MH0578	829	CLOUD RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0586	221	W DONNELLY ST	Grass Esmt	48	5.8	No	Concealed	Precast	Roots	No	360	
(5)MH0620	712	S WALCO RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0675	1308	S WALCO RD	Grass Esmt	48	12.4	No	Pick	Rehab	Sound	Yes	288	720
(5)MH0690	1502	POTTS ST	Center Street	48	9.3	No	Concealed	Poured	Sound	No		

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			Diam. (in.)	Depth (ft.)							
(5)MH0691	203 E MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0692	213 E MILL ST	Center Street	47	4.2	No	Concealed	None	N/A	No		216
(5)MH0699	1734 JESTER ST	Grass Esmt	45	5.6	No	Concealed	Rehab	Sound	Yes	576	216
(5)MH0699A	1825 DYER ST	Grass Esmt	48	5.8	No	Storm/Vent	Brick	Roots	Yes	648	3,312
(5)MH0700	1734 JESTER ST	Grass Esmt	46	7.9	No	Bolts Missing	Rehab	Roots	Yes	360	1,368
(5)MH0700A	399 E DONNELLY ST	Center Street	48	3.4	No	Concealed	Precast	Sound	No		
(5)MH0701	2001 DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0702	1848 S MAIN ST	Grass Esmt	48	10.3	No	Concealed	Precast	Sound	No	288	
(5)MH0703	1848 SOUTH MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0704	1928 LILLIAN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0706	2024 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0707	2110 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0710	2506 S MAIN ST	Grass Esmt	48	9.3	No	Pick	Rehab	Roots	No	648	1,872
(5)MH0712	1848 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0713	1843 HARPER ST	Grass Esmt	48	9.5	No	Concealed	Poured	Sound	No		
(5)MH0714	1843 HARPER ST	Grass Esmt	48	4.6	No	Concealed	Precast	Sound	No		
(5)MH0715	1848 S MAIN ST	Grass Esmt	48	4.4	No	Concealed	None	N/A	No		
(5)MH0715A	1848 S MAIN ST	Grass Esmt	48	3.7	No	Pick	None	N/A	No		3,096
(5)MH0716	1804 S MAIN ST	Ditch	48	3.8	No	Concealed	Brick	Deteriorated	Yes	259	216
(5)MH0718	339 E DONNELLY ST	Grass Esmt	42	8.6	No	Pick	Brick	Deteriorated	Yes	1,440	504

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				Diam. (in.)	Depth (ft.)							
(5)MH0718A	399	DONNELLY ST	Center Street	48	5.9	No	Concealed	Precast	Sound	No		
(5)MH0718B	339	E DONNELLY ST	Grass Esmt	48	5.8	No	Concealed	Precast	Sound	No		
(5)MH0720	1814	S MAIN ST	Center Street	46	8.6	No	Concealed	Rehab	Deteriorated	Yes	835	216
(5)MH0720A	1814	S MAIN ST	Grass Esmt	45	8.0	No	Pick	Brick	Deteriorated	Yes	259	576
(5)MH0757	1624	HARPER ST	Center Street	45	4.8	No	Concealed	Rehab	Sound	No		216
(5)MH0758	1730	HARPER ST	Center Street	48	7.7	No	Pick	Rehab	Deteriorated	No	619	1,008
(5)MH0758A	1730	HARPER ST	Grass Esmt	48	6.0	No	Concealed	Poured	Sound	No	2,088	216
(5)MH0759	17256	EVANS ST	Grass Esmt	48	6.0	No	Pick	Poured	Sound	No	288	1,584
(5)MH0759A	1725	TEXAS ST	Grass Esmt	48	5.7	No	Concealed	Precast	Sound	No	288	
(5)MH0759B	1725	TEXAS ST	Grass Esmt	48	5.5	No	Concealed	Precast	Sound	Yes		
(5)MH0762	1730	HARPER ST	Center Street	48	5.8	No	Pick	Precast	Sound	No	288	720
(5)MH0762A	1813	HARPER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0764	1843	HARPER ST	Center Street	48	9.8	No	Pick	Brick	Deteriorated	No	547	504
(5)MH0764A	1911	HARPER ST	Center Street	48	6.8	No	Concealed	Precast	Roots	No	648	
(5)MH0767	1104	PARK AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0768	1100	PARKER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0769	1910	ROOSEVELT ST	Grass Esmt	42	5.1	No	Pick	None	N/A	Yes		1,008
(5)MH0770	1910	ROOSEVELT ST	Grass Esmt	45	6.8	No	Pick	None	N/A	Yes	288	1,800
(5)MH0771	1809	CHERRY LN	Center Street	48	5.7	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH0772	1730	HARPER ST	Grass Esmt	42	4.5	No	Pick	Rehab	Deteriorated	Yes	259	936

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				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH0773	1303	PLEASANT ST	Center Street	48	6.6	No	Pick	Rehab	Deteriorated	No	806	504
(5)MH0783	1325	PLEASANT ST	Center Street	45	5.6	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH0784	1334	GLOVER ST	Center Street	48	7.5	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0785	2106	TAYLOR ST	Center Street	48	7.0	No	Pick	Rehab	Deteriorated	No	259	1,080
(5)MH0786	2528	BRIARWOOD DR	Grass Esmt	45	5.6	No	Concealed	Rehab	Cracked	Yes	648	288
(5)MH0787	1408	GLENMERE CIR	Paved Esmt	45	5.3	No	Pick	None	N/A	No	288	288
(5)MH0787A	2360	GARDEN CIR	Grass Esmt	48	8.3	No	Concealed	Precast	Sound	No		
(5)MH0787B	2354	GARDEN CIR	Grass Esmt	32	2.2	No	Concealed	Precast	Sound	No		
(5)MH0788	1440	GLENMERE CIR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0788A	2401	SOUTHGATE DR	Grass Esmt	45	6.7	No	Pick	Rehab	Cracked	No	360	288
(5)MH0789	2508	SOUTHGATE DR	Grass Esmt	45	4.0	No	Pick	None	N/A	No		288
(5)MH0790	2513	BRIARWOOD DR	Grass Esmt	45	4.5	No	Pick	Brick	Deteriorated	Yes	547	1,800
(5)MH0791	1314	GLENMERE CIR	Center Street	45	4.8	No	Pick	None	N/A	No	288	288
(5)MH0791A	2331	SOUTHGATE DR	Grass Esmt	45	5.5	No	Pick	Rehab	Cracked	No	619	288
(5)MH0792	2435	BRIARWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0793	2245	SOUTHGATE DR	Grass Esmt	42	5.8	No	Pick	Rehab	Roots	No	979	288
(5)MH0794	2213	SOUTHGATE DR	Grass Esmt	45	3.7	No	Pick	None	N/A	No	288	288
(5)MH0795	1420	FOWLER ST	Center Street	48	8.2	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0796	1309	FOWLER ST	Center Street	45	8.5	No	Concealed	None	N/A	No		216
(5)MH0796A	1321	FOWLER ST	Center Street	48	8.3	No	Concealed	Rehab	Deteriorated	No	259	216

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			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH0796B	2118 SULTON ST	Center Street	48	6.6	No	Concealed	Poured	Sound	No		
(5)MH0799	1910 ROOSEVELT ST	Grass Esmt	48	5.9	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0799A	1405 REED ST	Center Street	48	8.1	No	Pick	Rehab	Sound	No		720
(5)MH0800	2003 JONES ST	Center Street	48	13.9	No	Concealed	Rehab	Deteriorated	No	259	
(5)MH0801	1500 PARK AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0802	1406 PARK DR	Center Street	48	5.8	No	Pick	Rehab	Sound	No		1,728
(5)MH0803	1501 GLOVER ST	Center Street	48	5.3	No	Pick	Rehab	Sound	No	576	504
(5)MH0804	1426 PLEASANT ST	Center Street	45	6.6	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0814	1527 PLEASANT ST	Center Street	48	7.8	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0815	1604 GLOVER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0816	1718 WILSON ST	Center Street	45	5.4	No	Concealed	Rehab	Sound	No		216
(5)MH0817	1806 WILSON ST	Center Street	48	4.9	No	Pick	Rehab	Sound	No		504
(5)MH0818	1520 PARK AVE	Center Street	48	7.4	No	Pick	Rehab	Sound	No	288	288
(5)MH0819	1703 PARK AVE	Center Street	48	4.5	No	Pick	Rehab	Deteriorated	Yes	259	288
(5)MH0820	1704 REED ST	Center Street	48	15.2	No	Pick	Rehab	Deteriorated	Yes	259	288
(5)MH0820A	1920 WILSON ST	Center Street	48	11.9	No	Concealed	Rehab	Deteriorated	Yes	259	144
(5)MH0822	2103 WILSON ST	Center Street	48	11.8	No	Concealed	Precast	Sound	No	288	
(5)MH0824	2427 OAKWOOD DR	Center Street	45	5.4	No	Concealed	Brick	Deteriorated	No	259	216
(5)MH0825	2501 OAKWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0827	2506 S MAIN ST	Grass Esmt	48	8.7	No	Pick	Rehab	Roots	No	1,570	1,440

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5)MH0828	2510 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0830	1532 OAKWOOD CIR	Grass Esmt	45	8.4	No	Concealed	Block	Roots	No	648	216
(5)MH0830A	1532 OAKWOOD CIR	Grass Esmt	45	5.3	No	Pick	Block	Roots	No	648	1,368
(5)MH0830B	1524 OAKWOOD CIR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0831	1520 VALLEY VIEW DR	Grass Esmt	48	6.6	No	Pick	Brick	Deteriorated	No	259	1,800
(5)MH0832	1307 SOUTHGATE CIR	Center Street	46	4.8	No	Concealed	Brick	Deteriorated	No	259	216
(5)MH0835	1416 OAKHILL DR	Center Street	38	3.4	No	Concealed	None	N/A	No	288	1,152
(5)MH0836	2802 SOUTHGATE DR	Center Street	48	12.4	No	Concealed	Rehab	Deteriorated	No	259	216
(5)MH0837	1624 VALLEY VIEW DR	Grass Esmt	48	5.4	No	Concealed	Brick	Cracked	No	648	216
(5)MH0840	1540 VALLEY VIEW DR	Grass Esmt	45	5.4	No	Pick	Block	Deteriorated	No	259	504
(5)MH0840A	1532 VALLEY VIEW DR	Grass Esmt	45	3.8	No	Pick	Brick	Deteriorated	No	1,886	1,440
(5)MH0843	1601 VALLEY VIEW DR	Grass Esmt	45	5.4	No	Pick	Brick	Deteriorated	No	547	504
(5)MH0844	1607 VALLEY VIEW DR	Grass Esmt	45	4.0	No	Concealed	None	N/A	No	288	216
(5)MH0844A	1617 VALLEY VIEW DR	Center Street	45	4.1	No	Concealed	Brick	Deteriorated	No	259	216
(5)MH0845	1620 VALLEY VIEW DR	Grass Esmt	48	3.8	No	Pick	Rehab	Roots	No	648	936
(5)MH0846	2824 SOUTHGATE DR	Grass Esmt	48	8.7	No	Concealed	Brick	Roots	Yes	187	216
(5)MH0846A	2824 SOUTHGATE DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0847	2514 BRIARWOOD DR	Grass Esmt	42	6.5	No	Pick	Rehab	Deteriorated	No	547	720
(5)MH0848	2813 SOUTHGATE DR	Grass Esmt	48	11.2	No	Concealed	Brick	Deteriorated	No	259	216
(5)MH0860	1860 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH0860A	1915 S MAIN ST	Center Street	46	7.3	Yes	Pick	Rehab	Sound	No	432	27,965
(5)MH0861	1715 EVANS ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0862	1744 PARK AVE	Center Street	48	5.3	No	Pick	Rehab	Sound	No		1,080
(5)MH0863	1720 SHADY LN	Center Street	48	5.6	No	Pick	Rehab	Deteriorated	No	259	1,368
(5)MH0865	1719 REED ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0866	22 PINE DR	Center Street	48	13.5	No	Pick	Rehab	Sound	No		864
(5)MH0867	25 PINE DR	Center Street	40	2.0	No	Pick	Precast	Deteriorated	No	259	720
(5)MH0867A	1821 ROYAL OAKS DR	Center Street	48	4.4	No	Concealed	Precast	Sound	No	288	288
(5)MH0869	42 PINE DR	Center Street	48	4.0	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH0869A	1644 REED ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0870	1644 SHADY LN	Center Street	48	8.8	No	Pick	Rehab	Sound	No		504
(5)MH0870A	1636 REED ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH0871	1651 REED ST	Center Street	48	4.9	No	Pick	Rehab	Sound	Yes		504
(5)MH0874	1631 SHADY LN	Center Street	48	8.0	No	Pick	Rehab	Deteriorated	No	259	1,368
(5)MH1041	1929 SHADY LN	Grass Esmt	48	6.1	No	Concealed	Rehab	Sound	No		
(5)MH1041A	1824 REED ST	Center Street	48	6.9	No	Concealed	Rehab	Deteriorated	No	259	
(5)MH1041B	1824 REED ST	Grass Esmt	48	5.5	No	Concealed	None	N/A	No	288	
(5)MH1051	2227 REED ST	Grass Esmt	48	7.4	No	Concealed	Rehab	Deteriorated	No	835	
(5)MH1052	2107 HILLCREST ST	Grass Esmt	48	5.1	No	Concealed	None	N/A	No	288	288
(5)MH1053	2011 SHADY LN	Center Street	48	3.1	No	Concealed	Rehab	Sound	No		288

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH1053A	1834	REED ST	Grass Esmt	48	4.2	No	Concealed	None	N/A	No	288	
(5)MH1053B	2011	SHADY LN	Grass Esmt	48	4.5	No	Concealed	None	N/A	No	288	216
(5)MH1055	2107	HILLCREST ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH1056	2109	SHADY CIR	Grass Esmt	46	6.1	No	Concealed	Rehab	Sound	No	547	288
(5)MH1056A	2120	SHADY LN	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH1056B	2106	SHADY CIR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH1057	2120	SHADY LN	Grass Esmt	48	5.8	No	Concealed	Rehab	Sound	No	288	
(5)MH1059	2212	SHADY LN	Grass Esmt	48	5.4	No	Concealed	Precast	Sound	No		
(5)MH1060	2109	SHADY CIR	Grass Esmt	42	6.2	No	Concealed	Rehab	Sound	No	288	
(5)MH1061	2106	SHADY CIR	Grass Esmt	48	7.2	No	Concealed	Rehab	Cracked	No	360	1,152
(5)MH1080	1514	STANLEY ST	Grass Esmt	48	6.0	No	Pick	Rehab	Sound	Yes	288	3,744
(5)MH1082	1621	LOCUST ST	Grass Esmt	24	5.1	No	Concealed	Precast	Sound	No	288	720
(5)MH1083	1621	HOWARD ST	Grass Esmt	48	6.9	No	Concealed	Precast	Sound	No	288	
(5)MH1093	2301	BRIARWOOD DR	Grass Esmt	48	5.3	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH1094	2432	BRIARWOOD DR	Grass Esmt	42	4.2	No	Pick	None	N/A	No	1,440	936
(5)MH1095	2342	BRIARWOOD DR	Grass Esmt	48	4.5	No	Pick	Rehab	Deteriorated	No	806	720
(5)MH1106	25	PINE DR	Center Street	48	4.3	No	Pick	Rehab	Sound	No		1,080
(5)MH1109	1828	ROYAL OAKS DR	Center Street	48	4.8	No	Concealed	Precast	Sound	No	288	288
(5)MH1109A	1808	REGENCY DR	Center Street	48	4.9	No	Concealed	Precast	Sound	No		288
(5)MH1109B	1802	REGENCY DR	Center Street	48	5.7	No	Concealed	Precast	Sound	No		

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH1109C	1803	ROYAL OAKS DR	Center Street	48	2.9	No	Concealed	None	N/A	No		
(5)MH1110	1729	ROYAL OAKS DR	Center Street	48	5.6	No	Concealed	Poured	Sound	No	288	
(5)MH1111	1725	ROYAL OAKS DR	Center Street	48	4.8	No	Concealed	Poured	Sound	No		
(5)MH1112	1723	ROYAL OAKS DR	Center Street	48	9.8	No	Concealed	Poured	Deteriorated	No	547	
(5)MH1114	1725	REBEL DR	Center Street	48	6.8	No	Concealed	Poured	Deteriorated	No	547	
(5)MH1114A	1721	ROYAL OAKS DR	Center Street	48	6.5	No	Concealed	Poured	Sound	No		864
(5)MH1114B	1722	REGENCY DR	Center Street	48	5.6	No	Concealed	Poured	Sound	No	259	
(5)MH1114C	1727	REGENCY DR	Center Street	48	6.1	No	Concealed	Poured	Sound	No		
(5)MH1115	1717	ROYAL OAKS DR	Center Street	48	8.7	No	Concealed	Poured	Deteriorated	No	547	
(5)MH1116	1703	ROYAL OAKS DR	Center Street	48	7.5	No	Concealed	Poured	Deteriorated	Yes	835	
(5)MH1116A	1716	REGENCY DR	Center Street	48	8.6	No	Concealed	Poured	Deteriorated	No	259	
(5)MH1117	1628	PLEASANT ST	Center Street	48	9.8	No	Pick	Rehab	Deteriorated	No	259	504
(5)MH1117A	1611	WILSON ST	Center Street	45	6.8	No	Pick	Rehab	Deteriorated	No	547	504
(5)MH1121	1902	SHADY LN	Grass Esmt	48	4.2	No	Concealed	None	N/A	No	288	
(5)MH1121A	1902	SHADY LN	Grass Esmt	48	10.7	No	Concealed	Rehab	Sound	No	288	
(5)MH1122	2230	REED ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH1123	2222	REED ST	Grass Esmt	48	4.2	No	Concealed	None	N/A	No	288	
(5)MH1124	2212	REED ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH1125	1929	SHADY LN	Grass Esmt	48	9.1	No	Concealed	Rehab	Deteriorated	No	547	
(5)MH1126	1928	SHADY LN	Grass Esmt	48	6.4	No	Concealed	None	N/A	No	288	

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infil. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5)MH1126A	1920 SHADY LN	Grass Esmt	48	11.1	No	Concealed	Rehab	Sound	No		
(5)MH1127	2020 PINE DR	Grass Esmt	48	4.9	No	Pick	Rehab	Deteriorated	No	259	1,080
(5)MH1128	1910 SHADY LN	Grass Esmt	48	5.9	No	Concealed	None	N/A	No	288	288
(5)MH1140	1008 S PARK DR	Center Street	48	7.6	No	Pick	Rehab	Sound	No	288	504
(5)MH1140A	1130 BRYANT ST	Center Street	46	7.0	No	Pick	Rehab	Sound	No	288	504
(5)MH1146	2216 SHADY LN	Grass Esmt	48	6.1	No	Concealed	Rehab	Sound	No	288	
(5)MH1148	203 E DONNELLY ST	Center Street	46	5.8	No	Pick	Rehab	Sound	No	259	288
(5)MH1158	1902 SHADY LN	Center Street	48	7.5	No	Concealed	Rehab	Sound	No		
(5)MH1176	2106 PINE HILLS CIR	Grass Esmt	48	8.2	No	Pick	Rehab	Sound	No	576	720
(5)MH1177	2125 PINE HILLS CIR	Grass Esmt	48	8.0	No	Concealed	None	N/A	No	144	216
(5)MH1200	1501 STANLEY ST	Grass Esmt	48	6.9	No	Concealed	Precast	Sound	No	547	288
(5)MH2075	207 E DONNELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2076	1620 DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2076A	112 E DONNELLY ST	Grass Esmt	32	2.4	No	Concealed	None	N/A	No		
(5)MH2077	829 CLOUD RD	Center Street	48	6.2	No	Concealed	Precast	Sound	No		
(5)MH2077A	829 CLOUD RD	Center Street	48	7.3	No	Pick	Poured	Sound	No		288
(5)MH2089	1602 OAKWOOD CIR	Grass Esmt	45	4.4	No	Pick	Block	Deteriorated	No	259	504
(5)MH2089A	2613 OAKWOOD DR	Paved Esmt	45	5.8	No	Pick	Block	Deteriorated	No	547	504
(5)MH2089B	2528 OAKWOOD DR	Grass Esmt	45	6.5	No	Pick	Block	Deteriorated	No	259	936
(5)MH2092	2514 OAKWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5)MH2157	903 S WALCO RD	Center Street	45	6.5	No	Pick	Rehab	Deteriorated	Yes	259	504
(5)MH2158	1137 KELLY ST	Center Street	36	3.7	No	Concealed	Rehab	Cracked	No	648	1,152
(5)MH2159	1123 SPRUCE ST	Center Street	46	5.2	No	Pick	None	N/A	No		720
(5)MH2168	314 SUNSET ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2169	1505 LOCUST ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2170	305 W DONNELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2174	339 E DONNELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2175	1843 HARPER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2176	1843 HARPER ST	Grass Esmt	48	11.4	No	Pick	Poured	Deteriorated	Yes	259	288
(5)MH2176A	718 SULPHUR SPRINGS RD	Paved Esmt	48	9.6	No	Storm/Vent	Brick	Loose/Missing Bricks	Yes	288	3,600
(5)MH2177	825 SULPHUR SPRINGS RD	Grass Esmt	48	9.3	No	Concealed	Poured	Sound	Yes	288	
(5)MH2178	825 SULPHUR SPRINGS RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2178A	825 SULPHUR SPRINGS RD	Grass Esmt	48	5.7	Yes	Concealed	Precast	Sound	No		1,080
(5)MH2179	825 SULPHUR SPRINGS RD	Grass Esmt	48	3.7	No	Concealed	None	N/A	No		
(5)MH2181	825 SULPHUR SPRINGS RD	Grass Esmt	48	5.8	No	Concealed	Precast	Sound	No	288	
(5)MH2182	825 SULPHUR SPRINGS RD	Grass Esmt	48	7.1	Yes	Concealed	Poured	Sound	No		
(5)MH2182A	825 SULPHUR SPRINGS RD	Grass Esmt	48	5.6	No	Concealed	Poured	Sound	No	3,600	
(5)MH2184A	825 SULPHUR SPRINGS RD	Grass Esmt	48	6.5	No	Concealed	Poured	Sound	No		
(5)MH2184B	825 SULPHUR SPRINGS RD	Grass Esmt	48	6.4	No	Concealed	Precast	Sound	No		1,152
(5)MH2185	825 SULPHUR SPRINGS RD	Grass Esmt	48	6.0	No	Concealed	Poured	Sound	No	2,880	864

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			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH2185A	2205 S MAIN ST	Grass Esmt	48	7.9	No	Concealed	Poured	Sound	Yes		216
(5)MH2250	1620 CHERRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2266	1821 ROYAL OAKS DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2268	2017 SHADY LN	Grass Esmt	45	4.1	No	Concealed	None	N/A	No		
(5)MH2269	2103 WILSON ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2270	2103 WILSON ST	Center Street	48	9.3	No	Concealed	Precast	Sound	No	288	864
(5)MH2270A	2103 WISLON ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2271	2111 JONES ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2272	1416 FOWLER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2273	2123 TAYLOR ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2274	1209 FOWLER ST	Center Street	48	8.4	No	Pick	Rehab	Sound	No	259	504
(5)MH2501	1848 S MAIN ST	Grass Esmt	48	8.3	No	Pick	Precast	Sound	No	360	720
(5)MH2507	1304 LOCUST ST	Not Found	22	3.5	No	Pick	Rehab	Sound	No	288	288
(5)MH2508	1309 FOWLER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2515	1850 S MAIN ST	Grass Esmt	48	4.6	No	Concealed	Precast	Sound	No		
(5)MH2605	2706 SOUTHGATE DR	Center Street	45	4.1	No	Concealed	Brick	Deteriorated	No	547	216
(5)MH2605A	2706 SOUTHGATE DR	Grass Esmt	45	5.4	No	Pick	Brick	Deteriorated	No	259	1,800
(5)MH2605B	2705 SOUTHGATE DR	Grass Esmt	48	6.6	No	Pick	Brick	Roots	Yes	648	1,008
(5)MH2609	2731 SOUTHGATE DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2610	2403 BRIARWOOD DR	Grass Esmt	48	7.5	No	Concealed	Brick	Roots	No	648	216

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			Diam. (in.)	Depth (ft.)							
(5)MH2610A	2489 OAKWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2611	2525 BRIARWOOD DR	Grass Esmt	45	3.2	No	Pick	None	N/A	Yes		504
(5)MH2611A	2528 BRIARWOOD DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2612	1800 CHERRY LN	Grass Esmt	48	5.3	No	Pick	Precast	Sound	No	288	288
(5)MH2614	1800 CHERRY LN	Grass Esmt	48	4.2	No	Pick	Precast	Sound	No		288
(5)MH2615	1841 HARPER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2615A	1841 HARPER ST	Grass Esmt	48	7.9	No	Concealed	Precast	Roots	No	648	1,152
(5)MH2615B	1104 PARK AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH2616	1220 PARK AVE	Grass Esmt	48	10.6	No	Concealed	Precast	Deteriorated	Yes	259	
(5)MH3000	1525 STANLEY ST	Grass Esmt	48	4.1	No	Concealed	Precast	Sound	No		
(5)MH3004	1321 STANLEY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3015	305 W DONNELLY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3023	2001 DYER ST	Grass Esmt	48	10.3	No	Concealed	Precast	Sound	No	288	
(5)MH3084	545 W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3085	2121 S MAIN ST	Grass Esmt	48	6.5	No	Concealed	Precast	Sound	No	288	
(5)MH3086	2100 S MAIN ST		48	4.5	No	Concealed	Precast	Sound	No		
(5)MH3086A	2104 S MAIN ST	Center Street	48	4.8	No	Concealed	None	N/A	No	288	864
(5)MH3087	2024 S MAIN ST	Grass Esmt	48	7.6	No	Concealed	Precast	Sound	No		
(5)MH3087A	2027 S MAIN ST	Grass Esmt	48	7.0	No	Concealed	Precast	Sound	No		864
(5)MH3087B	2024 S MAIN ST	Grass Esmt	48	6.2	No	Concealed	Precast	Sound	No		

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Manhole Number	Address		Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)							
(5)MH3088	2008	AZAELA DR	Grass Esmt	48	6.4	No	Concealed	Precast	Sound	No	288	
(5)MH3089	2027	S MAIN ST	Grass Esmt	48	5.8	No	Concealed	Precast	Sound	No		864
(5)MH3090	2027	S MAIN ST	Grass Esmt	48	5.7	No	Concealed	Precast	Deteriorated	No	259	288
(5)MH3091	2027	S MAIN ST	Grass Esmt	48	4.6	No	Concealed	Precast	Sound	No		
(5)MH3093	2024	S MAIN ST	Grass Esmt	48	7.3	No	Concealed	Precast	Sound	No		
(5)MH3096	2110	S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3096A	1930	S MAIN ST	Grass Esmt	48	4.4	No	Concealed	Precast	Sound	No		
(5)MH3097	1930	S MAIN ST	Grass Esmt	48	5.4	No	Concealed	Precast	Sound	No		
(5)MH3098	1930	S MAIN ST	Grass Esmt	48	4.8	No	Concealed	Precast	Sound	No		
(5)MH3099	1948	S MAIN ST	Grass Esmt	48	5.4	No	Concealed	Precast	Sound	No	288	
(5)MH3100	1928	S MAIN ST	Grass Esmt	48	4.9	No	Concealed	Precast	Sound	No		
(5)MH3101	305	LILLIAN ST	Grass Esmt	48	4.8	No	Concealed	Precast	Sound	No		
(5)MH3102	305	LILLIAN ST	Grass Esmt	48	6.0	No	Concealed	Precast	Sound	No		
(5)MH3103	1100	PARKER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3104	1100	PARKER ST	Grass Esmt	48	6.8	No	Concealed	Precast	Roots	Yes	936	
(5)MH3105	1100	PARKER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3105A	1100	PARK AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3105B	1100	PARKER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3105C	1100	PARKER ST	Grass Esmt	42	4.3	No	Pick	None	N/A	Yes	288	504
(5)MH3106	1100	PARK AVE	Grass Esmt	48	5.5	No	Pick	Precast	Sound	Yes	187	288

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH3108	2410	S MAIN ST	Grass Esmt	48	5.3	No	Concealed	Precast	Deteriorated	No	259	864
(5)MH3109	2109	S MAIN ST	Grass Esmt	48	8.6	No	Pick	Rehab	Deteriorated	No	6,019	288
(5)MH3109A	2109	S MAIN ST	Grass Esmt	48	6.9	No	Concealed	Precast	Leaking Joints	No	317	
(5)MH3110	2109	S MAIN ST	Grass Esmt	48	6.9	No	Concealed	Precast	Cracked	No	360	
(5)MH3111	2312	S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3111A	2312	S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3112	2312	S MAIN ST	Grass Esmt	48	4.9	No	Concealed	Precast	Sound	No		
(5)MH3113	2312	S MAIN ST	Grass Esmt	48	7.6	No	Pick	Rehab	Roots	No	360	288
(5)MH3113A	2312	S MAIN ST	Grass Esmt	48	5.0	No	Concealed	Precast	Sound	No		
(5)MH3113B	2312	S MAIN ST	Grass Esmt	48	7.5	No	Concealed	Precast	Leaking Joints	No	317	864
(5)MH3114	1229	SULPHUR SPRINGS RD	Grass Esmt	48	8.7	No	Concealed	Precast	Sound	No	288	
(5)MH3115	1210	SULPHUR SPRINGS RD	Grass Esmt	48	8.0	No	Concealed	Precast	Sound	No		
(5)MH3115A	1211	SULPHUR SPRINGS RD	Grass Esmt	48	6.1	No	Concealed	Precast	Sound	No		
(5)MH3115B	1211	SULPHUR SPRINGS RD	Grass Esmt	30	2.5	No	Concealed	Precast	Sound	No		
(5)MH3116	1211	SULPHUR SPRINGS RD	Grass Esmt	48	4.7	No	Concealed	Precast	Sound	No		
(5)MH3117	1203	S SULPHUR SPRINGS R	Grass Esmt	48	11.9	No	Concealed	Precast	Sound	No		864
(5)MH3120A	1203	S SULPHUR SPRINGS R	Grass Esmt	48	9.3	No	Concealed	Precast	Roots	No	648	
(5)MH3120B	1203	SULPHUR SPRINGS RD	Grass Esmt	48	7.5	No	Concealed	Precast	Sound	No		864
(5)MH3121	825	SULPHUR SPRINGS RD	Grass Esmt	48	5.8	No	Concealed	Precast	Sound	No		
(5)MH3122	2325	SULPHUR SPRINGS RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5)MH3123	2325 SULPHUR SPRINGS RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3124	2216 SHADY LN	Grass Esmt	48	5.9	No	Concealed	Precast	Sound	No	288	864
(5)MH3126	2212 SHADY LN	Grass Esmt	48	6.3	No	Concealed	Precast	Sound	Yes		864
(5)MH3127	1716 SULPHUR SPRINGS RD	Grass Esmt	48	6.4	No	Concealed	Precast	Sound	No		
(5)MH3128	1725 SULPHUR SPRINGS RD	Grass Esmt	48	10.5	No	Concealed	Precast	Leaking Joints	No	317	
(5)MH3129	1716 SULPHUR SPRINGS RD	Grass Esmt	48	5.6	No	Concealed	Precast	Sound	No		720
(5)MH3130	1601 SULPHUR SPRINGS RD	Grass Esmt	48	6.3	No	Concealed	Precast	Sound	No		2,160
(5)MH3131	2103 WILSON ST	Grass Esmt	48	12.1	No	Concealed	Precast	Sound	No		
(5)MH3132	2103 WISLON ST	Grass Esmt	48	11.0	No	Concealed	Precast	Deteriorated	Yes	259	
(5)MH3134	2525 SULPHUR SPRINGS RD	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3135	2524 SULPHUR SPRINGS RD	Grass Esmt	48	4.3	No	Concealed	Precast	Sound	No		
(5)MH3136	2140 ROLLING HILLS DR	Grass Esmt	48	8.0	No	Concealed	Precast	Sound	No		1,152
(5)MH3136A	2001 DYER ST	Grass Esmt	48	7.4	No	Concealed	Precast	Roots	No	360	288
(5)MH3138	2140 ROLLING HILLS DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH3139	2140 ROLLING HILLS DR	Grass Esmt	48	10.9	No	Concealed	Precast	Sound	No		
(5)MH3139A	2140 ROLLING HILLS DR	Grass Esmt	48	6.9	No	Concealed	Precast	Sound	No	288	
(5)MH3143	1906 ROLLING HILLS DR	Grass Esmt	48	5.0	No	Concealed	Precast	Leaking Joints	No	317	
(5)MH3144	2313 REED ST	Grass Esmt	48	4.7	No	Concealed	Precast	Leaking Joints	No	317	
(5)MH3144A	2313 REED ST	Grass Esmt	48	7.4	No	Concealed	Precast	Deteriorated	No	547	
(5)MH3144B	2313 REED ST	Grass Esmt	48	8.3	No	Concealed	Precast	Cracked	No	360	

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			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5)MH3145	2313 REED ST	Grass Esmt	48	6.0	No	Concealed	Precast	Sound	No		
(5)MH3146	2230 REED ST	Grass Esmt	48	6.6	No	Concealed	Precast	Sound	No		
(5)MH3147	2313 REED ST	Grass Esmt	48	6.3	No	Concealed	Precast	Sound	No		
(5)MH3147A	2230 REED ST	Grass Esmt	48	6.8	No	Concealed	Precast	Sound	No		
(5)MH3149	2918 DYER ST	Center Street	48	7.1	No	Concealed	Precast	Sound	No		
(5)MH3150	2819 DYER ST	Center Street	48	7.3	No	Concealed	Precast	Sound	No		
(5)MH3150A	2824 DYER ST	Center Street	48	8.3	No	Concealed	Precast	Sound	No		
(5)MH3151	105 APOLLO ST	Grass Esmt	48	5.0	No	Concealed	Precast	Deteriorated	No	547	936
(5)MH3152	115 LARKIN DR	Grass Esmt	48	4.8	No	Concealed	Precast	Deteriorated	No	259	
(5)MH3153	2720 DYER ST	Center Street	48	7.5	No	Concealed	Precast	Sound	No		
(5)MH4017	2415 DYER ST	Grass Esmt	48	3.1	No	Concealed	Poured	Sound	No		
(5)MH6000	617 W MILL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5)MH6002	1726 JESTER ST	Center Street	48	7.4	No	Concealed	Precast	Sound	No		
(5)MH6002A	1704 JESTER ST	Center Street	48	6.0	No	Concealed	Precast	Sound	No	288	

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Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltration (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
Totals for Basin 5									130,896	239,363	

Total Manholes	474
Manholes Inspected	370
Manholes Not Inspected	104
Manholes Buried	8
Manholes Not Found	81
Manholes Inaccessible	15
Location Not Specified	104

Percent:	
Inspected	78.06%
Not Inspected	21.94%
Buried	1.69%
Not Found	17.09%
Inaccessible	3.16%

Evidence of Surcharge	78
Subject to Ponding	7
Subject to Sheeting	202

Surcharge	16.46%
Ponding	1.48%
Sheeting	42.62%

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Manhole Number	Address		Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5A)MH0107	906	CABE ST	Center Street	48	5.6	No	Pick	Brick	Deteriorated	Yes	518	792
(5A)MH0168	908	CABE ST	Center Street	48	8.9	No	Concealed	Brick	Deteriorated	No	259	216
(5A)MH0169	109	W 2ND ST	Center Street	48	8.2	No	Concealed	Brick	Deteriorated	Yes	547	216
(5A)MH0170	925	SPRUCE ST	Grass Esmt	46	4.8	No	Pick	None	N/A	No	259	504
(5A)MH0171	210	STANLEY ST	Center Street	48	4.4	No	Pick	None	N/A	No	605	504
(5A)MH0177	736	W PAGE AVE	Center Street	48	4.7	No	Concealed	Rehab	Sound	No		216
(5A)MH0178	304	STANLEY ST	Center Street	48	4.2	No	Concealed	None	N/A	No	547	216
(5A)MH0179	630	W 3RD ST	Center Street	48	7.0	Yes	Pick	Brick	Deteriorated	No	547	10,027
(5A)MH0179A	622	W 3RD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0180	625	W PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0181	425	W SULLENBERGER AVE	Center Street	48	4.8	No	Concealed	Rehab	Deteriorated	No	547	216
(5A)MH0182	419	W SULLENBERGER AVE	Center Street	48	6.0	No	Concealed	Rehab	Deteriorated	No	835	216
(5A)MH0182A	205	EARNEST ST	Center Street	48	6.7	No	Concealed	Brick	Deteriorated	No	518	216
(5A)MH0183	323	OAK ST	Center Street	42	2.7	No	Concealed	Brick	Deteriorated	No	518	
(5A)MH0184	303	OAK ST	Center Street	45	4.0	No	Concealed	None	N/A	No	259	216
(5A)MH0185	109	W 2ND ST	Center Street	47	7.5	No	Concealed	None	N/A	Yes	288	216
(5A)MH0186	524	W 2ND ST	Center Street	45	5.8	No	Concealed	None	N/A	Yes	576	216
(5A)MH0187	419	W 1ST ST	Center Street	48	9.2	No	Pick	Brick	Deteriorated	Yes	835	504
(5A)MH0188	119	VINE ST	Center Street	48	9.7	No	Pick	Brick	Deteriorated	No	547	504
(5A)MH0188A	122	VINE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

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				Diam. (in.)	Depth (ft.)							
(5A)MH0189	205	VINE ST	Center Street	48	5.8	Yes	Pick	Rehab	Sound	No	288	8,001
(5A)MH0190	420	W 2ND ST	Center Street	48	3.6	No	Pick	None	N/A	No	288	504
(5A)MH0191	513	W 3RD ST	Center Street	46	4.8	No	Concealed	None	N/A	No	3,600	216
(5A)MH0191A	301	W 3RD ST	Center Street	48	6.2	No	Concealed	None	N/A	No	288	216
(5A)MH0192	310	VINE ST	Grass Esmt	48	6.0	Yes	Concealed	None	N/A	Yes	288	216
(5A)MH0194	421	W PAGE AVE	Grass Esmt	48	5.9	No	Concealed	None	N/A	Yes		216
(5A)MH0194A	513	W PAGE AVE	Center Street	42	3.9	No	Concealed	None	N/A	No	288	216
(5A)MH0195	413	W PAGE AVE	Center Street	46	5.3	No	Concealed	None	N/A	No	259	216
(5A)MH0197	423	5TH ST	Center Street	48	5.6	No	Concealed	Brick	Deteriorated	No	3,859	216
(5A)MH0199	326	W SULLENBERGER AVE	Center Street	48	5.1	No	Pick	Brick	Deteriorated	No	518	504
(5A)MH0200	305	W SULLENBERGER AVE	Center Street	48	7.1	No	Concealed	Brick	Deteriorated	No	1,987	216
(5A)MH0201	528	LOCUST ST	Center Street	48	5.7	No	Concealed	Rehab	Sound	No		216
(5A)MH0202	330	5TH ST	Center Street	48	5.8	No	Concealed	Brick	Deteriorated	No	835	216
(5A)MH0204	322	VINE ST	Center Street	45	5.6	No	Concealed	None	N/A	Yes	576	216
(5A)MH0204A	329	W PAGE AVE	Center Street	45	5.9	No	Concealed	None	N/A	Yes	288	216
(5A)MH0205	304	W PAGE AVE	Center Street	48	8.6	No	Concealed	Brick	Deteriorated	No	864	216
(5A)MH0206	226	S OLIVE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0207	218	OLIVE ST	Center Street	48	4.3	No	Pick	None	N/A	No		792
(5A)MH0208	128	OLIVE ST	Center Street	48	4.9	No	Concealed	Rehab	Sound	No		216
(5A)MH0209	223	W 1ST ST	Center Street	48	7.7	No	Concealed	None	N/A	No	288	216

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			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5A)MH0210	117 W 1ST ST	Center Street	48	11.2	No	Concealed	Brick	Deteriorated	Yes	547	216
(5A)MH0211	123 LOCUST ST	Center Street	48	5.7	No	Concealed	Brick	Deteriorated	No	576	216
(5A)MH0212	123 LOCUST ST	Center Street	48	6.4	No	Pick	Brick	Deteriorated	No	576	792
(5A)MH0212A	130 W 2ND ST	Center Street	48	8.0	No	Pick	Brick	Deteriorated	No	547	792
(5A)MH0214	118 W 2ND ST	Center Street	48	4.6	No	Concealed	None	N/A	No		216
(5A)MH0215	129 W PAGE AVE	Center Street	48	8.3	No	Bolts Missing	Brick	Deteriorated	No	518	3,528
(5A)MH0216	418S LOCUST ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0217	502 LOCUST ST	Center Street	48	6.7	No	Pick	Brick	Deteriorated	No	518	504
(5A)MH0218	228 5TH ST	Center Street	48	6.6	No	Concealed	Brick	Deteriorated	No	576	216
(5A)MH0219	301 OLIVE ST	Center Street	48	4.6	No	Concealed	None	N/A	No	547	216
(5A)MH0220	624 OLIVE ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0221	203 W SULLENBERGER AVE	Center Street	48	14.5	Yes	Pick	Brick	Deteriorated	No	518	9,811
(5A)MH0222	1115 LOCUST ST	Center Street	48	9.7	No	Concealed	Brick	Deteriorated	Yes	547	216
(5A)MH0224	525 LOCUST ST	Center Street	48	4.8	No	Pick	Rehab	Sound	No	288	504
(5A)MH0226	318 S ASH ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0226A	308 SOUTH MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0227	230 SOUTH MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0228	208 SOUTH MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0229	200 E 1ST ST	Center Street	48	9.1	No	Pick	Rehab	Deteriorated	Yes	806	1,152
(5A)MH0230	200 E 1ST ST	Center Street	48	11.4	No	Concealed	Brick	Deteriorated	Yes	518	216

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			Diam. (in.)	Depth (ft.)							
(5A)MH0231	200 E 1ST ST	Center Street	48	8.3	No	Pick	Rehab	Sound	Yes	259	576
(5A)MH0232	200 E FIRST ST	Center Street	48	6.6	No	Concealed	Rehab	Sound	No	547	
(5A)MH0233	200 E 1ST ST	Center Street	40	3.1	No	Pick	None	N/A	No	288	504
(5A)MH0261	211 E 2ND ST	Center Street	45	3.8	No	Pick	None	N/A	No	259	1,368
(5A)MH0262	202 E 3RD ST	Center Street	48	8.1	No	Concealed	Brick	Deteriorated	No	547	1,656
(5A)MH0263	128 E 3RD ST	Center Street	48	13.1	No	Pick	Brick	Deteriorated	No	547	792
(5A)MH0264	318 S ASH ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0265	215 E PAGE AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0266	1 MONEY PL	Center Street	48	4.8	No	Concealed	Poured	Sound	No		720
(5A)MH0268	534 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0269	104 W SULLENBERGER AVE	Center Street	48	11.5	No	Concealed	Brick	Deteriorated	No	547	216
(5A)MH0285	531 S MAIN ST	Center Street	48	7.0	No	Concealed	Brick	Deteriorated	No	806	216
(5A)MH0287	1120 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0288	1202 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0289	345 CLEM ST	Center Street	46	5.4	No	Concealed	None	N/A	No	3,600	216
(5A)MH0289A	229 CLEM ST	Center Street	48	6.6	No	Concealed	Brick	Sound	No	259	216
(5A)MH0290	234 CLARDY ST	Center Street	48	6.9	No	Concealed	Brick	Deteriorated	No	518	216
(5A)MH0291	303 PINE BLUFF ST	Center Street	48	4.6	No	Pick	None	N/A	No	547	504
(5A)MH0292	404 E PAGE AVE	Center Street	48	3.5	No	Pick	None	N/A	No	835	504
(5A)MH0303	403 PINE BLUFF ST	Center Street	48	5.7	No	Pick	None	N/A	No		504

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				Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5A)MH0304	824	SCHOOL ST	Center Street	30	3.1	No	Concealed	None	N/A	No		216
(5A)MH0305	906	SCHOOL ST	Center Street	45	4.2	No	Pick	None	N/A	No	288	504
(5A)MH0305A	832	SCHOOL ST	Center Street	48	4.4	No	Concealed	None	N/A	No		216
(5A)MH0306	927	SCHOOL ST	Center Street	46	5.2	No	Pick	Rehab	Deteriorated	No	446	792
(5A)MH0307	1016	SCHOOL ST	Center Street	48	7.5	No	Pick	Brick	Deteriorated	No	1,699	504
(5A)MH0310	528	E SULLENBERGER AVE	Center Street	48	5.0	No	Pick	Rehab	Sound	No		504
(5A)MH0310A	528	E SULLENBERGER AVE	Center Street	40	4.7	No	Pick	Rehab	Deteriorated	No	259	288
(5A)MH0311	538	HALL ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0312	539	HALL ST	Center Street	46	4.6	No	Concealed	None	N/A	No	288	216
(5A)MH0313	146	PINE BLUFF ST	Center Street	48	4.6	No	Pick	None	N/A	No	547	504
(5A)MH0317	447	E PAGE AVE	Center Street	48	3.8	No	Concealed	None	N/A	Yes	288	216
(5A)MH0318	516	E PAGE AVE	Center Street	48	6.1	No	Concealed	Rehab	Sound	No		216
(5A)MH0355	718	E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0355A	801	E SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0502	503	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0503	531	W SULLENBERGER AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0505	428	SUNSET ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0523	1312	EARNEST ST	Center Street	48	3.1	No	Concealed	None	N/A	No		216
(5A)MH0549	1230	LOCUST ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0551	1229	DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5A)MH0552	1404 DYER ST	Center Street	48	5.4	No	Pick	None	N/A	Yes	288	1,656
(5A)MH0554	1327 LOCUST ST	Grass Esmt	6	2.1	No	None	Other	Sound	No		864
(5A)MH0555	1435 DYER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0587	1428 DYER ST	Center Street	22	1.9	No	Pick	None	N/A	No		288
(5A)MH0617	211 E 2ND ST	Center Street	45	3.7	No	Pick	None	N/A	No	259	792
(5A)MH0689	1333 DYER ST	Center Street	48	5.7	No	Pick	None	N/A	No	1,728	936
(5A)MH0693	1231 S MAIN ST	Center Street	48	4.1	No	Concealed	None	N/A	No		
(5A)MH0694	301 E HIGHLAND ST	Center Street	48	7.8	No	Pick	Brick	Deteriorated	No	547	792
(5A)MH0695	1427 SMITH ST	Center Street	48	4.0	No	Pick	None	N/A	No	259	504
(5A)MH0696	227 E MILL ST	Center Street	48	3.4	No	Concealed	None	N/A	No		216
(5A)MH0697	405 E MILL ST	Center Street	48	5.4	No	Concealed	Rehab	Sound	No		1,656
(5A)MH0722	418 E MILL ST	Center Street	48	3.8	No	Concealed	Precast	Sound	No		
(5A)MH0722A	1538 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0723	1421 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0725	404 E HIGHLAND AVE	Center Street	48	8.6	No	Pick	Brick	Sound	No	576	504
(5A)MH0725A	1327 S MAIN ST	Center Street	48	7.4	No	Concealed	Brick	Deteriorated	No	518	216
(5A)MH0726	404 MCHENRY ST	Center Street	48	6.0	No	Pick	None	N/A	No	547	504
(5A)MH0727	420 MCHENRY ST	Center Street	48	8.3	No	Concealed	Brick	Deteriorated	Yes	547	216
(5A)MH0727A	415 MCHENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0728	504 E HIGHLAND AVE	Center Street	48	10.2	No	Concealed	Brick	Deteriorated	No	547	1,080

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole		Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)							
(5A)MH0729	619 E MCHENRY ST	Center Street	48	5.9	No	Concealed	Not Visibl	N/A	Yes		216
(5A)MH0729A	619 E MCHENRY ST	Grass Esmt	48	5.3	No	Concealed	Not Visibl	N/A	Yes		216
(5A)MH0729B	627 MCHENRY ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0730	526 E HIGHLAND AVE	Center Street	48	12.2	No	Pick	Rehab	Deteriorated	No	835	504
(5A)MH0730A	525 E HIGHLAND AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0731	525 E HIGHLAND AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0732	715 E HIGHLAND AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH0761	1843 HARPER ST	Grass Esmt	48	9.5	No	Pick	Brick	Roots	Yes	360	504
(5A)MH0857	1595 LOCUST ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH1047	319W W 3RD ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH1048	320 VINE ST	Center Street	48	4.2	No	Concealed	Precast	Sound	No	547	
(5A)MH1077	1001 KEITH ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH1077A	1001 KEITH ST	Center Street	24	2.5	No	Pick	Rehab	Sound	No	547	288
(5A)MH1152	208 W SULLENBERGER AVE	Center Street	48	5.8	No	Concealed	Rehab	Sound	No		216
(5A)MH1179	117 W HIGHLAND AVE	Center Street	22	4.3	No	Concealed	Precast	Sound	No	288	
(5A)MH1183	215 E. HIGHLAND AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH1191	1005 S MAIN ST	Center Street	48	5.1	No	Concealed	Precast	Sound	No		
(5A)MH1191A	1005 S MAIN ST	Center Street	48	7.3	No	Pick	Brick	Deteriorated	No	3,139	504
(5A)MH1192	1023 S MAIN ST	Grass Esmt	48	2.7	No	Concealed	Precast	Sound	No	288	864
(5A)MH1193	425 S MAIN ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltr. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						
(5A)MH1193A	1 MONEY PL	Center Street	48	4.6	No	Concealed	None	N/A	No	288	216
(5A)MH1194	301 SIXTH ST	Grass Esmt	48	7.2	No	Pick	Rehab	Deteriorated	No	259	504
(5A)MH1196	521 PINE BLUFF ST	Center Street	48	4.9	No	Concealed	Precast	Sound	No	288	
(5A)MH1199	420 SUNSET ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH2068	705 HALL ST	Grass Esmt	40	1.8	No	Concealed	Rehab	Roots	No	360	
(5A)MH2070	628 E HIGHLAND AVE	Center Street	48	8.4	No	Pick	Brick	Deteriorated	No	259	504
(5A)MH2074	406 E SULLENBERGER AVE	Center Street	48	7.7	No	Concealed	Brick	Deteriorated	No	1,757	216
(5A)MH2163	1613 JESTER ST	Not Found	N/A	N/A	No	N/A	N/A	N/A	No		
(5A)MH2164	220 VINE ST	Center Street	48	3.5	No	Pick	None	N/A	No		504
(5A)MH2506	219 LOCUST ST	Center Street	48	4.2	No	Pick	None	N/A	No		576
(5A)MH3002	305 HALL ST	Center Street	30	1.9	No	Pick	None	N/A	No		288
(5A)MH3012	714 MANN ST	Center Street	26	2.6	No	Concealed	Rehab	Sound	Yes		
(5A)MH6004	308 S MAIN ST	Center Street	48	4.7	No	Concealed	Precast	Sound	No		

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infilt. (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						

Totals for Basin 5A 58,219 75,575

Total Manholes	153
Manholes Inspected	115
Manholes Not Inspected	38
Manholes Buried	7
Manholes Not Found	18
Manholes Inaccessible	13
Location Not Specified	38

Percent:	
Inspected	75.16%
Not Inspected	24.84%
Buried	4.58%
Not Found	11.76%
Inaccessible	8.50%

Evidence of Surcharge	21
Subject to Ponding	4
Subject to Sheeting	78

Surcharge	13.73%
Ponding	2.61%
Sheeting	50.98%

Manhole Inspection Report

Project No. 18-3337-00 Malvern SSES 2018

Manhole Number	Address	Location	Manhole			Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Infiltration (gpd)	Inflow (gpd)
			Diam. (in.)	Depth (ft.)	Subj. Pond.						

Totals for All Basins

Total Manholes	1478
Manholes Inspected	1160
Manholes Not Inspected	318
Manholes Buried	36
Manholes Not Found	242
Manholes Inaccessible	40
Location Not Specified	317

Percent:	
Inspected	78.48%
Not Inspected	21.52%
Buried	2.44%
Not Found	16.37%
Inaccessible	2.71%

Evidence of Surcharge	280
Subject to Ponding	21
Subject to Sheeting	714

Surcharge	18.94%
Ponding	1.42%
Sheeting	48.31%

Total Infiltration =	450,533
Total Inflow =	759,160

APPENDIX B

VISUAL PIPE ADVANCED

Visual Pipe Advanced

Project No. 18-3337-00 Malvern SSES 2018

Line Segment	Dir.	Diameter (in)	Material	Root Growth	Deposition Depth (in)	Structural Condition	Observed	
							Visual Infiltration	Depth (in)
(1) CO0275 (1) MH0275	1. W-Out	6	PVC	No		No Visual	0	No
(1) CO0275 (1) UNKNOWN	1. E-Out	6	PVC	No		No Visual	0	No
(1) CO0858 (1) MH0692	2. E-In	8	N/A	No		No Visual	0	No
(1) MH0851	1. NW-O	6	N/A	No		No Visual	0	No
(1) MH0001 (1) MH0507	2. NE-In	10	Vitrified Clay	No		Good	0.5	No
(1) MH0039	3. SE-In	8	Concrete	No		Circular Cr	1.5	No
(1) MH0002	1. NW-O	8	Concrete	No		Good	1.5	No
(1) MH0002 (1) MH0001	2. SE-In	8	Concrete	No		Good	0.5	No
(1) MH0003	1. NW-O	8	Concrete	No		Good	0.5	No
(1) MH0003 (1) MH0002	2. SE-In	8	Concrete	No		Good	0.5	No
(1) MH0004	1. NE-O	8	Concrete	No		Good	1	No
(1) UNKNOWN	3. SW-In	6	Cast Iron	No		Good	0	No
(1) MH0004 (1) MH0003	2. SW-In	8	Vitrified Clay	No		Good	1	No
(1) MH0005	1. NE-O	8	Vitrified Clay	No		Good	1	No
(1) MH0005 (1) MH0004	4. SW-In	10	Vitrified Clay	No		No Visual	2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0005	(1) MH1165	1. N-Out	10	Vitrified Clay	No	Good		8	No
	(1) MH1117	2. NE-In	10	Vitrified Clay	No	Good		6	No
	(1) MH0506	3. SE-In	8	Vitrified Clay	No	No Visual		1	No
(1) MH0006	(1) MH0036	3. SE-In	6	Vitrified Clay	No	Circular Cr		0	No
	(1) MH0934	1. NW-O	6	Vitrified Clay	No	Circular Cr		0	No
	(1) SERVICE	2. E-In	4	Cast Iron	No	Good		0	No
(1) MH0007	(1) MH0010	3. S-In	8	Vitrified Clay	No	Circular Cr		1	No
	(1) MH0008	1. N-Out	8	Vitrified Clay	No	Good		2.5	No
	(1) MH0231	2. E-In	8	Vitrified Clay	No	Circular Cr		1	No
(1) MH0009	(1) MH0008	2. N-In	8	Vitrified Clay	No	Good		2	No
	(1) MH0058	3. E-In	8	Vitrified Clay	No	Good		2	Yes
	(1) MH0008	4. S-In	8	Vitrified Clay	No	Good		1	No
	(1) MH0825	1. W-Out	8	Vitrified Clay	No	Good		4	No
(1) MH0010	(1) MH0007	1. N-Out	4	PVC	No	No Visual		2	No
	(1) EOL	2. S-In	4	PVC	No	No Visual		2	No
(1) MH0012	(1) MH0239	1. E-Out	6	Vitrified Clay	No	Good		0.5	No
	(1) MH0882	2. W-In	6	Vitrified Clay	No	Good		0.5	No
(1) MH0014	(1) MH0013	2. NE-In	6	Vitrified Clay	No	No Visual		2	No
	(1) MH0884	1. SW-O	6	Vitrified Clay	No	Good		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>						<i>Visual Infiltration</i>	<i>Drop Connection</i>	
(1) MH0015	(1)	MH0016	1. E-Out	12	Vitrified Clay	No		Future		2	No
	(1)	MH0895	2. W-In	12	Vitrified Clay	No		Circular Cr		2	No
(1) MH0016	(1)	MH0017	1. S-Out	16	Concrete	No		Good		8	No
	(1)	SERVICE	3. NE-In	4	PVC	No		Good		0	No
	(1)	MH0304	4. E-In	16	Concrete	No		Good		5	No
	(1)	MH0015	2. W-In	15	Vitrified Clay	No		Good		0	No
(1) MH0017	(1)	MH0016	2. N-In	16	Concrete	No		Good		8	No
	(1)	MH0018	1. S-Out	16	Concrete	No		Good		13	No
(1) MH0018	(1)	MH0368	4. SE-In	16	Concrete	No		Good		9	No
	(1)	SERVICE	3. E-In	4	PVC	No		Good		0	No
	(1)	MH0020	1. NW-O	16	Concrete	No		Good		8	No
	(1)	MH0017	2. N-In	16	Concrete	No		Good		6	No
(1) MH0019	(1)	MH0020	1. NW-O	10	Vitrified Clay	No		Good		0.5	No
	(1)	MH0022	2. S-In	10	Vitrified Clay	No		Good		0.5	No
(1) MH0020	(1)	MH0021	1. NW-O	16	Concrete	No		Good		9	No
	(1)	MH0019	3. SE-In	10	Vitrified Clay	No		Good		0.5	No
	(1)	MH0018	2. SE-In	16	Concrete	No		Good		8	No
(1) MH0023	(1)	MH0024	2. S-In	10	Vitrified Clay	Yes		Circular Cr		0.25	No
	(1)	MH0022	1. N-Out	10	Vitrified Clay	No		Good		0.5	No

									<i>Observed</i>	
<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0024	(1) SERVICE	3. W-In	4	Vitrified Clay	No		Good		0	No
	(1) MH0026	2. S-In	10	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0023	1. N-Out	10	Vitrified Clay	No		Good		0.25	No
(1) MH0025	(1) MH0027	2. S-In	10	Vitrified Clay	No		Good		0.5	No
	(1) MH0026	1. N-Out	10	Vitrified Clay	No		Circular Cr		0.75	No
(1) MH0026	(1) SERVICE	3. W-In	4	PVC	No		Good		0	No
	(1) MH0025	2. S-In	10	Vitrified Clay	No		Good		0.5	No
	(1) MH0024	1. N-Out	10	Vitrified Clay	No		Good		0.5	No
(1) MH0027	(1) MH0029	3. S-In	10	Vitrified Clay	No		Good		0.5	No
	(1) MH0597	2. E-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0025	1. N-Out	10	Vitrified Clay	No		Good		0.5	No
(1) MH0029	(1) MH0028	2. S-In	10	Vitrified Clay	No		Good		0.5	No
	(1) MH0027	1. N-Out	10	Vitrified Clay	No		Good		0.25	No
(1) MH0031	(1) SERVICE	2. NW-In	6	Concrete	No		Good		1	No
	(1) MH0032	3. E-In	8	Cured In Pla	No		Good		0.75	No
	(1) MH0030	1. SW-O	8	Cured In Pla	No		Good		1	No
(1) MH0032	(1) MH0044	2. E-In	8	Cured In Pla	No		Good		0.25	No
	(1) SERVICE	3. SE-In	6	Concrete	No		Good		0.25	No
	(1) MH0031	1. W-Out	8	Cured In Pla	No		Good		0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0034	(1) MH0934	1. SW-O	6	Vitrified Clay	No	Good		0	No
	(1) SERVICE	2. E-In	6	PVC	No	Good		0	No
	(1) SERVICE	3. SE-In	8	PVC	No	No Visual	3.5	0	No
(1) MH0036	(1) MH0006	2. NW-In	8	Vitrified Clay	No	Good	1	0	No
	(1) MH0929	1. SW-O	8	Vitrified Clay	No	Good	0.25	0	No
	(1) UNKNOWN	3. NE-In	8	Vitrified Clay	No	Future	2.5	0	No
(1) MH0039	(1) MH0001	1. NW-O	8	Concrete	No	Future		0.25	No
	(1) SERVICE	4. SE-In	8	Concrete	No	Good		0	No
	(1) MH0038	3. SE-In	8	Concrete	No	Good		0.25	No
	(1) SERVICE	2. SE-In	6	Concrete	No	Good		0	No
(1) MH0040	(1) MH0037	1. W-Out	8	Vitrified Clay	No	Good		1	No
	(1) MH0041	2. E-In	8	Vitrified Clay	No	Circular Cr		1.5	No
	(1) UNKNOWN	3. S-In	6	Vitrified Clay	No	Good		0.13	No
(1) MH0041	(1) MH0040	1. W-Out	8	N/A	No	No Visual		1	No
	(1) SERVICE	3. S-In	4	PVC	No	Good		0.25	No
	(1) MH0042	2. E-In	8	Vitrified Clay	No	Good		0.25	No
(1) MH0042	(1) MH0041	1. W-Out	6	N/A	No	No Visual		0	No
	(1) UNKNOWN	2. W-In	4	PVC	No	No Visual		0	No
(1) MH0044	(1) MH0045	2. E-In	8	Cured In Pla	No	Good		0.25	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0044	(1) MH0032	1. W-Out	8 Cured In Pla	No		Good	0.25	No
(1) MH0045	(1) MH0046	2. E-In	8 Cured In Pla	No		Good	0.25	No
	(1) MH0044	1. W-Out	8 Cured In Pla	No		Good	0.5	No
(1) MH0046	(1) MH0045	1. W-Out	8 Cured In Pla	No		Good	0.25	No
	(1) MH0047	2. E-In	8 Cured In Pla	No		Good	0.25	No
(1) MH0047	(1) MH0046	1. W-Out	8 PVC	No		Good	0.13	No
	(1) SERVICE	2. SE-In	4 PVC	No		Good	0.13	No
(1) MH0048	(1) MH0033	1. SW-O	8 Vitrified Clay	No		Good	1	No
	(1) MH0049	2. E-In	8 Vitrified Clay	No		Good	1	No
(1) MH0049	(1) MH0048	1. W-Out	8 Vitrified Clay	No		Good	1	No
	(1) MH0049A	2. E-In	8 Vitrified Clay	No		Future	1	No
(1) MH0049	(1) UNKNOWN	3. S-In	1 Cast Iron	No		No Visual	0	No
	(1) MH0050	2. E-In	8 Vitrified Clay	Yes		Circular Cr	1	No
	(1) MH0049	1. W-Out	8 Vitrified Clay	No		Good	1	No
(1) MH0050	(1) MH0105	3. E-In	8 Vitrified Clay	Yes		Circular Cr	3	No
	(1) MH0049A	1. W-Out	8 Vitrified Clay	No		Good	4	No
	(1) MH0051	2. N-In	8 Vitrified Clay	Yes		Circular Cr	0.25	No
(1) MH0050	(1) MH0050	1. N-Out	8 Vitrified Clay	No		Circular Cr	0.24	No
	(1) UNKNOWN	3. S-In	8 Vitrified Clay	No		Future	0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0050	(1) SERVICE	2. E-In	6 Cast Iron	No		Good		0	No
(1) MH0051	(1) MH0050	1. S-Out	8 Vitrified Clay	No		Good		6	No
	(1) UNKNOWN	2. N-In	1 Cast Iron	No		No Visual		0	No
(1) MH0052	(1) UNKNOWN	3. W-In	1 Cast Iron	No		No Visual		0	No
	(1) SERVICE	2. NE-In	4 PVC	No		Good		0	No
	(1) MH0052A	1. SW-O	8 Cured In Pla	No		Good		0	No
(1) MH0052	(1) MH0052	2. NE-In	8 Cured In Pla	No		Good		1.5	No
	(1) MH0053	1. SW-O	8 Cured In Pla	No		Good		3	No
(1) MH0053	(1) MH0052	2. NE-In	8 Cured In Pla	No		Good		2	No
	(1) MH0054	1. SW-O	8 Vitrified Clay	No		Good		2	No
(1) MH0054	(1) MH0053	2. NE-In	8 PVC	No		Good		2	No
	(1) MH0056	1. SW-O	8 PVC	No		Good		2	No
	(1) MH0055	3. SE-In	6 PVC	No		Circular Cr		1.5	No
(1) MH0055	(1) SERVICE	3. S-In	4 PVC	No		Circular Cr		0	No
	(1) SERVICE	2. SE-In	4 PVC	No		Good		0	No
	(1) MH0054	1. NW-O	6 PVC	No		Good		0	No
(1) MH0056	(1) MH0057	3. SE-In	8 Vitrified Clay	No		Future		2	No
	(1) MH0054	2. NE-In	8 Vitrified Clay	No		Good		2	Yes
	(1) MH0033	1. NW-O	8 Vitrified Clay	No		Good		4	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Observed</i>		<i>Drop Connection</i>	
						<i>Structural Condition</i>	<i>Visual Infiltration</i>		
(1) MH0059	(1) PLUGGED	2. N-In	8	Vitrified Clay	No	1	No Visual	0	No
	(1) MH0060	1. S-Out	8	Vitrified Clay	No		Future	2	No
	(1) MH0061	3. E-In	8	Vitrified Clay	No		Good	2	No
(1) MH0060	(1) MH0058	1. W-Out	8	Vitrified Clay	No		Good	5	No
	(1) MH0064	3. E-In	8	Vitrified Clay	No		Future	1.5	Yes
	(1) MH0059	2. N-In	8	Vitrified Clay	No		Circular Cr	2	No
(1) MH0062	(1) MH0061	1. W-Out	6	Vitrified Clay	No		Good	3	No
	(1) MH0063	3. NE-In	6	Vitrified Clay	No		Good	1	No
	(1) UNKNOWN	2. N-In	1	Cast Iron	No		No Visual	0	No
	(1) MH0482	4. SE-In	6	Vitrified Clay	No		Good	3	No
(1) MH0064	(1) MH0060	1. W-Out	6	Vitrified Clay	No		Good	1	No
	(1) MHH0065	2. NE-In	6	Vitrified Clay	No		Good	1	No
(1) MH0065	(1) MH0068	2. E-In	6	Concrete	No		Good	2.5	No
	(1) MH0064	1. SW-O	6	Vitrified Clay	No		Future	0.5	No
(1) MH0067	(1) MH0068	1. E-Out	8	Cast Iron	No		Circular Cr	0	No
(1) MH0069	(1) MH0070	1. E-Out	8	Vitrified Clay	No		Circular Cr	0.25	No
	(1) MH0068	2. W-In	8	Vitrified Clay	No		Future	0.25	No
(1) MH0070	(1) MH0072	1. N-Out	8	Vitrified Clay	No		Circular Cr	1.5	No
	(1) MH0074	2. S-In	8	Vitrified Clay	No		Circular Cr	1.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0070	(1) MH0069	3. W-In	8	Vitrified Clay	No		Future		1.25	No
(1) MH0071	(1) SERVICE	3. NW-In	6	PVC	No		Good		0	No
	(1) UNKNOWN	2. SE-In	1	Cast Iron	No		No Visual		0	No
	(1) MH0481	1. E-Out	6	Cast Iron	No		No Visual		0	No
(1) MH0072	(1) MH0070	2. S-In	8	Vitrified Clay	No		Longitudin		0.25	No
	(1) MH0076	1. E-Out	8	Vitrified Clay	No		Good		2	No
	(1) MH0043	3. W-In	8	Vitrified Clay	No		Good		2	No
	(1) MH0078	4. N-In	6	Vitrified Clay	No		Longitudin		0.13	No
(1) MH0073	(1) MH0074	1. E-Out	6	Cast Iron	No		No Visual		0	No
	(1) UNKNOWN	2. E-In	3	PVC	No		Good		0	No
(1) MH0074	(1) MH0070	1. N-Out	8	Vitrified Clay	No		Circular Cr		1.5	No
	(1) MH0075	2. NE-In	8	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0073	3. W-In	8	Vitrified Clay	No		Circular Cr		1.5	No
(1) MH0076	(1) MH0079	1. NE-O	8	Vitrified Clay	No		Good		1	No
	(1) MH0072	2. W-In	8	Vitrified Clay	No		Future		1.25	No
(1) MH0077	(1) MH0509	3. W-In	8	Vitrified Clay	No		Good		0.25	No
	(1) MH0078	1. E-Out	8	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0510	2. S-In	8	Vitrified Clay	No		Future		0.25	No
(1) MH0078	(1) SERVICE	3. N-In	6	Vitrified Clay	No		Good		2.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0078	(1) MH0455	4. E-In	6	Vitrified Clay	No	Circular Cr		4	No
	(1) MH0072	1. S-Out	6	Vitrified Clay	No	Good		0.25	No
	(1) MH0077	2. W-In	6	Vitrified Clay	No	Circular Cr		2.5	No
(1) MH0079	(1) MH0076	3. SW-In	8	Vitrified Clay	No	Circular Cr		3	No
	(1) MH0479	1. N-Out	8	Vitrified Clay	No	Future		2	No
	(1) MH0080	2. NE-In	8	Vitrified Clay	No	Good		1.5	No
(1) MH0080	(1) MH0092	3. S-In	8	Vitrified Clay	No	Future		1	No
	(1) MH0079	1. SW-O	8	Vitrified Clay	No	Circular Cr		2	No
	(1) MH0093	2. NE-In	8	Vitrified Clay	No	Future		2	No
(1) MH0081	(1) SERVICE	3. NW-In	6	Vitrified Clay	No	Good		0	No
	(1) SERVICE	2. SW-In	6	Vitrified Clay	No	Future		0	No
	(1) MH0082	1. E-Out	6	Vitrified Clay	No	Good		0	No
(1) MH0082	(1) MH0083	1. E-Out	6	Concrete	No	Good		0.25	No
	(1) SERVICE	4. NE-In	6	Concrete	No	Good		0	No
	(1) MH0081	2. W-In	6	Concrete	No	Circular Cr		0.25	No
	(1) SERVICE	3. NW-In	6	Vitrified Clay	No	Future		0	No
(1) MH0083	(1) MH0088	1. E-Out	6	Concrete	No	Good		0.25	No
	(1) MH0082	2. W-In	6	Concrete	No	Good		0.25	Yes
(1) MH0084	(1) SERVICE	4. NW-In	4	PVC	No	Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>						<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0084	(1)	SERVICE	3. NW-In	4	Vitrified Clay	No		Circular Cr		0	No
	(1)	SERVICE	2. SW-In	4	Vitrified Clay	No		Good		0	No
	(1)	MH0593	1. E-Out	6	Vitrified Clay	No		Good		0	No
(1) MH0085	(1)	MH0086	1. W-Out	6	Concrete	No		Future		0.5	No
	(1)	SERVICE	2. E-In	6	Concrete	No		Good		0.5	No
(1) MH0086	(1)	MH0085	2. E-In	6	Concrete	No		Good		1.5	No
	(1)	MH0508	1. NE-O	6	Concrete	No		Good		2	No
(1) MH0088	(1)	MH0083	2. W-In	6	Concrete	No		Circular Cr		1	No
	(1)	MH0089	1. E-Out	6	Concrete	No		Good		1	No
	(1)	SERVICE	3. N-In	6	Concrete	No		Good		1	No
(1) MH0089	(1)	MH0088	4. W-In	6	Concrete	No		Good		1	No
	(1)	MH0479	3. SW-In	6	Concrete	No		Good		2	No
	(1)	MH0097	2. E-In	6	Concrete	No		Good		1.5	No
	(1)	MH0091	1. N-Out	6	Concrete	No		Good		2	No
(1) MH0090	(1)	MH1116	1. N-Out	8	N/A	No		No Visual		2	No
	(1)	MH0511	2. S-In	8	N/A	No		No Visual		2	No
(1) MH0091	(1)	MH0511	1. N-Out	8	PVC	No		Broken Pip		2	No
	(1)	MH0089	2. S-In	8	PVC	Yes		No Visual		2	No
(1) MH0092	(1)	MH0481	4. W-In	6	Vitrified Clay	No		Future		1.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0092	(1)	MH0101	3. S-In	8	Vitrified Clay	No	Future		4	No
	(1)	MH0080	1. N-Out	8	Vitrified Clay	No	Circular Cr		5	No
	(1)	MH0098	2. E-In	6	Vitrified Clay	No	Circular Cr		1	No
(1) MH0093	(1)	MH0096	3. S-In	8	Vitrified Clay	No	Future		0	No
	(1)	MH0094	2. NE-In	8	Vitrified Clay	No	Good		0.25	No
	(1)	MH0080	1. SW-O	8	Vitrified Clay	No	Future		0.25	No
(1) MH0094	(1)	UNKNOWN	2. SW-In	1	Cast Iron	No	No Visual		0	No
	(1)	MH0093	1. SW-O	6	N/A	No	No Visual		0	No
(1) MH0095	(1)	PLUGGED	3. SW-In	4	Vitrified Clay	No	Good		0	No
	(1)	MH0094	1. N-Out	6	Vitrified Clay	No	Circular Cr		2	No
	(1)	SERVICE	2. E-In	6	Vitrified Clay	No	Circular Cr		2	No
(1) MH0097	(1)	MH0181	2. E-In	6	Concrete	No	Good		0.5	No
	(1)	SERVICE	3. SW-In	4	PVC	No	Good		0	No
	(1)	MH0089	1. W-Out	6	Concrete	No	Good		0.5	No
(1) MH0098	(1)	MH0480	3. E-In	8	Vitrified Clay	No	Circular Cr		0.25	No
	(1)	MH0092	1. W-Out	8	Vitrified Clay	No	Circular Cr		0.25	No
	(1)	MH0099	2. NE-In	8	Vitrified Clay	No	Good		0.25	No
(1) MH0099	(1)	MH0100	2. E-In	8	Vitrified Clay	No	Good		0	No
	(1)	MH0098	1. SW-O	8	Vitrified Clay	No	Circular Cr		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>DepositionDepth</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
		<i>(in)</i>	<i>Material</i>				<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0100	(1)	PLUGGED	3. E-In	8	Vitrified Clay	No	Good	0	No
	(1)	MH0099	1. W-Out	8	Vitrified Clay	No	Circular Cr	0.25	No
	(1)	SERVICE	2. NE-In	6	PVC	No	Circular Cr	0.25	No
(1) MH0101	(1)	MH0092	1. N-Out	8	Vitrified Clay	No	Future	2.5	No
	(1)	MH0103	2. SE-In	8	Cured In Pla	No	Good	2	No
	(1)	MH0460	4. NW-In	8	Cured In Pla	No	Good	0.13	No
	(1)	MH0102	3. SW-In	8	Cured In Pla	No	Good	0.25	No
(1) MH0102	(1)	MH0592	3. W-In	8	Cured In Pla	No	Good	0.5	No
	(1)	SERVICE	2. SE-In	6	PVC	No	Good	0.25	No
	(1)	MH0101	1. NE-O	8	Cured In Pla	No	Good	0.5	No
(1) MH0103	(1)	MH0101	1. NW-O	8	Cured In Pla	No	Good	4	No
	(1)	MH0104	3. S-In	8	Vitrified Clay	No	Future	1.5	No
	(1)	MH0164	2. E-In	8	Vitrified Clay	No	Future	3	No
(1) MH0104	(1)	MH0106	2. W-In	10	Vitrified Clay	No	Good	0.13	No
	(1)	MH0103	1. N-Out	8	Vitrified Clay	No	Future	0.25	No
(1) MH0105	(1)	PLUGGED	2. W-In	6	Vitrified Clay	No	Good	0	No
	(1)	MH0106	1. E-Out	8	PVC	No	Good	0	No
(1) MH0106	(1)	MH0105	2. W-In	8	Vitrified Clay	No	Circular Cr	4.25	No
	(1)	MH0104	1. E-Out	10	Vitrified Clay	No	Good	4	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>(in)</i>						<i>Visual Infiltration</i>	<i>Drop Connection</i>
(1) MH0108	(1) SERVICE	4. SE-In	4	PVC	No			Good		No
	(1) SERVICE	3. NE-In	6	PVC	No			Good		No
	(1) MH0109	1. S-Out	8	Vitrified Clay	No			Good	2	No
	(1) MH0107	2. W-In	8	Vitrified Clay	No			Future	2	No
(1) MH0109	(1) MH0677	1. S-Out	8	Vitrified Clay	No			Good	1	No
	(1) MH0457	2. W-In	8	Vitrified Clay	No			Future	0.5	No
	(1) MH0108	3. N-In	8	Vitrified Clay	No			Future	0.5	No
(1) MH0110	(1) MH0241	1. S-Out	8	Vitrified Clay	No			Good	4	No
	(1) MH0112	5. E-In	8	Vitrified Clay	No			Good	3	No
	(1) MH0677	3. N-In	6	PVC	No			Good	2	Yes
	(1) PLUGGED	4. N-In	8	Vitrified Clay	No			Good	2	No
	(1) MH0111	2. W-In	6	Vitrified Clay	No			Good	1.5	Yes
(1) MH0112	(1) MH0113	2. N-In	6	Vitrified Clay	No			Future	2	No
	(1) MH0110	1. W-Out	8	Vitrified Clay	No			Future	2	No
(1) MH0114	(1) MH0113	1. S-Out	6	Vitrified Clay	No			Good	0.5	No
	(1) MH0115	2. N-In	6	Vitrified Clay	No			Future	0.5	No
(1) MH0116	(1) PLUGGED	4. E-In	6	Concrete	No			Good	0	No
	(1) SERVICE	3. N-In	6	Concrete	No			Good	0	No
	(1) MH0117	1. S-Out	6	Concrete	No			Circular Cr	0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0116	(1) MH0458	2. W-In	6 Concrete	No		Circular Cr		0.5	No
(1) MH0117	(1) MH0116	2. N-In	6 Concrete	No		Circular Cr		0.25	No
	(1) MH0118	1. S-Out	6 Concrete	No		Circular Cr		0.25	No
(1) MH0118	(1) MH0117	2. N-In	6 Concrete	No		Circular Cr		0.25	No
	(1) MH0119	1. S-Out	6 Concrete	No		Circular Cr		0.25	No
(1) MH0119	(1) MH0118	2. N-In	6 Vitrified Clay	No		No Visual		4	No
	(1) MH0120	1. W-Out	8 Vitrified Clay	No		No Visual		6	No
	(1) MH0123	3. E-In	8 Vitrified Clay	No		No Visual		6	No
(1) MH0121	(1) MH0459	2. N-In	6 Concrete	No		Circular Cr		0.25	No
	(1) MH0121	1. S-Out	6 Concrete	No		Circular Cr		0.25	No
(1) MH0122	(1) MH0123	1. S-Out	6 Concrete	No		Good		0.25	No
	(1) MH0121	2. N-In	6 Concrete	No		Circular Cr		0.25	No
(1) MH0123	(1) MH0122	2. N-In	6 Vitrified Clay	No		Future		1	No
	(1) MH0119	1. W-Out	8 Vitrified Clay	No		Future		4	No
	(1) MH0130	3. E-In	8 Vitrified Clay	No		Good		3	No
(1) MH0124	(1) MH0126	1. S-Out	6 Vitrified Clay	No		Good		0.25	No
	(1) SERVICE	2. W-In	4 PVC	No		Good		0	No
	(1) MH0125	3. N-In	6 Vitrified Clay	No		Good		0.25	No
	(1) MH0484	4. E-In	6 Vitrified Clay	No		Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0125	(1) MH0124	1. S-Out	6	Vitrified Clay	No	Good		0	No
	(1) MH0523	2. E-In	6	Vitrified Clay	No	Future		0	No
(1) MH0127	(1) MH0128	1. S-Out	6	Vitrified Clay	No	No Visual		0.75	No
	(1) MH0126	2. N-In	6	Vitrified Clay	No	Good		0.75	No
(1) MH0128	(1) MH0127	2. N-In	6	Vitrified Clay	No	Future		1	No
	(1) MH0129	3. E-In	6	Vitrified Clay	No	Future		1	No
	(1) MH0490	1. S-Out	6	Vitrified Clay	No	Good		1.5	No
(1) MH0129	(1) MH0524	2. N-In	6	Vitrified Clay	No	Future		0	No
	(1) MH0128	1. W-Out	6	Vitrified Clay	No	Good		0	No
(1) MH0130	(1) MH0123	1. W-Out	10	Vitrified Clay	No	Good		4	No
	(1) MH0490	2. N-In	8	Vitrified Clay	No	Good		2	No
	(1) PLUGGED	4. E-In	10	Vitrified Clay	No	Good		0	No
	(1) MH0135	3. E-In	10	Vitrified Clay	No	Good		2	No
(1) MH0131	(1) SERVICE	3. E-In	6	Vitrified Clay	Yes	No Visual		0.25	No
	(1) SERVICE	2. NE-In	4	PVC	No	Good		0	No
	(1) MH0132	1. S-Out	6	Vitrified Clay	No	Future		0.25	No
(1) MH0132	(1) MH0133	1. S-Out	8	Vitrified Clay	No	Future		3	No
	(1) MH0131	2. N-In	6	Vitrified Clay	No	Future		0	No
	(1) MH0137	3. E-In	8	Vitrified Clay	No	Good		3	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0133	(1) MH0132	2. N-In	8	Vitrified Clay	No		Good		3	No
	(1) MH0134	1. S-Out	8	Vitrified Clay	No		Future		3	No
(1) MH0134	(1) PLUGGED	3. E-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0491	1. S-Out	8	Vitrified Clay	No		No Visual		4	No
	(1) MH0133	2. N-In	8	Vitrified Clay	No		Good		4	No
(1) MH0135	(1) MH0142	2. E-In	8	Vitrified Clay	No		Good		3	No
	(1) PLUGGED	3. S-In	6	Vitrified Clay	No		No Visual		0	No
	(1) MH0130	1. W-Out	8	Vitrified Clay	No		Future		3	No
(1) MH0136	(1) MH0137	1. S-Out	6	Vitrified Clay	No		Good		0	No
	(1) SERVICE	2. NW-In	6	Vitrified Clay	No		Future		0	No
(1) MH0137	(1) MH0152	3. E-In	10	Vitrified Clay	No		Good		2	No
	(1) MH0138	4. S-In	6	Vitrified Clay	No		Good		1.5	No
	(1) MH0132	1. W-Out	8	Vitrified Clay	No		Good		4	No
	(1) MH0136	2. N-In	6	Vitrified Clay	No		Future		1.5	No
(1) MH0138	(1) MH0137	1. N-Out	6	Vitrified Clay	No		Good		1.5	No
	(1) MH0140	2. E-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH0139	3. S-In	6	Vitrified Clay	No		Good		1	No
(1) MH0139	(1) MH0138	1. N-Out	6	Vitrified Clay	No		No Visual		0	No
	(1) MH0525	2. E-In	6	Vitrified Clay	No		Circular Cr		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>			
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>	
(1) MH0140	(1)	MH0538	2. S-In	6	Vitrified Clay	No	Future		0	No	
	(1)	MH0138	1. W-Out	6	Vitrified Clay	No	Good		0	No	
(1) MH0141	(1)	MH0670	3. E-In	6	Vitrified Clay	No	Future		0.25	No	
	(1)	MH0594	2. W-In	6	Vitrified Clay	No	Future		0	No	
	(1)	MH0142	1. S-Out	6	Vitrified Clay	No	Good		0.25	No	
(1) MH0142	(1)	MH0135	1. W-Out	8	Vitrified Clay	No	Good		3	No	
	(1)	MH0445	3. E-In	8	Vitrified Clay	No	Good		2	No	
	(1)	MH0141	2. N-In	6	Vitrified Clay	No	Good		1	No	
(1) MH0144	(1)	MH0145	1. S-Out	6	Vitrified Clay	No	0.25	Future		0	No
(1) MH0145	(1)	MH0445	1. W-Out	8	Vitrified Clay	No	Longitudin		2.5	No	
	(1)	MH0144	2. N-In	6	Vitrified Clay	No	Good		0.5	No	
	(1)	MH0146	3. E-In	8	Vitrified Clay	No	Good		2	No	
(1) MH0146	(1)	MH0200	3. E-In	6	Vitrified Clay	No	Good		1	No	
	(1)	MH0374	5. S-In	8	Concrete	No	Good		0.25	No	
	(1)	SERVICE	4. SE-In	6	Vitrified Clay	No	Future		0	No	
	(1)	MH0145	1. W-Out	8	Vitrified Clay	No	Future		2.5	No	
	(1)	MH0147	2. N-In	6	Vitrified Clay	No	Good		1	No	
(1) MH0147	(1)	MH0146	1. S-Out	6	Vitrified Clay	No	Future		0.5	No	
	(1)	MH0148	2. N-In	6	Vitrified Clay	No	Future		0.5	No	

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>
(1) MH0148	(1) MH0147	1. S-Out	6	Vitrified Clay	No		Circular Cr	0.25	No
	(1) MH0149	2. N-In	6	Vitrified Clay	No		Circular Cr	0.25	No
(1) MH0149	(1) PLUGGED	2. N-In	6	Vitrified Clay	Yes	6	Good	4	No
	(1) MH0148	1. S-Out	6	Vitrified Clay	No		Good	4	No
(1) MH0150	(1) SERVICE	3. SW-In	6	Vitrified Clay	No		Future	0	No
	(1) MH0151	1. N-Out	6	Vitrified Clay	No		Good	0	No
	(1) SERVICE	2. SE-In	6	Vitrified Clay	No		Future	0	No
(1) MH0151	(1) MH0152	1. N-Out	6	Vitrified Clay	No		Future	0.25	No
	(1) MH0150	3. S-In	6	Vitrified Clay	No		Good	0.25	No
	(1) PLUGGED	2. E-In	6	Vitrified Clay	Yes	4	Good	0	No
(1) MH0152	(1) MH0151	4. S-In	6	Vitrified Clay	No		Good	0.5	No
	(1) MH0154	3. E-In	8	Vitrified Clay	No		Good	1	No
	(1) MH0153	2. N-In	6	Vitrified Clay	No		Good	2	No
	(1) MH0137	1. W-Out	8	Vitrified Clay	No		Good	3.5	No
(1) MH0153	(1) MH0485	2. SE-In	8	Vitrified Clay	No		Good	2	No
	(1) MH0152	1. S-Out	8	Vitrified Clay	No		Good	2	No
(1) MH0154	(1) MH0184	2. E-In	6	Concrete	No		Good	0.25	No
	(1) MH0152	1. W-Out	6	Vitrified Clay	No		Longitudin	0.5	No
	(1) MH0155	3. S-In	6	Concrete	No		Circular Cr	0.25	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Drop Connection</i>
(1) MH0155	(1)	MH0206	2. S-In	6	Concrete	No	Future	0.25	No
	(1)	MH0154	1. N-Out	6	Concrete	No	Future	0.25	No
(1) MH0156	(1)	MH0485	1. N-Out	6	Vitrified Clay	No	No Visual	0	No
(1) MH0157	(1)	MH0182	3. E-In	6	Vitrified Clay	No	Future	1	No
	(1)	MH0485	1. S-Out	6	Vitrified Clay	No	Good	2	No
	(1)	MH0167	2. N-In	6	Vitrified Clay	No	Circular Cr	1	No
(1) MH0159	(1)	MH0158	1. W-Out	6	Cast Iron	No	No Visual	0	No
	(1)	UNKNOWN	2. W-In	4	PVC	No	No Visual	0	No
	(1)	UNKNOWN	3. W-In	1	Cast Iron	No	No Visual	0	No
(1) MH0160	(1)	MH0161	1. W-Out	8	Vitrified Clay	No	Circular Cr	1	No
	(1)	MH0171	2. NE-In	0	Vitrified Clay	No	Good	0.25	No
	(1)	MH0158	3. E-In	6	Vitrified Clay	No	Good	1	No
(1) MH0161	(1)	MH0162	2. N-In	6	Vitrified Clay	No	Circular Cr	1	No
	(1)	MH0160	3. E-In	8	Vitrified Clay	No	Future	1.5	No
	(1)	MH0165	1. W-Out	8	Vitrified Clay	No	Circular Cr	1.5	No
(1) MH0162	(1)	MH0161	1. S-Out	8	Vitrified Clay	No	Circular Cr	0.13	No
	(1)	MH0163	2. W-In	8	Vitrified Clay	No	Circular Cr	0.25	No
	(1)	MH0452	3. N-In	8	Vitrified Clay	No	Circular Cr	0.25	No
(1) MH0163	(1)	UNKNOWN	2. W-In	8	Vitrified Clay	No	Good	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0163	(1) MH0162	1. E-Out	8	Vitrified Clay	No	Circular Cr	0.25	No
	(1) MH0453	3. N-In	8	Vitrified Clay	No	Good	0.5	No
(1) MH0164	(1) MH0693	2. E-In	8	Vitrified Clay	No	Good	2	No
	(1) PLUGGED	3. S-In	8	Vitrified Clay	No	Good	1.5	No
	(1) MH0103	1. W-Out	8	Vitrified Clay	No	Collapsed	2	No
(1) MH0165	(1) MH0161	2. E-In	8	Vitrified Clay	No	Future	1.5	No
	(1) MH0693	1. W-Out	8	Vitrified Clay	No	Circular Cr	1.5	No
(1) MH0166	(1) MH0168	1. SW-O	6	Vitrified Clay	No	Future	0.25	No
	(1) MH0454	2. N-In	6	Vitrified Clay	No	Good	0.25	No
(1) MH0167	(1) MH0183	3. SE-In	6	Concrete	No	Good	0.13	No
	(1) MH0486	2. N-In	6	Concrete	No	Good	1	No
	(1) MH0157	1. S-Out	6	Concrete	No	Good	1	No
(1) MH0168	(1) MH0169	1. S-Out	6	N/A	No	No Visual	0.25	No
	(1) MH0166	2. NE-In	6	Vitrified Clay	No	Future	0.25	No
(1) MH0169	(1) MH0170	1. W-Out	8	Vitrified Clay	No	Future	0.25	No
	(1) MH0168	2. N-In	6	Vitrified Clay	No	Future	0.25	No
(1) MH0170	(1) MH0172	1. W-Out	8	Vitrified Clay	No	Circular Cr	0.25	No
	(1) MH0169	2. E-In	8	Vitrified Clay	No	Future	0.25	No
(1) MH0171	(1) SERVICE	2. NW-In	4	PVC	No	Good	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>				<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0171	(1)	MH0160	1. S-Out	10	Vitrified Clay	No	Good	1	No
	(1)	MH0172	3. E-In	10	Vitrified Clay	No	Circular Cr	0.5	No
(1) MH0172	(1)	MH0173	2. N-In	8	Vitrified Clay	No	Circular Cr	1.5	No
	(1)	MH0170	3. E-In	10	Vitrified Clay	No	Circular Cr	1.5	No
	(1)	MH0171	1. W-Out	10	Vitrified Clay	No	Future	1.5	No
	(1)	UNKNOWN	4. SE-In	2	PVC	No	Good	0	No
(1) MH0174	(1)	MH0173	1. W-Out	6	Vitrified Clay	No	Good	0	No
	(1)	SERVICE	2. N-In	6	Vitrified Clay	No	Good	0	No
	(1)	PLUGGED	3. E-In	6	Vitrified Clay	No	Good	0	No
(1) MH0176	(1)	MH0177	2. E-In	6	Vitrified Clay	No	Circular Cr	0.25	No
	(1)	MH0664	1. W-Out	6	Vitrified Clay	No	Circular Cr	0.25	No
(1) MH0178	(1)	MH0175	2. SE-In	8	Concrete	No	Good	1.5	No
	(1)	MH0179	1. NW-O	8	Concrete	No	Circular Cr	1.5	No
(1) MH0179	(1)	MH0178	2. SE-In	6	Concrete	Yes	No Visual	0.5	No
	(1)	MH0180	1. NW-O	6	Concrete	Yes	No Visual	0.5	No
	(1)	SERVICE	3. SW-In	4	PVC	No	Good	0	No
(1) MH0180	(1)	MH0181	1. W-Out	6	Concrete	No	Good	1	No
	(1)	MH0179	2. SE-In	6	Concrete	No	Good	1	No
(1) MH0181	(1)	SERVICE	2. N-In	4	PVC	No	Good	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Drop Connection</i>
(1) MH0181	(1)	MH0180	3. E-In	6	Concrete	No	Good	0.5	No
	(1)	MH0097	1. W-Out	6	Concrete	No	Good	0.5	No
(1) MH0183	(1)	MH0167	1. NW-O	6	Concrete	No	Good	0	No
	(1)	SERVICE	2. SW-In	4	PVC	No	Good	0	No
	(1)	SERVICE	3. S-In	4	PVC	No	Good	0	No
(1) MH0184	(1)	MH0185	3. S-In	6	Concrete	No	Good	0	No
	(1)	MH0186	2. E-In	6	Concrete	No	Circular Cr	0.25	No
	(1)	MH0154	1. W-Out	6	Concrete	No	Good	0.25	No
(1) MH0185	(1)	MH0184	1. N-Out	6	Concrete	No	Good	0	No
(1) MH0186	(1)	MH0184	1. W-Out	6	Concrete	No	Circular Cr	0.25	No
	(1)	MH0187	2. E-In	6	Concrete	No	Future	0.25	No
(1) MH0187	(1)	MH0186	1. W-Out	6	Concrete	No	Good	0	No
(1) MH0188	(1)	MH0189	1. E-Out	6	Concrete	No	Circular Cr	0	No
(1) MH0189	(1)	MH0191	1. E-Out	6	Concrete	No	Good	0.13	No
	(1)	MH0190	2. S-In	6	Concrete	No	Good	0	No
	(1)	MH0188	3. W-In	6	Concrete	No	Good	0.13	No
(1) MH0190	(1)	MH0189	1. N-Out	6	Concrete	No	Good	0	No
	(1)	SERVICE	2. SW-In	6	Concrete	No	Future	0	No
(1) MH0191	(1)	MH0189	2. W-In	6	Concrete	No	Good	0.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0191	(1) MH0193	1. S-Out	6	Concrete	No		Good		2	No
	(1) MH0192	3. N-In	6	Concrete	No		Good		1	No
	(1) MH0212	4. E-In	8	Concrete	No		Good		0.5	No
(1) MH0192	(1) MH0191	1. S-Out	6	Concrete	No		Circular Cr		0.5	No
	(1) MH0488	2. E-In	6	Concrete	No		Good		0.5	No
(1) MH0193	(1) MH0194	1. S-Out	8	Concrete	No		Good		2	No
	(1) MH0204	2. W-In	8	Concrete	No		Good		1	No
	(1) MH0191	3. N-In	6	PVC	No		Good		1	No
(1) MH0194	(1) MH0193	3. N-In	6	Concrete	No		Good		1	No
	(1) MH0203	2. W-In	6	Concrete	No		Good		1	No
	(1) MH0195	1. S-Out	6	Concrete	No		Good		2	No
(1) MH0196	(1) MH0197	1. W-Out	6	Concrete	No		Circular Cr		3	No
	(1) MH0195	2. N-In	6	Concrete	No		Good		1	No
	(1) MH0207	3. E-In	6	Concrete	No		Good		2	No
(1) MH0197	(1) MH0378	3. S-In	6	Concrete	No		Good		1.5	No
	(1) MH0198	1. W-Out	6	Concrete	No		Good		2	No
	(1) MH0196	2. E-In	6	Concrete	No		Good		2	No
(1) MH0198	(1) MH0199	1. W-Out	6	Concrete	No		Circular Cr		2	No
	(1) MH0197	3. E-In	6	Concrete	No		Good		2	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0198	(1) MH0492	2. NE-In	6	Vitrified Clay	No		Good		0.15	No
(1) MH0199	(1) MH0198	2. E-In	6	Concrete	No		Good		3	No
	(1) MH0200	1. W-Out	6	Concrete	No		Longitudin		3	No
(1) MH0200	(1) MH0201	2. N-In	6	Vitrified Clay	No		No Visual		5	No
	(1) MH0199	3. E-In	6	Vitrified Clay	No		No Visual		4.5	No
	(1) MH0146	1. W-Out	6	Vitrified Clay	No		No Visual		5	No
(1) MH0201	(1) MH0527	2. W-In	8	Vitrified Clay	No		Good		0.25	No
	(1) PLUGGED	3. N-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0202	4. E-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0200	1. S-Out	8	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0202	(1) MH0201	1. W-Out	8	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0528	3. E-In	8	Vitrified Clay	No		Good		0.25	No
	(1) PLUGGED	2. N-In	8	Vitrified Clay	No		Good		0	No
(1) MH0203	(1) MH0529	3. NW-In	6	PVC	No		Good		0.5	No
	(1) MH0194	1. E-Out	6	Concrete	No		Good		0.5	No
	(1) SERVICE	2. S-In	4	PVC	No		Good		0	No
(1) MH0204	(1) MH0205	2. W-In	6	Concrete	No		Longitudin		0	No
	(1) MH0193	1. E-Out	6	Concrete	No		Good		0	No
(1) MH0205	(1) MH0204	1. E-Out	6	Concrete	No		Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0206	(1) MH0155	1. W-Out	6 Concrete	No		Circular Cr		0.13	No
	(1) MH0489	2. E-In	6 Concrete	No		Circular Cr		0.13	No
(1) MH0207	(1) MH0381	3. S-In	6 Concrete	No		Good		0	No
	(1) MH0196	1. W-Out	6 Concrete	No		Good		1.5	No
	(1) MH0208	2. E-In	6 Concrete	No		Good		1.5	No
(1) MH0208	(1) MH0211	3. E-In	6 Concrete	No		Good		1.5	No
	(1) MH0207	1. W-Out	6 Concrete	No		Good		1.5	No
	(1) SERVICE	2. N-In	4 PVC	No		No Visual		0	No
	(1) MH0382	4. S-In	6 Concrete	No		Good		0	No
(1) MH0209	(1) SERVICE	2. N-In	6 PVC	No		Good		0.25	No
	(1) MH0210	3. SE-In	8 Vitrified Clay	No		Good		0.25	No
	(1) MH0211	1. W-Out	6 Concrete	No		Good		0.5	No
(1) MH0210	(1) MH0209	1. NW-O	8 Vitrified Clay	No		Good		0.15	No
	(1) MH0392	2. S-In	8 Vitrified Clay	No		Good		0.15	No
(1) MH0211	(1) MH0532	2. NE-In	10 N/A	No		Good		0.5	No
	(1) MH0208	1. W-Out	6 Concrete	No		Good		2	No
	(1) MH0387	4. S-In	6 Concrete	No		Good		1.5	No
	(1) MH0209	3. E-In	6 Concrete	No		Good		0.5	No
(1) MH0212	(1) MH0213	2. N-In	6 Concrete	No		Good		1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>					<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0212	(1) SERVICE	3. E-In	4	PVC	No			Good	0	No
	(1) MH0191	1. W-Out	6	Concrete	No			Good	2	No
	(1) PLUGGED	4. S-In	6	PVC	No			Good	0	No
(1) MH0213	(1) MH0214	3. E-In	6	PVC	No			Good	0.5	No
	(1) SERVICE	2. N-In	6	PVC	No			Good	0.13	No
	(1) MH0212	1. S-Out	6	PVC	No			Good	0.5	No
(1) MH0214	(1) MH0215	3. E-In	6	PVC	No			Good	0.13	No
	(1) PLUGGED	2. N-In	6	PVC	No			Good	0	No
	(1) PLUGGED	4. S-In	6	PVC	No			Good	0	No
	(1) MH0213	1. W-Out	6	PVC	No			Good	0.13	No
(1) MH0215	(1) MH0216	3. NE-In	8	PVC	No			Good		No
	(1) MH0214	1. W-Out	6	PVC	No			Good		No
	(1) FORCE MAIN	5. SE-In	2	PVC	No			Good		No
	(1) MH0668	6. S-In	6	Vitrified Clay	No			Good		No
	(1) SERVICE	2. N-In	4	PVC	No			Good		No
	(1) SERVICE	4. E-In	4	PVC	No			Good		No
(1) MH0216	(1) MH0215	1. SW-O	8	PVC	No			Longitudin	0	No
	(1) SERVICE	4. SE-In	6	PVC	No			Good	0	No
	(1) SERVICE	2. NW-In	6	PVC	No			Good	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0216	(1)	MH0217	3. NE-In	6	PVC	No	Good		0	No
(1) MH0219	(1)	MH0220	1. S-Out	6	Vitrified Clay	No	Circular Cr		0.5	No
	(1)	MH0449	3. E-In	6	Vitrified Clay	No	Future		0.25	No
	(1)	PLUGGED	2. N-In	6	Vitrified Clay	No	No Visual		0	No
(1) MH0220	(1)	MH0224	3. E-In	8	Vitrified Clay	No	Circular Cr		2.5	No
	(1)	MH0219	2. N-In	8	Vitrified Clay	No	Circular Cr		5	No
	(1)	MH0221	1. W-Out	8	Vitrified Clay	No	Good		3	No
(1) MH0221	(1)	MH0220	2. E-In	8	Vitrified Clay	No	Future		1	No
	(1)	MH0236	3. SE-In	8	Vitrified Clay	No	Future		0.5	No
	(1)	MH0230	1. W-Out	8	Vitrified Clay	No	Circular Cr		1	No
(1) MH0222	(1)	MH00058	1. NW-O	6	N/A	No	No Visual		0	No
	(1)	UNKNOWN	3. SW-In	1	Cast Iron	No	No Visual		0	No
	(1)	UNKNOWN	2. NW-O	4	PVC	No	No Visual		0	No
(1) MH0223	(1)	MH0224	1. S-Out	8	Vitrified Clay	No	Circular Cr		0.25	No
	(1)	MH0228	2. E-In	8	Vitrified Clay	No	Good		0.26	No
(1) MH0224	(1)	MH0220	1. W-Out	8	Vitrified Clay	No	Good		2	No
	(1)	MH0223	2. N-In	8	Vitrified Clay	No	Future		1.25	No
	(1)	MH0225	3. E-In	8	Vitrified Clay	No	Future		1	No
	(1)	SERVICE	4. SE-In	10	PVC	No	Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0225	(1) MH0226	2. E-In	8	Vitrified Clay	No	Circular Cr		1	No
	(1) SERVICE	3. SE-In	8	Concrete	No	Good		0	No
	(1) SERVICE	4. W-In	4	PVC	No	Good		0	No
	(1) MH0224	1. W-Out	8	Vitrified Clay	No	Future		1	No
(1) MH0226	(1) MH0227	2. NE-In	8	Vitrified Clay	No	Good		0	No
	(1) MH0225	1. W-Out	8	Vitrified Clay	No	Good		0	No
(1) MH0230	(1) MH0232	3. S-In	6	Vitrified Clay	No	Circular Cr		0	No
	(1) MH0221	2. E-In	8	Vitrified Clay	No	Circular Cr		2	No
	(1) MH0231	1. W-Out	8	Cured In Pla	No	Good		2	No
(1) MH0231	(1) SERVICE	3. S-In	6	Vitrified Clay	No	Good		0.13	No
	(1) MH0230	2. E-In	8	Vitrified Clay	No	Good		4	No
	(1) MH0007	1. W-Out	8	Cured In Pla	No	Good		4	No
(1) MH0232	(1) MH0233	3. S-In	8	Vitrified Clay	No	Circular Cr		0.13	No
	(1) UNKNOWN	2. NE-In	2	Cast Iron	No	Good		0	No
	(1) MH0230	1. N-Out	8	Vitrified Clay	No	Circular Cr		0.13	No
(1) MH0233	(1) MH0232	1. N-Out	8	Vitrified Clay	No	Good		0.13	No
	(1) MH0234	2. E-In	8	Vitrified Clay	No	Good		0.13	No
(1) MH0234	(1) MH0235	4. E-In	6	PVC	No	Good		0.13	No
	(1) UNKNOWN	3. NW-In	2	PVC	No	No Visual		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>						<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0234	(1)	UNKNOWN	2. W-In	2	Cast Iron	No		Good	No	0	No
	(1)	MH0520	5. S-In	6	Vitrified Clay	No		Good	No	0.13	No
	(1)	MH0233	1. W-Out	8	Vitrified Clay	No		Good	No	0.5	No
(1) MH0235	(1)	SERVICE	3. SE-In	4	PVC	No		Good	No	0	No
	(1)	SERVICE	2. N-In	4	PVC	No		Good	No	0	No
	(1)	MH0234	1. W-Out	6	PVC	No		Good	No	0	No
(1) MH0238	(1)	SERVICE	3. NW-In	4	PVC	No		Good	No	0	No
	(1)	MH0239	1. S-Out	6	Vitrified Clay	No		Circular Cr	No	0.5	No
	(1)	SERVICE	2. NW-In	4	Vitrified Clay	No		Good	No	0	No
	(1)	SERVICE	4. NE-In	6	Vitrified Clay	No		Circular Cr	No	0.75	No
(1) MH0240	(1)	SERVICE	2. N-In	4	Vitrified Clay	No		No Visual	No	0	No
	(1)	MH0239	1. W-Out	6	Vitrified Clay	No		Future	No	0	No
(1) MH0241	(1)	PLUGGED	5. N-In	8	N/A	No		No Visual	No	8	No
	(1)	MH0110	4. N-In	8	Vitrified Clay	No		Future	No	1.25	No
	(1)	MH0243	6. E-In	8	N/A	No		No Visual	No	8	No
	(1)	MH0242	2. W-In	8	N/A	No		Good	No	0.25	No
	(1)	MH0244	1. S-Out	8	N/A	No		No Visual	No	8	No
	(1)	PLUGGED	3. W-In	8	N/A	No		No Visual	No	8	No
(1) MH0242	(1)	MH0241	1. E-Out	8	Vitrified Clay	No		Good	No	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0242	(1) PLUGGED	3. N-In	8	Vitrified Clay	No	Good	No	0	No
	(1) PLUGGED	2. W-In	8	Vitrified Clay	No	No Visual	No	0	No
(1) MH0243	(1) MH0533	3. E-In	6	Vitrified Clay	No	No Visual	No	6	No
	(1) MH0120	2. N-In	6	Vitrified Clay	No	No Visual	No	5	No
	(1) MH0241	1. W-Out	6	Vitrified Clay	No	Future	No	4	No
	(1) MH0535	4. S-In	6	Vitrified Clay	No	Good	No	0	No
(1) MH0244	(1) MH0534	3. E-In	8	Vitrified Clay	No	Future	No	2	No
	(1) MH0245	1. W-Out	10	Vitrified Clay	No	Good	No	5	No
	(1) MH0241	2. N-In	10	Vitrified Clay	No	Longitudin	No	4	No
(1) MH0245	(1) MH0246	1. S-Out	10	Vitrified Clay	No	Good	No	5	No
	(1) MH0244	2. E-In	10	Vitrified Clay	No	Good	No	5	No
(1) MH0246	(1) MH0247	1. W-Out	10	Vitrified Clay	No	Good	No	9.5	No
	(1) MH0245	2. N-In	10	Vitrified Clay	No	Future	No	1.5	No
	(1) MH0250	3. E-In	8	Vitrified Clay	No	No Visual	No	7	No
(1) MH0247	(1) MH0248	3. N-In	8	Vitrified Clay	No	Future	No	1	Yes
	(1) MH0251	2. W-In	8	Vitrified Clay	No	Future	No	1	Yes
	(1) MH0246	4. E-In	10	Vitrified Clay	No	Good	No	5	No
	(1) MH0539	1. S-Out	10	Vitrified Clay	No	Good	No	5	No
(1) MH0250	(1) MH0246	1. W-Out	8	Vitrified Clay	No	Good	No	1.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Drop Connection</i>
(1) MH0250	(1) MH0249	2. E-In	8	Vitrified Clay	No		Good	1.5	No
(1) MH0251	(1) MH0247	1. E-Out	8	Vitrified Clay	No		Good	0	No
	(1) SERVICE	3. SW-In	4	PVC	No		Good	0	No
	(1) PLUGGED	4. W-In	8	Vitrified Clay	No		Good	0	No
	(1) MH0252	2. S-In	8	Vitrified Clay	No		Good	0	No
	(1) PLUGGED	5. NW-In	6	Vitrified Clay	No		Good	0	No
(1) MH0253	(1) MH0300	1. SW-O	12	N/A	No		No Visual	12	No
	(1) MH0254	3. E-In	6	Concrete	No		No Visual	1	No
	(1) MH0539	2. N-In	12	N/A	No		No Visual	12	No
(1) MH0254	(1) MH0253	1. W-Out	8	Vitrified Clay	No		Good	1.5	No
	(1) MH0257	3. S-In	8	Vitrified Clay	No		Future	0.5	No
	(1) MH0255	2. E-In	8	Vitrified Clay	No		Good	1	No
(1) MH0257	(1) MH0254	1. N-Out	8	Vitrified Clay	No		Good	0.25	No
	(1) SERVICE	4. SW-In	4	PVC	No		Good	0	No
	(1) MH0258	2. E-In	8	Vitrified Clay	No		Good	0.25	No
	(1) MH0540	3. S-In	8	Vitrified Clay	No		Good	1	No
(1) MH0259	(1) MH0518	3. W-In	6	Vitrified Clay	No		Future	0	No
	(1) MH0239	1. N-Out	6	Vitrified Clay	No		Circular Cr	0	No
	(1) MH0519	2. E-In	6	Vitrified Clay	No		Circular Cr	0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0260	(1) MH0261	2. E-In	6	Vitrified Clay	No		Future		1	No
	(1) MH0278	3. S-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH0533	1. W-Out	6	Vitrified Clay	No		Good		1	No
(1) MH0261	(1) MH0260	1. W-Out	8	Vitrified Clay	No		Good		1	No
	(1) MH0262	2. E-In	8	Vitrified Clay	No		Good		0.75	No
	(1) MH0269	3. S-In	8	Vitrified Clay	No		Future		0.25	No
(1) MH0262	(1) MH0263	2. E-In	8	Vitrified Clay	No		Future		1.5	No
	(1) MH0266	3. S-In	8	Vitrified Clay	No		Good		1	No
	(1) MH0261	1. W-Out	8	Vitrified Clay	No		Good		2.5	No
(1) MH0264	(1) MH0445	1. NE-O	6	PVC	No		Good		0	No
(1) MH0266	(1) MH0456	3. S-In	6	Vitrified Clay	No		Future		0.5	No
	(1) MH0262	1. N-Out	6	Vitrified Clay	No		Good		0.5	No
	(1) MH0265	2. E-In	6	Vitrified Clay	No		Good		0.5	No
(1) MH0267	(1) MH0268	1. W-Out	8	Vitrified Clay	No		Future		0.25	No
	(1) UNKNOWN	2. E-In	8	Vitrified Clay	No		Good		0.25	No
(1) MH0268	(1) MH0269	1. N-Out	6	Vitrified Clay	No		Circular Cr		1	No
	(1) MH0267	2. E-In	6	Vitrified Clay	No		Future		0.25	No
	(1) MH0541	4. S-In	6	Vitrified Clay	No		Future		1	No
	(1) PLUGGED	3. E-In	6	Vitrified Clay	No		No Visual		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0269	(1) MH0261	1. N-Out	6	Vitrified Clay	No		Good		0.25	No
	(1) SERVICE	2. E-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH0268	3. S-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH0270	(1) MH0271	1. W-Out	6	Vitrified Clay	No		Good		0	No
	(1) MH0595	2. E-In	6	Vitrified Clay	No		Good		0	Yes
(1) MH0272	(1) MH0672	1. W-Out	6	Vitrified Clay	No		Future		1	No
	(1) PLUGGED	2. N-In	6	Vitrified Clay	Yes		Good		0.5	No
	(1) MH0271	3. E-In	6	Vitrified Clay	Yes		Future		1	No
(1) MH0273	(1) MH0498	3. W-In	6	Vitrified Clay	No		Good		1	No
	(1) MH0672	2. E-In	6	Vitrified Clay	No		Future		1	No
	(1) MH0274	1. N-Out	6	Vitrified Clay	No		Good		1	No
(1) MH0274	(1) MH0499	2. E-In	6	Vitrified Clay	No		Future		2	No
	(1) MH0500	4. W-In	6	Vitrified Clay	No		Future		0	No
	(1) MH0273	3. S-In	6	Vitrified Clay	No		Future		2	No
	(1) MH0275	1. N-Out	6	Vitrified Clay	No		Good		2	No
(1) MH0276	(1) MH0277	3. S-In	6	Vitrified Clay	No		Future		0.5	No
	(1) MH0275	2. E-In	6	Vitrified Clay	No		Good		2	No
	(1) MH0534	1. W-Out	6	Vitrified Clay	No		Good		2	No
(1) MH0277	(1) MH0276	1. N-Out	6	Vitrified Clay	No		Good		0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0277	(1) MH0537	2. S-In	6	Vitrified Clay	No		Future		0.25	No
(1) MH0279	(1) SERVICE	4. SE-In	4	Cast Iron	No		Future		0	No
	(1) SERVICE	2. NE-In	4	PVC	No		Good		0	No
	(1) FORCE MAIN	3. E-In	2	PVC	No		Good		0	No
	(1) MH0280	1. W-Out	6	Concrete	No		Circular Cr		0	No
(1) MH0281	(1) MH0288	2. E-In	6	Concrete	No		Good		0.5	No
	(1) MH0282	1. N-Out	6	Concrete	No		Good		0.5	No
(1) MH0282	(1) MH0281	4. S-In	6	Concrete	No		Good		2	No
	(1) MH0284	3. E-In	6	Concrete	No		Good		1	No
	(1) MH0497	2. N-In	6	Concrete	No		Good		2	No
	(1) MH0305	1. W-Out	8	PVC	No		Good		3	No
(1) MH0283	(1) MH0285	2. E-In	6	Concrete	No		Good		0.5	No
	(1) MH0824	1. W-Out	6	Concrete	No		Good		0.5	No
(1) MH0284	(1) MH0283	2. E-In	6	Concrete	No		Circular Cr		0.5	No
	(1) MH0282	1. W-Out	6	Concrete	No		Circular Cr		0.5	No
(1) MH0285	(1) MH0286	2. E-In	6	Concrete	No		Good		0.5	No
	(1) MH0283	1. W-Out	6	Concrete	No		Good		0.5	No
(1) MH0286	(1) MH0290	2. N-In	8	Concrete	No		Circular Cr		1	No
	(1) MH0287	3. S-In	8	Concrete	No		Circular Cr		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0286	(1) MH0285	1. W-Out	8	Concrete	No		Good		2	No
(1) MH0287	(1) MH0286	1. N-Out	6	Concrete	No		Good		0	No
	(1) PLUGGED	2. W-In	6	Concrete	No		No Visual		0	No
(1) MH0288	(1) MH0289	2. E-In	6	Concrete	No		Circular Cr		0.25	No
	(1) MH0281	1. W-Out	6	Concrete	No		Good		0.5	No
(1) MH0289	(1) MH0280	3. E-In	6	Concrete	No		Good		0.25	No
	(1) MH0288	1. W-Out	6	Concrete	No		Good		0.25	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH0290	(1) MH0496	5. SE-In	6	Vitrified Clay	No	4	No Visual		0.75	No
	(1) PLUGGED	2. N-In	6	Vitrified Clay	No		No Visual		0.13	No
	(1) PLUGGED	3. NE-In	6	Concrete	No	0.25	No Visual		0	No
	(1) SERVICE	4. NE-In	6	Vitrified Clay	No		Good		0.13	No
	(1) MH0286	1. S-Out	6	Concrete	No		Good		1	No
(1) MH0291	(1) MH0295	3. E-In	8	N/A	No		No Visual		1	No
	(1) MH0293	2. N-In	6	PVC	No		Good		2	No
	(1) MH0292	1. W-Out	8	N/A	No		No Visual		1	No
(1) MH0292	(1) MH0291	2. E-In	8	PVC	No		Good		0.25	No
	(1) MH0312	1. S-Out	8	PVC	No		Good		0.5	No
(1) MH0292	(1) MH0292	2. N-In	8	PVC	No		Good		5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>
(1) MH0292	(1) MH0316	1. S-Out	8	N/A	No		No Visual	1	No
(1) MH0294	(1) MH0295	1. S-Out	6	Vitrified Clay	No	5	No Visual	0	No
	(1) PLUGGED	3. NE-In	6	Vitrified Clay	No		No Visual	0	No
	(1) PLUGGED	2. NW-In	6	Vitrified Clay	No		No Visual	0	No
(1) MH0295	(1) MH0294	2. N-In	6	Concrete	No		Circular Cr	0.13	No
	(1) MH0291	1. W-Out	8	PVC	No		Good	2	No
	(1) MH0305	3. NE-In	8	PVC	No		Good	1	No
	(1) MH0296	4. S-In	6	Concrete	No	0.13	Good	0.13	No
(1) MH0296	(1) MH0556	3. S-In	6	Concrete	No		Good	0	No
	(1) MH0295	1. N-Out	6	Concrete	No		Good	0	No
	(1) MH0557	2. SE-In	8	PVC	No		Good	0	No
(1) MH0297	(1) MH0694	1. SW-O	12	Concrete	No		No Visual	10	No
	(1) MH0298	3. N-In	6	Vitrified Clay	No		Future	1	No
	(1) SERVICE	2. N-In	6	PVC	No		Good	0.25	No
	(1) MH0300	4. NE-In	12	Concrete	No		No Visual	10	No
(1) MH0298	(1) MH0673	2. W-In	6	Vitrified Clay	No		Good	1.5	No
	(1) SERVICE	4. NE-In	4	PVC	No		Good	0	No
	(1) PLUGGED	3. N-In	6	Vitrified Clay	No		Good	0	No
	(1) MH0297	1. S-Out	6	Vitrified Clay	No		Good	1.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>DepositionDepth</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
		<i>(in)</i>	<i>Material</i>				<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0300	(1) MH0253	3. NE-In	12	N/A	No	No Visual		10	No
	(1) SERVICE	2. N-In	4	PVC	No	Good		1	No
	(1) MH0297	1. SW-O	12	N/A	No	No Visual		10	No
(1) MH0301	(1) MH0306	3. SE-In	8	Concrete	No	Good		0	No
	(1) MH0694	2. NE-In	10	Vitrified Clay	No	Good		2	No
	(1) MH0303	1. SW-O	10	Vitrified Clay	No	Good		3	No
(1) MH0302	(1) MH0304	1. NW-O	10	Concrete	No	Good		8	No
	(1) MH0303	3. E-In	10	Vitrified Clay	No	Good		6	No
	(1) MH0674	2. N-In	6	Vitrified Clay	No	Good		1	Yes
(1) MH0303	(1) MH0301	4. NE-In	12	Vitrified Clay	No	Circular Cr		5	No
	(1) SERVICE	3. N-In	6	Vitrified Clay	No	Future	2	1	No
	(1) UNKNOWN	2. NW-In	12	Vitrified Clay	No	Good		5	No
	(1) MH0302	1. W-Out	8	PVC	No	Good		0.13	No
(1) MH0303	(1) SERVICE	3. NW-In	8	PVC	No	Good		0	No
	(1) MH0303B	2. W-In	6	PVC	No	Good		1	No
	(1) MH0303	1. S-Out	8	PVC	No	Good		1	No
(1) MH0303	(1) MH0303A	1. E-Out	6	PVC	No	Good		0	No
	(1) SERVICE	2. N-In	6	PVC	No	Good		0	No
(1) MH0303	(1) SVC	2. N-In	6	PVC	No	Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0303	(1) SVC	3. W-In	6	PVC	No		Good		0	No
	(1) MH0303A	1. SE-O	8	PVC	No		Good		0	No
(1) MH0304	(1) MH0016	1. W-Out	10	Vitrified Clay	No		Circular Cr		5	No
	(1) MH0302	2. SE-In	10	Vitrified Clay	No		Circular Cr		5	No
(1) MH0304	(1) SVC	3. W-Out	4	PVC	No		Good		0	No
	(1) UNK	1. SW-O	8	Vitrified Clay	No		Good		0	No
	(1) MH0304	2. E-In	8	Vitrified Clay	No		Longitudin		0	No
(1) MH0305	(1) MH0282	2. NE-In	8	PVC	No		Good		1	No
	(1) MH0305A	1. SW-O	8	PVC	No		Good		2	No
(1) MH0305	(1) UNKNOWN	2. NW-In	6	PVC	No		Good		2	No
	(1) MH0305	3. NE-In	8	PVC	No		Good		2	No
	(1) UNKNOWN	4. SE-In	4	PVC	No	1	Good		0	No
	(1) MH0295	1. SW-O	8	PVC	No		Good		2	No
(1) MH0306	(1) MH0310	1. SE-O	10	N/A	No	1	No Visual		0	No
	(1) MH0301	2. NW-O	10	N/A	No	2	No Visual		0	No
(1) MH0308	(1) PLUGGED	3. E-In	6	Concrete	No	4	No Visual		0	No
	(1) PLUGGED	2. NE-In	6	Concrete	No	0.13	No Visual		0	No
	(1) MH0307	1. NW-O	8	Vitrified Clay	No		Good		0.25	No
	(1) UNKNOWN	4. S-In	8	Vitrified Clay	No		Good		0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0310	(1) MH0311	3. SE-In	10	Cured In Pla	No		Good		3	No
	(1) MH0306	2. NW-In	8	Concrete	No		Good		0	No
	(1) MH0373	1. SW-O	10	PVC	No		Good		8	No
(1) MH0311	(1) SERVICE	3. S-In	4	PVC	No		Good		3	No
	(1) MH0314	2. E-In	10	Cured In Pla	No		Good		6	No
	(1) MH0310	1. NW-O	10	Cured In Pla	No		Good		3	No
(1) MH0312	(1) MH0503	1. W-Out	8	PVC	No		Good		6	No
	(1) PLUGGED	4. SW-In	8	Concrete	No	8	Collapsed		0	No
	(1) MH0292A	2. N-In	6	PVC	No		Good		4	No
	(1) MH0316	3. S-In	8	Vitrified Clay	No		Future		2	No
(1) MH0313	(1) MH0503	2. E-In	8	PVC	No		Good		4	No
	(1) MH0314	1. W-Out	8	PVC	No		Good		3	No
(1) MH0314	(1) MH0313	2. E-In	8	PVC	No		Good		7	No
	(1) MH0311	1. W-Out	8	Vitrified Clay	No		Good		7	No
(1) MH0316	(1) MH0312	1. N-Out	8	PVC	No		Good		2	No
	(1) MH0317	2. E-In	8	PVC	No		Good		2	No
	(1) SERVICE	4. SW-In	4	PVC	No		No Visual		0	Yes
	(1) MH0547	3. S-In	6	Vitrified Clay	No		Good		0.25	Yes
(1) MH0317	(1) MH0315	2. E-In	8	PVC	No		Good		1.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0317	(1) MH0316	1. W-Out	8	PVC	No		Good		2	No
(1) MH0319	(1) MH0315	1. N-Out	8	PVC	No		Good		2	No
	(1) MH0319A	2. S-In	8	PVC	No		Good		2	No
(1) MH0319	(1) UNKNOWN	3. S-In	6	PVC	No		Good		0.5	No
	(1) MH0319B	2. E-In	8	PVC	No		Good		1	No
	(1) MH0319	1. N-In	8	PVC	No		Good		1	No
(1) MH0319	(1) SERVICE	3. S-In	4	PVC	No		Good		0	No
	(1) MH0319A	1. NW-O	8	PVC	No		Good		2	No
	(1) MH0319C	2. NE-In	8	PVC	No		Good		2	No
(1) MH0319	(1) MH0321	2. SE-In	8	PVC	No		Good		2	No
	(1) MH0319B	1. SW-O	8	PVC	No		No Visual		7	No
(1) MH0321	(1) MH0322	2. SE-In	8	PVC	No		Good		4	No
	(1) MH0319C	1. NW-O	8	PVC	No		No Visual		8	No
(1) MH0322	(1) MH0323	3. SE-In	8	PVC	No		Good		1	No
	(1) MH0321	1. NW-O	8	PVC	No		Good		2	No
	(1) SERVICE	2. NE-In	8	Concrete	No		Circular Cr		0.13	No
(1) MH0323	(1) MH0322	1. W-Out	8	PVC	No		Good		2	No
	(1) MH0324	2. NE-In	8	Concrete	Yes		Future		1	No
	(1) MH0355	3. S-In	6	Concrete	No		Good		1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0324	(1)	MH0331	4. E-In	8	Concrete	No		Future	2	No
	(1)	MH0325	2. N-In	6	Concrete	No		Good	2	No
	(1)	MH0323	1. SW-O	8	Concrete	No		Good	2.5	No
	(1)	SERVICE	3. NE-In	4	PVC	No		Good	0	No
(1) MH0325	(1)	MH0326	2. E-In	6	Vitrified Clay	No		Good	0.5	No
	(1)	MH0324	1. S-Out	6	Concrete	No		Good	0.5	No
(1) MH0327	(1)	MH0326	1. W-Out	6	Concrete	No	1	Good	2	No
	(1)	SERVICE	2. NE-In	4	PVC	No		Good	0	No
	(1)	PLUGGED	3. E-In	6	Concrete	No	1	Good	2	No
(1) MH0328	(1)	MH0329	1. SW-O	6	Concrete	No		Good	2.5	No
	(1)	SERVICE	2. NW-In	4	Concrete	Yes		Circular Cr	0	No
	(1)	MH0393	3. E-In	6	Concrete	No		Good	2.5	No
(1) MH0329	(1)	MH0397	3. E-In	8	Concrete	No		Good	0	Yes
	(1)	MH0328	2. N-In	6	Concrete	No		Good	2	No
	(1)	MH0330	1. W-Out	8	Vitrified Clay	No		Good	2	No
	(1)	SERVICE	4. S-In	4	PVC	No		Good	0	No
(1) MH0330	(1)	SERVICE	4. S-In	6	Concrete	No		Good	0	No
	(1)	MH0329	3. E-In	8	Concrete	No	0.2	Good	2	No
	(1)	MH0331	1. W-Out	8	Concrete	No		Good	2	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0330	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH0331	(1) MH0332	5. S-In	8	Concrete	No		Good		2	No
	(1) MH0324	1. W-Out	8	Concrete	No		Good		1	No
	(1) SERVICE	2. NE-In	6	Concrete	No		Good		0	No
	(1) MH0330	3. E-In	8	Concrete	No		Good		0	Yes
	(1) UNKNOWN	4. E-In	8	Concrete	No		Good		2	Yes
(1) MH0332	(1) MH0331	1. N-Out	10	Vitrified Clay	No		Good		2	No
	(1) MH0578	3. S-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0579	4. W-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0577	2. E-In	10	Vitrified Clay	No		Future	1	1	No
(1) MH0334	(1) MH0335	2. E-In	6	Concrete	No		Future		0.25	No
	(1) UNKNOWN	3. S-In	6	Concrete	No	1	No Visual		0	No
	(1) MH0337	4. W-In	6	Concrete	No		Good		0	No
	(1) MH0323	1. N-Out	6	Concrete	No		Good		0.25	No
(1) MH0335	(1) MH0580	4. S-In	6	Concrete	No		Circular Cr		0.25	No
	(1) MH0334	1. W-Out	6	Concrete	No		Good		0.5	No
	(1) SERVICE	2. N-In	6	Vitrified Clay	No		Good		0	No
	(1) SERVICE	3. E-In	6	Concrete	No		Good		0.25	No
(1) MH0337	(1) MH0336	1. NE-O	6	Concrete	No		Good		0.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0337	(1) MH0555	3. W-In	6	Concrete	No		Good		0.5	No
	(1) MH0581	2. S-In	6	Vitrified Clay	No		Good		0.5	No
(1) MH0338	(1) SERVICE	3. SE-In	4	PVC	No		Good		0	No
	(1) MH0343	1. SW-O	6	Concrete	No		Good		0	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH0339	(1) MH0340	1. W-Out	6	Concrete	No		Future		0	No
	(1) SERVICE	2. N-In	4	PVC	No		Future		0	No
	(1) SERVICE	3. NE-In	4	PVC	No		Good		0	No
(1) MH0340	(1) MH0339	3. E-In	6	Concrete	No		Good		0.13	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
	(1) MH0341	1. S-Out	6	Concrete	No		Good		0.13	No
(1) MH0342	(1) MH0582	3. NE-In	6	Concrete	No		Future		0.25	No
	(1) MH0341	2. NW-In	6	Concrete	No		Circular Cr		1	No
	(1) MH0344	1. SW-O	6	Concrete	No		Good		1	No
(1) MH0343	(1) MH0582	1. SW-O	6	Concrete	No		Good		0	No
	(1) MH0338	2. NE-In	6	Concrete	No		Good		0	No
(1) MH0344	(1) MH0356	1. SW-O	6	Concrete	No		Good		0.25	No
	(1) MH0342	2. NE-In	6	Concrete	No		Good		0.25	No
(1) MH0345	(1) MH0355	1. NW-O	6	Concrete	No		Good		3	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0345	(1) MH0505	2. NE-In	8	Concrete	Yes		Circular Cr		3	No
(1) MH0346	(1) MH0505	1. SW-O	8	Concrete	No		Good		1	No
	(1) MH0349	2. NE-In	6	Concrete	No		Good		1.5	No
	(1) MH0354	3. SE-In	8	Concrete	No		Good		1	No
(1) MH0347	(1) MH0348	1. SW-O	6	Concrete	No		Good		0	No
	(1) SERVICE	4. SE-In	4	Concrete	No		Good		0	No
	(1) SERVICE	3. NE-In	4	Concrete	No		Good		0	No
	(1) SERVICE	2. NW-In	4	Concrete	No		Good		0	No
(1) MH0348	(1) MH0349	1. SW-O	6	Concrete	No		Good		0.13	No
	(1) MH0347	2. NE-In	6	Concrete	No		Good		0.13	No
	(1) SERVICE	3. E-In	4	Concrete	No		Good		0	No
(1) MH0349	(1) MH0346	1. SW-O	6	Concrete	No		Good		0.13	No
	(1) MH0348	2. NE-In	6	Concrete	No		Good		0.13	No
(1) MH0351	(1) MH0352	1. NW-O	6	Concrete	No		Good		0	No
	(1) SERVICE	2. E-In	4	PVC	No		Good		0	No
	(1) MH0350	3. SW-In	6	Concrete	No		Good		0	No
(1) MH0352	(1) MH0351	3. SE-In	6	Concrete	No		Good		0	No
	(1) MH0353	1. SW-O	6	Concrete	No		Good		0.5	No
	(1) MH0583	2. NE-In	6	Concrete	No		Good		0.25	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0354	(1) MH0346	1. NW-O	6 Concrete	No		Good	3	No
	(1) MH0353	2. NE-In	6 Concrete	No		Good	3	No
	(1) MH0461	3. SW-In	6 Concrete	No		Good	1	No
(1) MH0355	(1) MH0356	1. NW-O	6 Concrete	No		No Visual	6	No
	(1) MH0345	2. SE-In	6 Concrete	No		Good	0.5	No
	(1) SERVICE	3. SE-In	4 PVC	No		No Visual	0	No
(1) MH0356	(1) MH0359	1. NW-O	8 Concrete	No		Good	3	No
	(1) MH0344	2. NE-In	8 Concrete	No		Good	1	No
	(1) MH0355	3. SE-In	8 Concrete	No		Good	1	No
(1) MH0357	(1) MH0359	2. E-In	8 Concrete	No		Good	2	No
	(1) MH0358	1. W-Out	8 Concrete	No		Good	1.5	No
(1) MH0358	(1) MH0361	1. W-Out	8 Concrete	No		Good	1	No
	(1) MH0357	2. E-In	8 Concrete	No		Good	2	No
(1) MH0359	(1) MH0357	1. W-Out	8 Concrete	Yes		Future	2	No
	(1) MH0356	2. E-In	8 Concrete	No		Good	0	No
(1) MH0360	(1) MH0451	3. S-In	10 Concrete	No		Good	0.25	No
	(1) MH0362	1. NW-O	10 Concrete	No		Circular Cr	1	No
	(1) MH0631	2. E-In	8 Concrete	No		Circular Cr	2	No
(1) MH0362	(1) MH0630	3. SE-In	12 Cast Iron	No		Good	2	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0362	(1) MH0613	2. E-In	6	PVC	No		Good		0.25	No
	(1) MH0363A	1. NW-O	10	Concrete	No		Good		2	No
(1) MH0363	(1) MH0683	2. NE-In	8	PVC	No		Good		1	No
	(1) MH0364	1. NW-O	10	Concrete	No		Good		3	No
	(1) MH0363A	3. SE-In	10	Concrete	No		Good		3.5	No
(1) MH0363	(1) MH0363	1. NW-O	10	Concrete	No		Good		4	No
	(1) MH0362	3. SE-In	10	Concrete	No		Good		4	No
	(1) MH0649	2. E-In	8	PVC	No		Good		0.25	No
(1) MH0369	(1) MH0368	1. NW-O	10	Concrete	No		Good		6	No
	(1) MH0370	2. SE-In	10	PVC	No		Good		6	No
(1) MH0371	(1) MH0370	1. W-Out	10	PVC	No		Good		6	No
	(1) MH0598	2. NE-In	10	PVC	No		Good		6	No
	(1) MH0617	3. SW-In	8	PVC	No		Good		0.5	No
(1) MH0372	(1) MH0598	1. SW-O	10	PVC	No		Good		6	No
	(1) MH0373	2. NE-In	10	PVC	No		Good		6	No
(1) MH0373	(1) SERVICE	3. SE-In	4	PVC	No	4	No Visual		0	No
	(1) MH0372	1. SW-O	10	PVC	No		Good		2	No
	(1) MH0310	2. NE-In	10	PVC	No		Good		2	No
(1) MH0374	(1) MH0375	2. E-In	6	Concrete	No		Good		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>
(1) MH0374	(1)	MH0146	1. N-Out	6	Concrete	No	Good	2	No
(1) MH0376	(1)	MH0375	1. W-Out	8	Vitrified Clay	No	Good	0.75	No
	(1)	MH0377	2. E-In	6	Concrete	No	Good	0.75	No
(1) MH0377	(1)	MH0376	1. W-Out	6	Concrete	No	Good	0.75	No
	(1)	MH0444	2. S-In	6	Concrete	No	Good	0.75	No
(1) MH0379	(1)	MH0378	1. N-Out	6	Concrete	No	Good	1	No
	(1)	MH0380	2. SE-In	6	Concrete	No	Good	0.25	No
	(1)	SERVICE	3. S-In	4	PVC	No	Good	0	No
(1) MH0380	(1)	MH0431	2. SW-In	8	Concrete	No	Good	0.1	No
	(1)	MH0379	1. W-Out	8	Concrete	No	Good	0.1	No
(1) MH0381	(1)	MH0207	1. N-Out	6	Concrete	No	Good	1	No
	(1)	SERVICE	2. SE-In	4	Concrete	No	Good	0	No
	(1)	SERVICE	3. S-In	4	Concrete	No	Good	0	No
	(1)	SERVICE	4. SW-In	4	Concrete	No	Good	0	No
(1) MH0382	(1)	SERVICE	3. SE-In	4	Concrete	No	Good	0	No
	(1)	MH0383	2. SE-In	6	Concrete	No	Good	0	No
	(1)	SERVICE	4. S-In	4	Concrete	No	Good	0	No
	(1)	MH0208	1. N-Out	6	Concrete	No	Good	1	No
(1) MH0383	(1)	MH0382	1. NW-O	6	Concrete	No	Good	0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0385	(1) MH0384	1. N-Out	6	Concrete	No		Good		0	No
	(1) SERVICE	2. E-In	4	Concrete	No		Circular Cr		0	No
(1) MH0386	(1) MH0389	3. W-In	6	Concrete	No		Good		0	No
	(1) MH0387	1. N-Out	6	Concrete	No		Good		2	No
	(1) SERVICE	2. S-In	4	Concrete	No		Good		2	No
(1) MH0388	(1) MH0387	1. W-Out	6	Concrete	No		Circular Cr		0	No
	(1) MH0384	2. SW-In	6	Concrete	No		Good		0	No
(1) MH0389	(1) SERVICE	3. W-In	4	Concrete	No		Circular Cr		0	No
	(1) MH0390	2. S-In	6	Concrete	No		Good		1	No
	(1) MH0386	1. E-Out	6	Concrete	No		Good		0	No
(1) MH0390	(1) SERVICE	3. S-In	4	Concrete	No		Circular Cr		0	No
	(1) SERVICE	4. SW-In	4	Concrete	No		Future		0	No
	(1) SERVICE	2. SE-In	4	Concrete	No		Good		0	No
	(1) MH0389	1. N-Out	6	Concrete	No		Good		0.5	No
(1) MH0391	(1) MH0392	1. N-Out	6	Vitrified Clay	No		Circular Cr		0	No
	(1) SERVICE	4. SW-In	4	PVC	No		Good		0	No
	(1) SERVICE	3. S-In	4	PVC	No		Good		0	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good		0	No
(1) MH0392	(1) MH0391	2. S-In	6	Vitrified Clay	No		Good		0.15	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0392	(1) MH0210	1. N-Out	8	Vitrified Clay	No		Good		0.15	No
(1) MH0393	(1) MH0328	1. NW-O	6	Concrete	No		Circular Cr		0.5	No
	(1) MH0394	2. SE-In	6	Concrete	No		Good		0.5	No
(1) MH0394	(1) MH0396	2. NE-In	6	Concrete	No		Good		1	No
	(1) MH0395	3. SW-In	6	Concrete	No		Circular Cr		0.17	Yes
	(1) MH0393	1. NW-O	6	Concrete	No		Good		1.17	No
(1) MH0396	(1) MH0394	1. SW-O	6	Concrete	No		Good		0.5	No
	(1) MH0570	2. NE-In	6	Vitrified Clay	No		Good		0.2	No
	(1) MH0430	3. NE-In	6	Concrete	No		Good		0.5	No
(1) MH0397	(1) MH0329	1. W-Out	6	Concrete	No		Longitudin		0.13	No
	(1) MH0398	2. E-In	6	Concrete	No		Longitudin		0.13	No
(1) MH0398	(1) MH0399	2. E-In	6	Concrete	No		Good		0	No
	(1) MH0397	1. W-Out	6	Concrete	No		Good		0	No
	(1) SERVICE	3. S-In	6	Concrete	No		Good		0	No
(1) MH0399	(1) MH0400	2. E-In	6	Concrete	No		Circular Cr		0	No
	(1) MH0398	1. W-Out	6	Concrete	No		Circular Cr		0	No
(1) MH0400	(1) MH0399	1. W-Out	6	Concrete	No		Good		0	No
(1) MH0401	(1) PLUGGED	3. SE-In	4	Concrete	No	3	Future		0	No
	(1) MH1407	1. S-Out	6	Concrete	No		Future		0.25	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>				<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0401	(1) MH0679	2. E-In	6 Concrete	No		Future	0.25	No
(1) MH0402	(1) SERVICE	4. SE-In	4 Concrete	No		Good	0	No
	(1) MH0430	1. NW-O	6 Concrete	No		Circular Cr	0.25	No
	(1) MH0406	3. SE-In	6 Concrete	No		Good	0.25	No
	(1) SERVICE	2. NE-In	4 Concrete	No		Circular Cr	0	No
(1) MH0405	(1) MH0403	1. W-Out	6 Concrete	No		Good	0	No
	(1) SERVICE	2. SE-In	4 Concrete	No		Future	0	No
(1) MH0406	(1) MH0408	3. S-In	6 Concrete	No		Good	0.25	No
	(1) MH0407	2. N-In	6 Concrete	No		Circular Cr	0.25	No
	(1) MH0402	1. W-Out	6 Concrete	No		Good	0.5	No
(1) MH0407	(1) MH0406	1. S-Out	6 Concrete	No		Good	0.25	No
	(1) MH0401	2. N-In	6 Concrete	No		Good	0.25	No
(1) MH0408	(1) MH0409	2. E-In	6 Concrete	No		Good	0.5	No
	(1) SERVICE	3. SE-In	6 Concrete	No		Future	0	No
	(1) MH0406	1. N-Out	6 Concrete	No		Good	0.5	No
(1) MH0409	(1) MH0408	1. W-Out	6 Concrete	No		Circular Cr	0.5	No
	(1) MH0411	2. SE-In	6 Concrete	No		Good	0.5	No
(1) MH0410	(1) MH0411	1. N-Out	6 Concrete	No		Good	0.25	No
	(1) SERVICE	2. NE-In	4 Concrete	No		Future	0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0410	(1) MH0415	3. S-In	6	Concrete	No		Good		0.25	No
(1) MH0411	(1) MH0409	1. NW-O	6	Concrete	No		Good		2	No
	(1) PLUGGED	2. NE-In	4	Concrete	No		Good		0	No
	(1) MH0410	4. S-In	6	Concrete	No		Good		2	No
	(1) MH0412	3. E-In	6	Concrete	No		Longitudin		0.1	No
(1) MH0413	(1) MH0414	2. E-In	6	Concrete	No		Good		0	No
	(1) MH0412	1. W-Out	4	Concrete	No		Future		0	No
(1) MH0415	(1) SERVICE	4. W-In	6	Concrete	No		Good		0.25	No
	(1) MH0426	3. S-In	6	Concrete	No		Good		0.25	No
	(1) MH0410	1. N-Out	6	Concrete	No		Good		1	No
	(1) MH0416	2. SE-In	6	Concrete	No		Good		0.25	No
(1) MH0416	(1) MH0427	5. S-In	6	Concrete	No		Good		0.13	No
	(1) MH0417	3. NE-In	6	Concrete	No		Good		0.13	No
	(1) SERVICE	4. SE-In	4	Concrete	No		Future		0.13	No
	(1) MH0415	1. NW-O	6	Concrete	No		Good		0.5	No
	(1) SERVICE	2. N-In	4	Concrete	No		Good		0.13	No
(1) MH0417	(1) SERVICE	2. NE-In	4	Concrete	No		Circular Cr		0	No
	(1) MH0633	3. NE-In	8	PVC	No		Good		0.2	No
	(1) SERVICE	4. SW-In	6	PVC	No		Good		0.1	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0417	(1) MH0416	1. SW-O	6	Concrete	No		Good		0.25	No
(1) MH0418	(1) MH0419	1. NW-O	6	Concrete	No		Good		0.13	No
(1) MH0419	(1) SERVICE	3. SE-In	4	Concrete	Yes		Circular Cr		0	No
	(1) MH0420	1. NW-O	6	Concrete	No		Good		0.13	No
	(1) MH0418	2. SE-In	6	Concrete	No		Good		0.13	No
(1) MH0420	(1) MH0419	4. S-In	6	Concrete	No		Good		0.25	No
	(1) PLUGGED	3. SE-In	4	Concrete	No	2	No Visual		0	No
	(1) MH0421	1. NW-O	6	Concrete	No		Good		0.13	No
	(1) MH0422	2. NE-In	6	Concrete	No		Good		0	No
(1) MH0423	(1) PLUGGED	2. SE-In	4	Concrete	No		Good		0	No
	(1) MH0421	1. NE-O	6	Concrete	No		Good		0	No
	(1) MH0424	3. S-In	6	Concrete	No		Circular Cr		0	No
	(1) SERVICE	4. SW-In	4	PVC	No		Good		0	No
(1) MH0424	(1) MH0423	1. N-Out	6	Concrete	No		Good		0	No
	(1) SERVICE	2. SE-In	4	Concrete	No		Future		0	No
(1) MH0425	(1) MH0421	2. SE-In	6	Concrete	No		Good		0.13	No
	(1) MH0426	1. NW-O	6	Concrete	No		Good		0.13	No
(1) MH0426	(1) MH0415	1. N-Out	6	Concrete	No		Good		0.25	No
	(1) MH0425	2. SE-In	6	Concrete	No		Good		0.25	No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0426	(1) SERVICE	3. SW-In	4 Concrete	No		Good		0	No
(1) MH0427	(1) MH0576	4. SW-In	6 Concrete	No		Good		0	No
	(1) MH0428	2. E-In	6 Concrete	No		Good		0	No
	(1) MH0416	1. N-Out	6 Concrete	No		Good		0	No
	(1) PLUGGED	3. SE-In	4 Concrete	Yes		Good		0	No
(1) MH0428	(1) MH0429	3. SE-In	6 Concrete	No		Good		0	No
	(1) MH0427	1. W-Out	6 Concrete	No		Good		0	No
	(1) SERVICE	2. SE-In	4 Concrete	No		Circular Cr		0	No
(1) MH0430	(1) MH0396	1. SW-O	6 Concrete	No		Circular Cr		0.25	No
	(1) MH0402	2. SE-In	6 Concrete	No		Broken Pip		0.25	No
(1) MH0431	(1) SERVICE	2. E-In	4 Concrete	No		Circular Cr		0	No
	(1) MH0433	3. S-In	6 Concrete	No		Future		0.25	No
	(1) MH0380	1. NE-O	6 Concrete	No		Future		0.25	No
	(1) SERVICE	4. SW-In	4 Concrete	No		Future		0	No
(1) MH0432	(1) MH0436	1. S-Out	8 Vitrified Clay	No		Good		0	No
	(1) SERVICE	3. NE-In	4 PVC	No		Good		0	No
	(1) SERVICE	2. NW-In	4 PVC	No		Good		0	No
(1) MH0433	(1) SERVICE	2. SE-In	4 PVC	No		Good		0	No
	(1) SERVICE	3. SW-In	4 PVC	No		Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0433	(1) MH0431	1. N-Out	6 Concrete	No		Good		0	No
(1) MH0434	(1) MH0435	1. N-Out	8 Vitrified Clay	No		Good		0	No
	(1) SERVICE	2. SE-In	4 PVC	No		Good		0	No
	(1) SERVICE	3. SW-In	4 PVC	No		Good		0	No
(1) MH0435	(1) MH0493	2. SE-In	6 PVC	No		Good		0	No
	(1) MH0434	3. S-In	8 Vitrified Clay	No		Good		2	No
	(1) MH0436	1. N-Out	8 Vitrified Clay	No		Longitudin		2	No
(1) MH0436	(1) MH0432	2. N-In	8 Vitrified Clay	No		Good		0	No
	(1) MH0435	3. S-In	8 Vitrified Clay	No		Good		1	No
	(1) MH0437	1. W-Out	8 Vitrified Clay	No		Good		1	No
(1) MH0437	(1) MH0441	1. W-Out	8 Vitrified Clay	No		Good		1.5	No
	(1) MH0436	3. E-In	8 Vitrified Clay	No		Good		1	No
	(1) MH0439	4. S-In	8 Vitrified Clay	No		Good		0.5	No
	(1) MH0440	2. N-In	8 Vitrified Clay	No		Circular Cr		0	No
(1) MH0438	(1) MH0439	1. N-Out	8 Vitrified Clay	No		Good		0	No
	(1) PLUGGED	3. S-In	8 Vitrified Clay	Yes		Good		0	No
	(1) SERVICE	2. SE-In	4 PVC	No		Good		0	No
	(1) SERVICE	4. SW-In	4 PVC	No		Good		0	No
(1) MH0439	(1) MH0437	1. N-Out	8 Vitrified Clay	No		Good		0.75	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0439	(1) MH0438	2. S-In	8	Vitrified Clay	No		Good		0.75	No
(1) MH0440	(1) MH0437	1. S-Out	8	Vitrified Clay	No		Good		0	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
	(1) SERVICE	3. E-In	4	PVC	No		Good		0	No
(1) MH0441	(1) MH0437	2. E-In	8	Vitrified Clay	No		Good		1	No
	(1) PLUGGED	3. SE-In	8	Vitrified Clay	Yes	8	No Visual		0	No
	(1) MH0442	1. NW-O	8	Vitrified Clay	No		Good		1	No
(1) MH0442	(1) MH0542	4. SW-In	8	Concrete	No		Good		0.13	No
	(1) MH0546	3. S-In	8	Concrete	No		Good		0.13	No
	(1) MH0441	2. SE-In	8	Vitrified Clay	No		Good		1	No
	(1) MH0443	1. N-Out	6	Concrete	No		Good		1	No
(1) MH0444	(1) MH0377	1. N-Out	6	Vitrified Clay	No		Good		0.75	No
	(1) MH0443	2. S-In	6	Vitrified Clay	No		Circular Cr		0.75	No
(1) MH0445	(1) MH0142	1. W-Out	8	Vitrified Clay	No		Good		2	No
	(1) MH0145	2. E-In	8	Vitrified Clay	No		Good		2	No
	(1) MH0264	3. SW-In	6	PVC	No		Good		0	No
(1) MH0451	(1) MH0450	2. S-In	10	Concrete	No		Good		0.5	No
	(1) MH0360	1. N-Out	10	Concrete	No		Good		0.25	No
(1) MH0460	(1) MH0101	1. SE-O	8	Cured In Pla	No		Good		0	No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0460	(1) UNKNOWN	2. E-In	1 Cast Iron	No		No Visual		0	No
(1) MH0461	(1) MH0354	1. NE-O	6 Concrete	No		Good		1	No
	(1) MH0462	2. SE-In	6 Concrete	No		Good		2	No
	(1) MH0584	3. NW-In	6 Concrete	Yes		Circular Cr		0.5	No
(1) MH0462	(1) MH0461	1. NW-O	8 Concrete	No		Good		1	No
	(1) MH0463	3. S-In	6 Concrete	No		Good		3	No
	(1) MH0477	2. SE-In	8 Concrete	No		Good		1	No
(1) MH0463	(1) MH0588	3. SW-In	6 Concrete	Yes		Future		0.13	No
	(1) MH0462	1. NW-O	6 Concrete	No		Good		0.13	No
	(1) SERVICE	2. SE-In	6 Concrete	Yes	0.13	Future		0	No
(1) MH0464	(1) MH0465	3. SW-In	6 Concrete	No		Good		0	No
	(1) MH0588	1. NE-O	6 Concrete	No		Good		0.13	No
	(1) MH0466	2. SE-In	6 Concrete	No		Good		0.13	No
	(1) SERVICE	4. SW-In	4 Concrete	No		Good		0	No
(1) MH0465	(1) SERVICE	3. SW-In	4 Concrete	No		Good		0	No
	(1) SERVICE	4. SW-In	4 Concrete	No		Good		0	No
	(1) SERVICE	2. SE-In	4 Concrete	No		Good		0	No
	(1) MH0464	1. NE-O	6 Concrete	No		Good		0	No
(1) MH0466	(1) MH0464	1. NW-O	6 Concrete	No		Good		0.13	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>						<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0466	(1) SERVICE	2. NE-In	4	Concrete	No			Good	No	0	No
	(1) MH0589	3. SE-In	6	Concrete	No			Good	No	0.13	No
(1) MH0467	(1) MH0469	1. SE-O	6	Concrete	No			Good	No	0	No
	(1) MH0468	2. SW-In	6	Concrete	No			Good	No	0	No
	(1) SERVICE	3. N-In	4	Concrete	No			Good	No	0	No
	(1) SERVICE	4. N-In	4	Concrete	No			Good	No	0	No
(1) MH0468	(1) SERVICE	2. S-In	4	Concrete	No	0.13		Good	No	0	No
	(1) SERVICE	3. SW-In	4	Concrete	No			Good	No	0	No
	(1) MH0467	1. NE-O	6	Concrete	No			Good	No	0	No
	(1) SERVICE	4. N-In	4	Concrete	No			Good	No	0	No
(1) MH0469	(1) SERVICE	2. S-In	4	PVC	No			Future	No	0	No
	(1) PLUGGED	3. SW-In	6	Concrete	No			Collapsed	No	0	No
	(1) MH0467	4. NW-In	6	Concrete	No			Good	No	0	No
	(1) MH0470	1. NE-O	6	Concrete	No			Good	No	0	No
(1) MH0470	(1) MH0475	1. NW-O	6	Concrete	No			Good	No	0.25	No
	(1) SERVICE	2. N-In	4	Concrete	No			Good	No	0	No
	(1) MH0471	3. SE-In	6	Concrete	No			Good	No	0.13	No
	(1) MH0469	4. SW-In	6	Concrete	No			Good	No	0.13	No
(1) MH0471	(1) SERVICE	3. E-In	4	Concrete	No			Good	No	0	No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0471	(1) SERVICE	2. NE-In	4 Concrete	No		No Visual		0	No
	(1) MH0470	1. NW-O	6 Concrete	No		Good		0.25	No
	(1) MH0472	4. SE-In	6 Concrete	No		Good		0.13	No
(1) MH0472	(1) SERVICE	2. SW-In	4 Concrete	No		Good		0	No
	(1) MH0471	1. NW-O	6 Concrete	No		Good		0	No
	(1) MH0473	2. E-In	6 Concrete	No		Good		0	No
(1) MH0473	(1) MH0472	1. W-Out	6 Concrete	Yes		Circular Cr		0.13	No
	(1) MH0474	2. S-In	6 Concrete	No		Good		0.13	No
(1) MH0474	(1) SERVICE	2. S-In	4 PVC	No		Good		0	No
	(1) MH0473	1. N-Out	6 Concrete	No		Good		0	No
	(1) MH0590	3. W-In	6 Concrete	No		Good		0	Yes
(1) MH0475	(1) SERVICE	3. SW-In	4 PVC	No		Good		0	No
	(1) MH0476	1. NE-O	6 Concrete	No		Good		0.5	No
	(1) MH0470	2. SE-In	6 Concrete	No		Good		0.13	No
	(1) SERVICE	4. NW-In	6 Concrete	No		Future		0	No
(1) MH0476	(1) UNKNWON	4. SE-In	4 Concrete	No		Future		0	No
	(1) MH0475	5. SW-In	6 Concrete	No		Good		1	No
	(1) MH0477	1. NW-O	6 Concrete	No		Good		2	No
	(1) MH0585	2. NE-In	6 Concrete	No		Good		3	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>DepositionDepth</i> (in)	<i>Structural Condition</i>	<i>Observed</i>		
		(in)						<i>Visual Infiltration</i>	<i>Depth</i> (in)	<i>Drop Connection</i>
(1) MH0476	(1)	UNKNOWN	3. SE-In	4	Concrete	No	Future		0	No
(1) MH0477	(1)	SERVICE	4. SE-In	4	PVC	No	Good		0	No
	(1)	MH0478	2. NE-In	6	Concrete	Yes	Circular Cr		1	No
	(1)	MH0462	1. NW-O	6	Concrete	Yes	Circular Cr		0.5	No
	(1)	MH0476	3. SE-In	6	Concrete	No	Good		0	No
(1) MH0478	(1)	SERVICE	3. NE-In	4	Concrete	Yes	Circular Cr		0	No
	(1)	MH0478	1. SW-O	6	Concrete	No	Good		0.13	No
	(1)	SERVICE	2. NW-In	4	Concrete	No	Good		0	No
(1) MH0482	(1)	MH0062	1. W-Out	6	Vitrified Clay	No	Future		1	No
	(1)	SERVICE	2. NE-In	6	Vitrified Clay	No	Future		1	No
(1) MH0485	(1)	MH0153	1. NW-O	6	Vitrified Clay	No	Good		2	No
	(1)	MH0157	2. N-In	6	Vitrified Clay	No	Good		1	No
	(1)	MH0156	3. S-In	6	Vitrified Clay	No	Future		1	No
(1) MH0488	(1)	MH0229	1. W-Out	6	Concrete	Yes	Future		0	No
	(1)	SERVICE	2. S-In	6	Concrete	No	Future		0	No
(1) MH0489	(1)	SERVICE	2. NE-In	4	PVC	No	Good		0	No
	(1)	SERVICE	3. E-In	6	Concrete	No	Good		0	No
	(1)	MH0206	1. W-Out	6	Concrete	No	Circular Cr		0	No
(1) MH0490	(1)	MH0491	3. E-In	8	Vitrified Clay	No	Good		4	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0490	(1) MH0128	2. N-In	6	Vitrified Clay	No	No Visual	5	No
	(1) MH0130	1. S-Out	8	Vitrified Clay	No	Good	6	No
(1) MH0491	(1) MH0490	1. W-Out	8	Vitrified Clay	No	Good	2	No
	(1) MH0134	2. N-In	8	Vitrified Clay	No	Good	3	No
(1) MH0492	(1) PLUGGED	2. N-In	6	PVC	No	Good	0	No
	(1) SERVICE	3. NE-In	4	PVC	No	No Visual	0	No
	(1) MH0198	1. SW-O	6	PVC	Yes	No Visual	0	No
(1) MH0493	(1) MH0435	1. NW-O	6	PVC	No	Good	0.13	No
	(1) MH0495	4. S-In	6	PVC	No	Good	0	No
	(1) MH0494	2. N-In	6	PVC	No	Good	0	No
	(1) SERVICE	3. E-In	6	PVC	No	Good	0	No
(1) MH0494	(1) MH0493	1. S-Out	6	PVC	No	Good	0	No
	(1) SERVICE	2. NE-In	4	PVC	No	Good	0	No
(1) MH0495	(1) MH0493	1. N-Out	6	PVC	No	Good	0	No
	(1) SERVICE	2. SE-In	4	PVC	No	Good	0	No
(1) MH0496	(1) MH0290	1. W-Out	6	Vitrified Clay	No	Good	1.5	No
	(1) MH0561	2. E-In	6	Vitrified Clay	No	Good	3	No
(1) MH0501	(1) MH0265	1. N-Out	6	Vitrified Clay	No	No Visual	0	No
	(1) MH0502	2. S-In	6	Vitrified Clay	No	Future	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0502	(1) SERVICE	2. S-In	4	PVC	No	3	No Visual		0	No
	(1) MH0501	1. W-Out	6	Vitrified Clay	No		Longitudin		0	No
(1) MH0503	(1) MH0313	1. W-Out	8	PVC	No		No Visual		8	No
	(1) SERVICE	2. N-In	6	Vitrified Clay	No		Future		0.13	No
	(1) MH0312	3. E-In	8	PVC	No		Good		3	No
	(1) SERVICE	4. SE-In	6	Vitrified Clay	No		Future		0	No
(1) MH0503	(1) MH0503	3. E-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0313	1. W-Out	8	Vitrified Clay	No		Good		0	No
	(1) SVC	4. N-In	6	Vitrified Clay	No		Good		0	No
	(1) SVC	2. S-In	6	Vitrified Clay	No		Good		0	No
(1) MH0508	(1) MH0087	1. NE-O	6	Concrete	No		Good		1.5	No
	(1) SERVICE	2. E-In	6	Concrete	Yes		No Visual		0	No
	(1) MH0086	3. SW-In	6	Concrete	Yes		No Visual		1.5	No
(1) MH0509	(1) MH0077	1. E-Out	6	Vitrified Clay	No		Good		0	No
	(1) FORCE MAIN	2. S-In	2	PVC	No		No Visual		0	No
	(1) SERVICE	3. W-In	6	Vitrified Clay	No		Future		0	No
(1) MH0512	(1) MH0094	1. SW-O	6	Vitrified Clay	No		Future		0.25	No
	(1) MH0513	2. NE-In	6	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0513	(1) MH0514	2. E-In	6	Vitrified Clay	No		Circular Cr		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0513	(1) MH0512	1. SW-O	6	Vitrified Clay	No		Future		0.13	No
(1) MH0517	(1) SERVICE	3. S-In	4	PVC	No		Good		0	No
	(1) SERVICE	2. SE-In	4	PVC	Yes	1	Circular Cr		0	No
	(1) MH1132	1. NW-O	6	Vitrified Clay	No		Good		0	No
(1) MH0518	(1) MH0259	1. E-Out	4	Cast Iron	No		Good		0	No
(1) MH0526	(1) MH0143	1. W-Out	6	Vitrified Clay	No		Future		0	No
	(1) PLUGGED	2. SE-In	6	Vitrified Clay	No		Good		0	No
(1) MH0533	(1) MH0243	1. W-Out	6	Vitrified Clay	No		No Visual		2	No
	(1) MH0260	2. E-In	6	PVC	No		No Visual		2	No
(1) MH0534	(1) MH0244	1. W-Out	8	Vitrified Clay	No		Circular Cr		1.5	No
	(1) MH0276	2. E-In	8	Vitrified Clay	No		Good		1.5	No
	(1) PLUGGED	3. E-In	8	Vitrified Clay	No		Good		0	No
(1) MH0535	(1) MH0243	1. N-Out	6	Vitrified Clay	No		Good		0	No
	(1) MH0536	2. E-In	6	Vitrified Clay	No		Good		0	No
(1) MH0542	(1) SERVICE	4. N-In	6	Vitrified Clay	No		Circular Cr		0	No
	(1) SERVICE	2. S-In	8	Vitrified Clay	No		Circular Cr		0	No
	(1) MH0442	1. NE-O	8	Vitrified Clay	No		Good		0.25	No
	(1) MH0543	3. W-In	8	Vitrified Clay	No		Good		0.25	No
(1) MH0543	(1) MH0542	1. E-Out	6	Vitrified Clay	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0543	(1) MH0545	2. S-In	6	Vitrified Clay	No		Good		0	No
	(1) MH0544	3. W-In	6	Vitrified Clay	No		Good		0	No
(1) MH0543	(1) MH0544	3. W-In	8	Vitrified Clay	No		Good			No
	(1) MH0543	1. E-Out	8	Vitrified Clay	No		Circular Cr			No
	(1) SERVICE	2. S-In	8	Vitrified Clay	No		Circular Cr			No
(1) MH0544	(1) SERVICE	3. W-In	6	Vitrified Clay	No		Good			No
	(1) MH0544A	2. S-In	8	Vitrified Clay	No		Good			No
	(1) MH0543A	1. E-Out	8	Vitrified Clay	No		Good			No
(1) MH0544	(1) MH0544	1. N-Out	8	Vitrified Clay	No		Good			No
	(1) SERVICE	2. W-In	4	Vitrified Clay	No		Good			No
(1) MH0545	(1) SERVICE	2. W-In	4	Vitrified Clay	No		Good		0	No
	(1) MH0543	1. N-Out	6	Vitrified Clay	No		Good		0	No
(1) MH0546	(1) SERVICE	3. W-In	8	Vitrified Clay	No		Good		0	No
	(1) SERVICE	2. SW-In	8	Vitrified Clay	No		Good		1	No
	(1) MH0442	1. NE-O	8	Vitrified Clay	No		No Visual		1	No
(1) MH0547	(1) SERVICE	3. SW-In	6	PVC	No		Good		0	No
	(1) MH0316	1. N-Out	8	Vitrified Clay	No		Good		0.25	No
	(1) MH0548	2. S-In	8	N/A	No		No Visual		8	No
(1) MH0547	(1) SVC	4. SW-In	6	Vitrified Clay	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0547	(1) MH0547B	3. SE-In	8	Vitrified Clay	No		Good		0	No
	(1) MH0547	1. NW-O	8	Vitrified Clay	No		Good		0	No
	(1) SVC	2. NE-In	6	Vitrified Clay	No		Good		0	No
(1) MH0547	(1) SVC	2. SE-In	4	Vitrified Clay	No		Good		0	No
	(1) SVC	3. SW-In	4	Vitrified Clay	No		Good		0	No
	(1) MH0547A	1. NW-O	6	Vitrified Clay	No		Good		0	No
(1) MH0551	(1) MH0553	1. NW-O	8	PVC	No		Good			No
	(1) MH0552	3. SE-In	8	PVC	No		Good			No
	(1) UNKNOWN	2. N-In	6	PVC	No		Good			No
(1) MH0552	(1) MH0628	5. S-In	8	PVC	No		Good			No
	(1) SERVICE	3. NE-In	4	PVC	No		Good			No
	(1) MH0551	1. NW-O	8	PVC	No		Good			No
	(1) SERVICE	4. SE-In	4	PVC	No		Good			No
	(1) SERVICE	2. NW-In	4	PVC	No		Good			No
(1) MH0553	(1) MH0551	2. E-In	8	PVC	No		Good			No
	(1) MH0650	1. W-Out	8	PVC	No		Good			No
(1) MH0555	(1) PLUGGED	3. SW-In	4	Concrete	No		No Visual		0	No
	(1) MH0337	1. E-Out	6	Concrete	No		Good		0.5	No
	(1) PLUGGED	4. W-In	6	Concrete	No	0.13	No Visual		0	No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>DepositionDepth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0555	(1) UNKNOWN	2. S-In	6 Concrete	No		Circular Cr		0.25	No
(1) MH0557	(1) MH0558	3. E-In	6 PVC	No		Good		0	No
	(1) MH0296	1. NW-O	8 PVC	No		Good		0	No
	(1) SERVICE	2. NW-In	6 PVC	No		Good		0	No
	(1) SERVICE	4. SW-In	6 PVC	No		Good		0.75	No
(1) MH0558	(1) MH0557	1. W-Out	6 PVC	No		Good		0	No
	(1) UNKNOWN	2. SE-In	6 PVC	No		Good		0	No
	(1) UNKNOWN	3. S-In	6 PVC	No		Good		0	No
(1) MH0559	(1) UNKNOWN	2. E-In	6 PVC	No		Future		0	No
	(1) MH0315	1. W-Out	6 PVC	No		Good		0	No
(1) MH0561	(1) MH0496	1. W-Out	6 Vitrified Clay	No		Future		1.5	No
	(1) SERVICE	2. N-In	4 Vitrified Clay	Yes	0.13	Circular Cr		0.13	No
	(1) MH0567	4. S-In	6 Vitrified Clay	No		Good		1	No
	(1) MH0562	3. E-In	6 Vitrified Clay	No		Good		1	No
(1) MH0562	(1) MH0561	1. W-Out	6 Vitrified Clay	No		Good		1	No
	(1) MH0563	2. E-In	6 Vitrified Clay	No	0.13	Good		2	No
	(1) MH0566	3. S-In	6 Vitrified Clay	No		Good		0.5	No
(1) MH0563	(1) MH0562	1. W-Out	6 Vitrified Clay	No		Circular Cr		1	No
	(1) SERVICE	2. NW-In	4 Vitrified Clay	No		Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>DepositionDepth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0563	(1) SERVICE	3. NE-In	4	Vitrified Clay	No		Good		0	No
	(1) SERVICE	4. E-In	4	Vitrified Clay	No	0.13	Future		0.13	No
	(1) MH0564	5. S-In	6	Vitrified Clay	No		Good		0.5	No
(1) MH0564	(1) MH0565	3. S-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH0563	1. N-Out	6	Vitrified Clay	No		Good		0.13	No
	(1) SERVICE	2. E-In	4	Vitrified Clay	No		Future		0	No
	(1) SERVICE	4. W-In	4	Vitrified Clay	No		Good		0.13	No
(1) MH0565	(1) MH0564	1. N-Out	6	Vitrified Clay	No		Good		0.13	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good		0.13	No
	(1) SERVICE	3. W-In	4	Vitrified Clay	No	0.25	Good		0	No
(1) MH0566	(1) MH0562	1. N-Out	6	Vitrified Clay	No		Good		0	No
	(1) SERVICE	3. SW-In	4	Vitrified Clay	No		Good		0	No
	(1) SERVICE	2. SE-In	4	Vitrified Clay	No		Good		0	No
(1) MH0567	(1) MH0568	2. S-In	6	Vitrified Clay	No		Circular Cr		0.13	No
	(1) MH0561	1. N-Out	6	Vitrified Clay	No		Good		0.13	No
(1) MH0568	(1) MH0567	1. N-Out	6	Vitrified Clay	No		Good		0.25	No
	(1) SERVICE	4. W-In	4	Vitrified Clay	No		Good		0	No
	(1) MH0569	2. E-In	6	Vitrified Clay	No		Good		0.13	No
	(1) SERVICE	3. SE-In	4	Vitrified Clay	No		Good		0.13	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
		<i>(in)</i>	<i>(in)</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0569	(1) SERVICE	2. NW-In	4	Vitrified Clay	No		Future	0	0.13	No
	(1) PLUGGED	3. E-In	4	Vitrified Clay	No	0.13	No Visual		0.13	No
	(1) SERVICE	4. SE-In	4	Vitrified Clay	No		No Visual		0	No
	(1) SERVICE	5. SW-In	4	Vitrified Clay	No		Good		0	No
	(1) MH0568	1. W-Out	6	Vitrified Clay	No		Good		0.1	No
(1) MH0570	(1) SERVICE	2. NW-In	4	Vitrified Clay	No		Good		0	No
	(1) MH0396	1. SW-O	6	Vitrified Clay	No		Circular Cr		0.2	No
	(1) SERVICE	4. NE-In	4	Vitrified Clay	No		Circular Cr		0	No
	(1) MH0571	3. N-In	6	Vitrified Clay	No		Circular Cr		0.2	No
(1) MH0571	(1) SERVICE	2. W-In	4	Vitrified Clay	No		Future		0	No
	(1) MH0572	3. N-In	6	Vitrified Clay	No		Circular Cr		0.15	No
	(1) MH0570	1. S-Out	6	Vitrified Clay	No		Good		0.15	No
	(1) MH0575	4. E-In	6	Vitrified Clay	No		Good		0	No
(1) MH0572	(1) MH0574	3. E-In	6	Vitrified Clay	No		Circular Cr		0.1	No
	(1) MH0573	2. N-In	6	Vitrified Clay	No		Future		0.15	No
	(1) MH0571	1. S-Out	6	Vitrified Clay	No		Good		0.25	No
(1) MH0573	(1) SERVICE	2. N-In	4	Vitrified Clay	No		Circular Cr		0	No
	(1) MH0572	1. S-Out	6	Vitrified Clay	No		Good		0	No
	(1) PLUGGED	3. NE-In	4	Vitrified Clay	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0574	(1) MH0572	1. W-Out	6	Vitrified Clay	No		Future		0	No
	(1) SERVICE	2. NE-In	4	Vitrified Clay	No		Good		0	No
	(1) SERVICE	3. E-In	4	Vitrified Clay	No	2	Circular Cr		0	No
(1) MH0576	(1) SERVICE	3. SW-In	4	PVC	No		Good		0	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good		0	No
	(1) MH0427	1. NE-O	6	Concrete	No		Good		0	No
(1) MH0577	(1) MH0332	1. W-Out	8	Concrete	No		Good		1	No
	(1) MH0333	2. E-In	6	Concrete	No		Future		0.13	No
	(1) MH0690	3. S-In	8	PVC	No		Good		1	No
(1) MH0580	(1) SERVICE	3. W-In	4	PVC	No		Good		0	No
	(1) SERVICE	2. SW-In	6	PVC	No		Good		0	No
	(1) MH0335	1. N-Out	6	PVC	No		Good		0	No
(1) MH0582	(1) MH0343	2. NE-In	6	Concrete	No		Good		0.13	No
	(1) MH0342	1. SW-O	6	Concrete	No		Good		0.13	No
(1) MH0585	(1) MH0586	2. N-In	6	Concrete	No		Good		0.5	No
	(1) MH0476	1. SW-O	6	Concrete	No		Good		0.25	No
(1) MH0586	(1) SERVICE	2. NW-In	4	PVC	No		Good		0.13	No
	(1) MH0585	1. S-Out	6	Concrete	No		Good		0.25	No
	(1) MH0587	3. N-In	6	Concrete	No		Good		0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0588	(1)	MH0463	1. NE-O	6	Concrete	Yes	Circular Cr	0.13	No	
	(1)	MH0464	3. SW-In	6	Concrete	No	Good	0.13	Yes	
	(1)	SERVICE	2. E-In	4	Concrete	No	Good	0	No	
(1) MH0593	(1)	MH1110	1. N-Out	6	Vitrified Clay	No	Broken Pip	0	No	
	(1)	SERVICE	2. S-In	6	Vitrified Clay	No	Good	0	No	
	(1)	MH0084	3. W-In	6	Vitrified Clay	No	Good	0	Yes	
(1) MH0596	(1)	MH0649	1. SW-O	8	PVC	No	Good	0	No	
	(1)	SERVICE	2. NE-In	4	PVC	No	Good	0	No	
(1) MH0597	(1)	SERVICE	2. NE-In	4	N/A	No	4	No Visual	0	No
	(1)	MH0027	1. W-Out	6	Vitrified Clay	Yes	4.5	Circular Cr	0	No
(1) MH0598	(1)	MH0371	1. SW-O	10	Cast Iron	No	Good	3	No	
	(1)	MH0372	2. NE-In	10	PVC	No	Good	3	No	
(1) MH0600	(1)		1. E-Out	6	Vitrified Clay	No	Future	0	No	
(1) MH0601	(1)	SERVICE	2. N-In	4	PVC	No	Good	3	No	
	(1)	MH0045	1. SE-O	4	PVC	No	Good	3	No	
(1) MH0602	(1)	MH0603	2. E-In	8	PVC	No	Good	0.25	No	
	(1)	MH0690	1. N-Out	8	PVC	No	Good	0.25	No	
(1) MH0603	(1)	MH0604	2. SE-In	8	PVC	No	Good	0.13	No	
	(1)	MH0602	1. W-Out	8	PVC	No	Good	0.13	No	

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0604	(1) MH0605	2. SW-In	8	PVC	No		Good		0.13	No
	(1) MH0603	1. NW-O	8	PVC	No		Good		0.13	No
(1) MH0605	(1) MH0604	1. NW-O	8	PVC	No		Good		0.13	No
	(1) MH0606	2. E-In	8	PVC	No		Good		0.13	No
(1) MH0606	(1) MH0605	1. W-Out	8	PVC	No		Good		0.25	No
	(1) MH0655	2. E-In	8	PVC	No		Good		0.13	No
(1) MH0607	(1) SERVICE	3. N-In	4	PVC	No		Good		0	No
	(1) MH0655	1. S-Out	8	PVC	No		Good		0.13	No
	(1) SERVICE	2. N-In	4	PVC	No	0.13	No Visual		0	No
	(1) MH0608	4. NE-In	8	PVC	No		Good		0.13	No
(1) MH0608	(1) MH0658	2. SE-In	8	N/A	No		No Visual		0	No
	(1) MH0655	1. W-Out	8	N/A	No		No Visual		0	No
(1) MH0610	(1) MH0611A	2. S-In	8	PVC	No		Good		0.25	No
	(1) MH0028	1. N-Out	10	Vitrified Clay	No		Good		0.25	No
(1) MH0611	(1) MH0612	2. S-In	8	PVC	No		Good		0.13	No
	(1) MH0949	3. W-In	8	PVC	No		Good		0.13	No
	(1) MH0610	1. N-Out	8	PVC	No		Good		0.25	No
(1) MH0611	(1) MH0610	1. N-Out	8	PVC	No		Good		0.13	No
	(1) MH0611	2. S-In	8	PVC	No		Good		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0612	(1) MH0611	1. N-Out	8	PVC	No		Good		0.13	No
	(1) MH0641	2. S-In	8	PVC	No		Good		0.13	No
(1) MH0613	(1) MH0614	2. NE-In	6	PVC	No		Good		0.25	No
	(1) MH0682	3. SE-In	6	PVC	No		Good		0	No
	(1) MH0362	1. W-Out	6	PVC	No		Good		0.5	No
(1) MH0614	(1) MH0613	1. S-Out	6	PVC	No		Good		0	No
	(1) SERVICE	2. NE-In	6	PVC	No		Good		0	No
(1) MH0615	(1) MH0682	1. NW-O	6	PVC	No		Good		0	No
	(1) SERVICE	2. E-In	4	PVC	No		Good		0	No
(1) MH0616	(1) MH0620	2. NE-In	8	PVC	No		Good		0.25	No
	(1) MH0617	1. NW-O	8	PVC	No		Good		0.25	No
(1) MH0617	(1) MH0371	1. NW-O	8	PVC	No		Good		0.2	No
	(1) MH0616	3. SE-In	8	PVC	No		Good		0.1	No
	(1) MH0618	2. NE-In	8	PVC	No		Good		0.1	No
(1) MH0618	(1) MH0617	1. SW-O	8	PVC	No		Good		3	No
	(1) MH0644	2. NE-In	8	PVC	No		Good		3	No
(1) MH0619	(1) MH0644	1. SW-O	8	PVC	No		Good		0	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good		0	No
(1) MH0620	(1) MH0616	1. SW-O	8	PVC	No		Good		0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0620	(1) MH0621	3. SE-In	8	PVC	No		Good		0.25	No
	(1) MH0645	2. NE-In	6	PVC	No		Good		0	No
(1) MH0621	(1) MH0622	2. NE-In	8	PVC	No		Good		0.25	No
	(1) MH0620	1. NW-O	8	PVC	No		Good		0.25	No
(1) MH0622	(1) MH0621	1. SW-O	8	PVC	No		Good		0.25	No
	(1) MH0646	2. SE-In	8	PVC	No		Good		0.25	No
(1) MH0623	(1) MH0625	1. SW-O	8	PVC	No		Good		0	No
	(1) MH0647	2. NE-In	8	PVC	No		Good		0	No
(1) MH0624	(1) MH0647	1. SW-O	8	PVC	No		Good		0	No
	(1) SERVICE	2. N-In	4	PVC	No		No Visual		0	No
(1) MH0625	(1) MH0646	1. SW-O	8	Cast Iron	No		Good		0.13	No
	(1) MH0626	4. SE-In	8	PVC	No		Good		0.13	No
	(1) PLUGGED	3. SE-In	8	N/A	No		No Visual		0	No
	(1) MH0623	2. NE-In	8	PVC	No		Good		0	No
(1) MH0626	(1) MH0663	2. SE-In	8	PVC	No		Good		0.25	No
	(1) MH0625	1. NW-O	8	PVC	No		Good		0.25	No
(1) MH0627	(1) SERVICE	2. NW-In	4	PVC	No		No Visual		0	No
	(1) MH0647	1. SE-O	8	PVC	No		Good		0	No
(1) MH0628	(1) SERVICE	3. W-In	4	PVC	No		Good			No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0628	(1) MH0629A	2. E-In	8	PVC	No		Good		1.5	No
	(1) MH0552	1. N-Out	8	PVC	No		Good		1.25	No
(1) MH0629	(1) MH0630	3. E-In	8	PVC	No		Good		0.5	No
	(1) MH0629A	1. W-Out	8	PVC	No		Good		1	No
	(1) SERVICE	2. N-In	6	PVC	No		Good			Yes
(1) MH0629	(1) MH0268	1. W-Out	8	PVC	No		Good		1.5	No
	(1) MH0629	2. E-In	8	PVC	No		Good		0.25	No
	(1) MH0629B	3. S-In	8	PVC	No		Good		1.5	No
(1) MH0629	(1) MH0629A	1. N-Out	8	PVC	No		Good		0.5	No
	(1) MH0629C	2. E-In	8	PVC	No		Good		0.5	No
	(1) SERVICE	3. S-In	4	PVC	No		Good			No
(1) MH0629	(1) MH0629D	4. S-In	8	PVC	No		Good		0.5	No
	(1) MH0629B	1. W-Out	8	PVC	No		Good		0.5	No
	(1) SERVICE	2. N-In	4	PVC	No		Good			No
	(1) SERVICE	3. E-In	4	PVC	No		Good			No
(1) MH0629	(1) MH0629C	1. N-Out	8	PVC	No		Good		0.15	No
	(1) PLUGGED	3. SW-In	4	PVC	No		Good			No
	(1) SERVICE	2. SE-In	4	PVC	No		Good			No
(1) MH0630	(1) MH0629	1. W-Out	8	PVC	No		Good		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0630	(1) SERVICE	2. SW-In	4	PVC	No		Good		0.13	No
(1) MH0631	(1) MH0659	1. W-Out	8	PVC	No		Good		0	No
	(1) MH0661	2. E-In	8	PVC	No		Good		0	No
	(1) MH0634	3. SE-In	8	PVC	No		Good		0	No
(1) MH0632	(1) MH0633	1. SW-O	8	PVC	No		Good		0.25	No
	(1) MH0659	2. E-In	8	PVC	No		Good		0.25	No
(1) MH0633	(1) MH0417	1. SW-O	8	PVC	No		Good		0.2	No
	(1) MH0632	2. NE-In	8	PVC	No		Good		0.2	No
(1) MH0634	(1) MH0631	1. NW-O	8	PVC	No		Good		0.13	No
	(1) MH0635	2. SE-In	8	PVC	No		Good		0.13	No
(1) MH0635	(1) MH0634	1. NW-O	8	PVC	No		Good		0	No
	(1) SERVICE	2. NE-In	4	PVC	No	3	Collapsed		0	No
	(1) MH0460	3. S-In	8	PVC	No		Good		0	No
(1) MH0636	(1) MH0640	1. W-Out	8	PVC	No		Good		0.13	No
	(1) MH0691	2. S-In	8	PVC	No		Good		0.13	No
(1) MH0637	(1) SERVICE	3. SW-In	4	PVC	No		Good		0	No
	(1) MH0638	2. E-In	8	PVC	No		Good		0.13	No
	(1) MH0691	1. N-Out	8	PVC	No		Good		0.13	No
(1) MH0638	(1) MH0639	2. S-In	8	PVC	No		Good			No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0638	(1) MH0637	1. W-Out	8	PVC	No		Good			No
(1) MH0639	(1) MH0638	1. N-Out	8	PVC	No		Good	0		No
	(1) MH0660	2. S-In	8	PVC	No		Good	0		No
(1) MH0640	(1) MH0636	2. E-In	8	PVC	No		Good	0		No
	(1) SERVICE	3. SW-In	4	PVC	No		Good	0		No
	(1) MH0635	1. N-Out	8	PVC	No		Good	0		No
(1) MH0641	(1) MH0642	2. S-In	8	PVC	No		Good	0		No
	(1) MH0612	1. N-Out	8	PVC	No		Good	0.25		No
	(1) MH0643	3. W-In	8	PVC	No		Good	0.13		No
(1) MH0642	(1) MH0641	1. N-Out	8	PVC	No		Good	0		No
	(1) UNKNOWN	2. E-In	2	PVC	No		No Visual	0		No
	(1) SERVICE	3. W-In	4	PVC	No		Good	0		No
(1) MH0643	(1) FORCE MAIN	3. W-In	2	PVC	No		Good	0		No
	(1) SERVICE	2. S-In	4	PVC	No		Good	0		No
	(1) MH0641	1. E-Out	8	PVC	No		Good	0		No
(1) MH0644	(1) MH0619	2. NE-In	8	PVC	No		Good	0		No
	(1) MH0618	1. SW-O	8	PVC	No		Good	0		No
(1) MH0645	(1) MH0620	1. SW-O	6	PVC	No		Good	0		No
(1) MH0646	(1) MH0648	3. S-In	8	PVC	No		Good	0.15		No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0646	(1) MH0625	2. NE-In	8 Concrete	No		Good	0	No
	(1) MH0622	1. N-Out	8 PVC	No		Good	0.15	No
(1) MH0647	(1) MH0627	2. NW-In	8 PVC	No		Good	0	No
	(1) MH0623	1. SW-O	8 PVC	No		Good	0	No
	(1) MH0624	3. NE-In	8 PVC	No		Good	0	No
(1) MH0648	(1) SERVICE	2. SW-In	4 PVC	No		Good	0	No
	(1) MH0646	1. N-Out	8 PVC	No		Good	0	No
(1) MH0649	(1) MH0596	2. NE-In	8 PVC	No		Good	0	No
	(1) MH0363A	1. W-Out	8 PVC	No		Good	0	No
(1) MH0650	(1) MH0685	1. SE-O	8 PVC	No		Good		No
	(1) MH0553	2. SE-In	8 PVC	No		Good		No
(1) MH0655	(1) MH0607	2. N-In	8 PVC	No		Good	0.13	No
	(1) MH0606	1. W-Out	8 PVC	No		Good	0.13	No
(1) MH0657	(1) MH0658	1. NW-O	8 PVC	No		Good	0	No
	(1) SERVICE	2. NE-In	4 PVC	No		No Visual	0	No
	(1) FORCE MAIN	3. S-In	2 PVC	No		Good	0	No
(1) MH0658	(1) MH0657	2. SE-In	8 PVC	No		Good	0	No
	(1) MH0608	1. NW-O	8 PVC	No		Good	0	No
(1) MH0659	(1) MH0631	1. E-Out	8 PVC	No		Good		No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0659	(1) MH0632	2. W-In	8	Vitrified Clay	No	Good			No
(1) MH0661	(1) MH0662	2. N-In	8	PVC	No	Good		0	No
	(1) MH0631	1. W-Out	8	PVC	No	Good		0	No
(1) MH0662	(1) SERVICE	2. NE-In	4	PVC	No	Good		0	No
	(1) MH0661	1. S-Out	8	PVC	No	Good		0	No
(1) MH0663	(1) FORCE MAIN	3. SE-In	2	PVC	No	No Visual		0	No
	(1) MH0626	1. NE-O	8	PVC	No	Good		0.25	No
	(1) SERVICE	2. SE-In	4	PVC	No	Good		0	No
(1) MH0666	(1) MH0486	1. S-Out	6	Vitrified Clay	No	Good		1	No
	(1) SERVICE	2. NE-In	6	Vitrified Clay	No	No Visual		0	No
	(1) MH0665	3. E-In	8	Vitrified Clay	No	Good		1	No
(1) MH0667	(1) MH0530	2. E-In	6	PVC	No	Good		0	No
	(1) MH0182	1. W-Out	6	PVC	No	Good		0.25	No
	(1) SERVICE	3. S-In	6	PVC	No	Good		1	No
(1) MH0668	(1) FORCE MAIN	3. SE-In	2	PVC	No	Good		0	No
	(1) SERVICE	4. S-In	4	PVC	No	Good		0.25	No
	(1) MH0215	1. N-Out	6	Vitrified Clay	No	Good		0.5	No
	(1) PLUGGED	2. E-In	6	PVC	No	Good		0	No
(1) MH0670	(1) MH0143	2. E-In	6	Vitrified Clay	No	Future		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0670	(1) MH0141	1. W-Out	6	Vitrified Clay	No	Future		0	No
(1) MH0671	(1) SERVICE	2. E-In	6	Vitrified Clay	No	Circular Cr		2	No
	(1) MH0263	1. W-Out	6	Vitrified Clay	No	No Visual		2	No
(1) MH0672	(1) MH0272	2. E-In	6	Vitrified Clay	No	Good		1	No
	(1) MH0273	1. W-Out	6	Vitrified Clay	No	Circular Cr		1	No
(1) MH0673	(1) MH0299	2. W-In	6	PVC	No	Good		1.5	No
	(1) SERVICE	3. N-In	4	PVC	No	Good		0	No
	(1) MH0298	1. E-Out	6	PVC	No	Good		1.25	No
(1) MH0674	(1) MH0675	2. N-In	6	PVC	No	Good		0.13	No
	(1) MH0302	1. S-Out	6	PVC	No	Good		0.13	No
(1) MH0675	(1) MH0674	1. S-Out	6	PVC	No	Good		0.5	No
	(1) SERVICE	2. NW-In	4	PVC	No	Good		0.13	No
(1) MH0679	(1) MH0401	1. W-Out	6	Concrete	No	Good		1	No
	(1) MH0680	2. E-In	6	Concrete	No	Future		1	No
(1) MH0680	(1) MH0681	2. E-In	6	Concrete	No	Good		0.2	No
	(1) MH0679	1. W-Out	6	Concrete	No	Good		0.2	No
(1) MH0681	(1) MH0680	1. W-Out	6	Concrete	No	Future		0.5	No
	(1) SERVICE	2. SE-In	6	Concrete	No	Future		0.5	No
(1) MH0682	(1) MH0613	1. NW-O	6	PVC	No	Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0682	(1) MH0615	3. SE-In	6	PVC	No		Good		0	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH0684	(1) FORCE MAIN	2. S-In	2	PVC	No		Good			No
	(1) MH0687	1. W-Out	6	PVC	No		Good			No
(1) MH0685	(1) MH0686	1. NW-O	8	PVC	No		Good			No
	(1) MH0650	2. NE-In	8	PVC	No		Good			No
(1) MH0686	(1) SERVICE	2. N-In	4	PVC	No		Good			No
	(1) MH0685	3. SE-In	8	PVC	No		Good			No
	(1) MH0686A	1. SW-O	8	PVC	No		Good			No
(1) MH0686	(1) MH0686	4. NE-In	8	PVC	No		Good			No
	(1) SERVICE	5. SE-In	4	PVC	No		Good			No
	(1) SERVICE	2. W-In	6	PVC	No		Good			No
	(1) MH0687	1. S-Out	8	PVC	No		Good			No
	(1) SERVICE	3. NW-In	4	PVC	No		Good			No
(1) MH0687	(1) MH0688	1. SW-O	6	PVC	No		Good			No
	(1) MH0686A	2. NW-In	6	PVC	No		Good			No
	(1) MH0684	3. E-In	6	PVC	No		Good			No
(1) MH0688	(1) MH0684	4. E-In	6	PVC	No		Good			No
	(1) MH0689	1. S-Out	6	PVC	No		Good			No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0688	(1) SERVICE	3. NE-In	6 PVC	No		Good			No
	(1) UNKNOWN	2. N-In	2 PVC	No		No Visual			Yes
(1) MH0689	(1) MH0683	1. SW-O	8 PVC	No		Good			No
	(1) MH0688	2. NE-In	6 PVC	No		Good			No
(1) MH0692	(1) CO0858	1. W-Out	6 Vitrified Clay	No		Circular Cr		0.5	No
	(1) UNKNOWN	2. E-In	6 Vitrified Clay	No		Circular Cr		0.5	No
	(1) UNKNOWN	3. S-In	6 PVC	No		Good		1.5	No
(1) MH0694	(1) MH0301	1. SW-O	10 Vitrified Clay	No		Good		5	No
	(1) MH0297	2. NE-In	10 Vitrified Clay	No		Future		4	No
(1) MH0695	(1) MH0696	1. S-Out	6 Concrete	No		Good		0	No
	(1) SERVICE	2. NW-In	4 Vitrified Clay	No		Good		0	No
(1) MH0696	(1) MH0935	1. E-Out	6 PVC	No		Good		0	No
	(1) MH0695	2. N-In	6 PVC	No		Good		1	No
(1) MH0697	(1) MH0935	4. W-In	6 Concrete	No		Good		0	No
	(1) MH0698	1. NE-O	8 Concrete	No		Circular Cr		0.5	No
	(1) SERVICE	2. E-In	4 PVC	No		Good		0	No
	(1) MH0702	3. S-In	8 Concrete	No		Good		0.5	No
(1) MH0698	(1) MH0699	1. NE-O	15 Vitrified Clay	No		Circular Cr		5	No
	(1) MH0697	3. SW-In	8 Concrete	No		Good		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0698	(1) MH0956	2. E-In	15	Vitrified Clay	No	Circular Cr		4	No
(1) MH0699	(1) MH0698	2. SW-In	16	Vitrified Clay	No	Future		8	No
	(1) MH0701	1. NW-O	18	Vitrified Clay	No	Circular Cr		10	No
(1) MH0700	(1) ABANDONED	3. S-In	8	Vitrified Clay	No	No Visual	0	0	No
	(1) MH0754	2. NE-In	8	Vitrified Clay	No	Good	0	4	No
	(1) MH0701	1. S-Out	8	Vitrified Clay	No	Good	0	4	No
(1) MH0701	(1) MH0779	2. NE-In	16	Vitrified Clay	No	Good		4	No
	(1) MH0715	1. W-Out	18	Vitrified Clay	No	Circular Cr		12	No
	(1) MH0699	3. SW-In	18	Vitrified Clay	No	Circular Cr		12	No
(1) MH0702	(1) MH0697	1. N-Out	8	Concrete	No	Good		0.25	No
	(1) MH0722	2. E-In	6	Vitrified Clay	No	Good		0.13	Yes
	(1) MH0703	3. SW-In	8	Concrete	No	Future		2	No
(1) MH0703	(1) MH0702	1. NE-O	8	Concrete	No	Good		0.25	No
	(1) MH0704	2. S-In	8	Concrete	No	Good		0.5	No
(1) MH0704	(1) MH0705	3. S-In	8	Concrete	No	Circular Cr		0	No
	(1) MH0723	2. E-In	6	Vitrified Clay	No	Good		0.13	Yes
	(1) MH0708	4. W-In	6	Concrete	No	Good		0.13	No
	(1) MH0703	1. N-Out	8	Concrete	No	Circular Cr		0.25	No
(1) MH0705	(1) MH0731	2. E-In	6	Concrete	No	Good		0.13	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0705	(1) MH0706	3. W-In	6 Concrete	No	2	Good		0	No
	(1) MH0704	1. N-Out	8 Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0707	(1) MH0708	1. N-Out	6 Concrete	No		Circular Cr		2	No
(1) MH0708	(1) MH0707	2. S-In	6 Concrete	No		Circular Cr		2	No
	(1) MH0704	1. E-Out	6 Concrete	No		Good		2	No
(1) MH0710	(1) SERVICE	2. S-In	4 Concrete	No		Good		0	No
	(1) MH0709	3. S-In	18 Concrete	No		Good		10	No
	(1) MH0711	1. N-Out	18 Concrete	No		Circular Cr		10	No
(1) MH0718	(1) SERVICE	3. NE-In	6 Vitrified Clay	No		Collapsed		0	No
	(1) MH0719	5. S-In	15 Vitrified Clay	No		Circular Cr		8	No
	(1) STROM DRAI	2. N-In	12 Cast Iron	No		Good		0	No
	(1) MH0739	4. SE-In	8 Vitrified Clay	No		Good		0	No
	(1) MH0956	1. NW-O	15 Vitrified Clay	No		Good		8	No
(1) MH0719	(1) MH0718	1. N-Out	15 Vitrified Clay	No		Circular Cr		5	No
	(1) MH0726	3. S-In	15 Vitrified Clay	No		Circular Cr		4	No
	(1) MH0720	4. W-In	6 N/A	No		No Visual		0.13	No
	(1) MH0735	2. E-In	6 Concrete	No		Good		0.13	No
(1) MH0720	(1) MH0719	1. E-Out	6 Concrete	No		Good		0.13	No
	(1) MH0721	2. W-In	6 Concrete	No		Good		0.13	No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0721	(1) SERVICE	2. S-In	4 Cast Iron	No		Future		0	No
	(1) SERCICE	3. N-In	6 Concrete	No	0.13	No Visual		0	No
	(1) MH0720	1. E-Out	6 Concrete	No		Good		0	No
(1) MH0722	(1) MH0702	1. W-Out	6 Concrete	No	0.13	Good		0	No
	(1) SERVICE	2. N-In	6 Vitrified Clay	No		No Visual		0	No
(1) MH0723	(1) MH0704	1. W-Out	6 Concrete	No		Circular Cr		0	No
(1) MH0724	(1) SERVICE	2. S-In	6 Concrete	No		No Visual		0	No
	(1) MH0725	1. E-Out	6 Concrete	No		Circular Cr		0	No
	(1) SERVICE	3. N-In	4 Cast Iron	No		Future		0	No
(1) MH0725	(1) MH0724	2. W-In	6 Concrete	No		Circular Cr		0	No
	(1) MH0726	1. E-Out	6 Concrete	No		Good		0	No
(1) MH0726	(1) MH0719	1. N-Out	15 Vitrified Clay	No		Circular Cr		6	No
	(1) MH0727	2. E-In	6 Concrete	No		Good		0	No
	(1) MH0729	3. S-In	15 Vitrified Clay	No		Circular Cr		5	No
	(1) MH0725	4. W-In	6 Vitrified Clay	No		Good		4	No
(1) MH0727	(1) SERVICE	2. S-In	4 Cast Iron	No		Future		0	No
	(1) MH0726	1. W-Out	6 Concrete	No		Good		0	No
(1) MH0728	(1) MH0730	1. W-Out	6 Concrete	No		Good		0	No
	(1) SERCIVE	2. N-In	4 PVC	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0729	(1) MH0737	3. E-In	12	Vitrified Clay	No		Circular Cr		5	No
	(1) MH0726	1. N-Out	15	Vitrified Clay	No		Future		9	No
	(1) MH0738	2. NE-In	12	Vitrified Clay	No		Future		5	No
(1) MH0730	(1) MH0731	1. W-Out	6	Concrete	No		Future		0.13	No
	(1) MH0728	2. E-In	6	Concrete	No		Circular Cr		0.25	No
(1) MH0731	(1) MH0730	2. E-In	6	Concrete	No		Good		0.13	No
	(1) MH0705	1. W-Out	6	Concrete	No		Good		0.13	No
(1) MH0733	(1) MH0732	3. SE-In	6	Vitrified Clay	No		Good		1	No
	(1) MH0735	1. NW-O	6	Concrete	No		Good		2	No
	(1) SERVICE	4. SE-In	6	Vitrified Clay	No	0.13	Collapsed		0	No
	(1) MH0938	2. N-In	6	Vitrified Clay	No		Good		1	No
(1) MH0735	(1) MH0733	2. SE-In	6	Concrete	No		Good		0.25	No
	(1) MH0719	1. W-Out	6	Concrete	No		Good		0.5	No
(1) MH0736	(1) MH0737	1. NW-O	12	Vitrified Clay	No		Circular Cr		2.5	No
	(1) MH0839	2. SE-In	12	Vitrified Clay	No		Circular Cr		2	No
(1) MH0737	(1) MH0729	1. W-Out	12	Vitrified Clay	No		Circular Cr		2	No
	(1) MH0736	2. SE-In	12	Vitrified Clay	No		Future		1.5	No
(1) MH0738	(1) MH0729	1. SW-O	12	Vitrified Clay	No		Circular Cr		6	No
	(1) UNKNOWN	2. W-In	12	Vitrified Clay	No		Circular Cr		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0738	(1) MH0749	3. NE-In	12	Vitrified Clay	No	Circular Cr		4	No
(1) MH0739	(1) PLUGGED	3. SE-In	8	Concrete	No	Good			No
	(1) FORCE MAIN	2. NE-In	2	PVC	No	Good			No
	(1) MH0718	1. W-Out	8	Concrete	No	Future			No
(1) MH0744	(1) MH0745	3. NE-In	6	Concrete	No	Good		0	No
	(1) SERVICE	2. NW-In	4	N/A	No	No Visual		0	No
	(1) MH0957	1. SE-O	6	Concrete	No	Good		0	No
(1) MH0745	(1) MH0744	1. SW-O	6	Concrete	No	Good		0	No
	(1) SERVICE	2. N-In	4	PVC	No	Circular Cr		0	No
	(1) UNKNOWN	3. N-In	2	PVC	No	Good		0	No
	(1) SERVICE	4. SE-In	4	PVC	No	Good		0	No
(1) MH0746	(1) MH0750	2. SE-In	12	Vitrified Clay	No	Future		6	No
	(1) MH0957	1. SW-O	12	Vitrified Clay	No	Future		6	No
(1) MH0747	(1) MH0748	1. SW-O	12	Vitrified Clay	No	Circular Cr		2	No
	(1) MH0957	2. NE-In	12	Vitrified Clay	No	Circular Cr		4	No
(1) MH0748	(1) MH0749	1. SW-O	12	Vitrified Clay	No	Circular Cr		6	No
	(1) MH0747	2. NE-In	12	Vitrified Clay	No	Future		5	No
(1) MH0750	(1) UNKNOWN	2. N-In	2	Cast Iron	No	No Visual		0	No
	(1) MH0751	3. E-In	12	Vitrified Clay	No	Circular Cr		6	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0750	(1) MH0746	1. NW-O	12	Vitrified Clay	No		Good		5	No
(1) MH0751	(1) MH0796	3. SE-In	12	Vitrified Clay	No		Good		2	Yes
	(1) MH0750	1. SW-O	12	Vitrified Clay	No		Circular Cr		8	No
	(1) MH0793	4. SW-In	8	Vitrified Clay	No		Circular Cr		2	Yes
	(1) MH0803	2. NE-In	12	Vitrified Clay	No		Good		6	No
(1) MH0752	(1) MH0753	1. SW-O	10	Vitrified Clay	No		Good		6	No
	(1) MH0958	2. N-In	10	Vitrified Clay	No		Circular Cr		6	No
(1) MH0753	(1) MH0752	2. NE-In	10	Vitrified Clay	No		Circular Cr		3	No
	(1) MH0754	1. S-Out	10	Vitrified Clay	No		Circular Cr		3	No
(1) MH0755	(1) MH0958	1. W-Out	6	Concrete	No	0	Good	0	0.5	No
	(1) MH0756	3. SE-In	6	Concrete	No	0	Circular Cr	0	1	No
	(1) MH1399	2. NW-In	6	Concrete	No	0	Good	0	0.25	Yes
(1) MH0756	(1) MH0755	1. NW-O	6	Concrete	No	0	Circular Cr	0	0.5	No
	(1) SERVICE	3. SE-In	4	PVC	No	0	Good	0	0	No
	(1) MH0757	2. N-In	6	Concrete	Yes	0	Circular Cr	0	0.5	No
(1) MH0758	(1) MH0759	1. SW-O	8	Cast Iron	No	0	Good	0	2.5	No
	(1) MH1411	2. NW-In	6	PVC	No	0	Good	0	0.13	No
	(1) MH1410	3. NE-In	8	Vitrified Clay	No	0	Circular Cr	0	2.5	No
(1) MH0759	(1) SERVICE	2. NW-In	4	Cast Iron	No	0	No Visual	0	0.25	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0759	(1) MH0758	3. NE-In	8 Cast Iron	No	0	Good	0	3.5	No
	(1) MH0773	1. S-Out	8 Cast Iron	No	0	Good	0	3.5	No
(1) MH0768	(1) MH0767	1. NE-O	6 Vitrified Clay	No		Circular Cr		2	No
	(1) SERVICE	6. W-In	4 PVC	No		Good		0	No
	(1) SERVICE	5. SW-In	4 PVC	No		Good		0	No
	(1) HOLDING TA	3. SE-In	10 Vitrified Clay	No		Good		0	No
	(1) HOLDING TA	4. SW-In	15 Vitrified Clay	No		Circular Cr		0	No
	(1) HOLDING TA	2. SE-In	10 Cast Iron	No		Good		0	No
(1) MH0771	(1) MH0772	1. W-Out	15 N/A	No		No Visual		15	No
	(1) MH0770	2. E-In	15 N/A	No		No Visual		15	No
(1) MH0774	(1) MH0775	1. SW-O	12 Cast Iron	No		Good		0	No
	(1) MH0783	3. SE-In	12 Cast Iron	No		Good		0	No
	(1) MH0773	2. NE-In	12 Cast Iron	No		Good		0	No
(1) MH0775	(1) MH0959	1. SW-O	12 Cast Iron	No		Good		0	No
	(1) MH0774	2. NE-In	12 Cast Iron	No		Good		0	No
(1) MH0778	(1) MH0779	1. SW-O	16 Vitrified Clay	No		Good		13	No
	(1) MH0777	2. NE-In	16 Vitrified Clay	No		Good		13	No
(1) MH0779	(1) MH0701	1. SW-O	16 Vitrified Clay	No		Good		8	No
	(1) MH0778	2. NE-In	16 Vitrified Clay	No		Good		8	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH0780	(1) MH0781	1. SW-O	12	Cast Iron	No	Good		0	No
	(1) MH0772	2. NE-In	12	Cast Iron	No	Good		0	No
(1) MH0782	(1) MH0781	2. E-In	15	PVC	No	Good		14	No
	(1) MH0783	1. W-Out	15	N/A	No	No Visual		15	No
(1) MH0784	(1) MH0785	1. SW-O	6	Concrete	No	Good		1	No
(1) MH0785	(1) MH0936	1. SW-O	6	Concrete	No	Circular Cr	0	0.25	No
	(1) SERVICE	3. E-In	6	Concrete	No	Circular Cr		0.13	No
	(1) MH0784	2. NE-In	6	Concrete	No	Good		0.25	No
(1) MH0786	(1) MH0936	2. NE-In	6	Concrete	No	Circular Cr		0.25	No
	(1) MH0787	3. E-In	6	Concrete	No	0.5	Circular Cr	0.13	No
	(1) MH0839	1. SW-O	6	Concrete	No	Good		0.5	No
(1) MH0787	(1) MH0788	2. E-In	6	Concrete	No	1.75	N/A		No
	(1) MH0786	1. W-Out	6	Concrete	No	Good			No
(1) MH0788	(1) SERVICE	2. SE-In	4	PVC	No	Good			No
	(1) MH0787	1. W-Out	6	Concrete	No	Future			No
(1) MH0789	(1) MH0790	2. SW-In	8	Vitrified Clay	No	Future		0.13	No
	(1) MH0791	1. NE-O	8	Vitrified Clay	No	Good		0.25	No
(1) MH0790	(1) MH0789	1. NE-O	6	Vitrified Clay	No	No Visual		0	No
(1) MH0791	(1) MH0789	4. SW-In	8	Vitrified Clay	No	Future		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0791	(1) MH0792	1. NW-O	10	Vitrified Clay	No		Future		0.75	No
	(1) MH0937	2. NE-In	8	Vitrified Clay	No		Good		0	Yes
	(1) MH0794	3. SE-In	10	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0792	(1) MH0793	1. N-Out	8	Vitrified Clay	No		Good		0.5	No
	(1) MH0791	2. SE-In	8	Vitrified Clay	No		Good		0.5	No
(1) MH0793	(1) SERVICE	3. SW-In	6	Vitrified Clay	No		Good		0	No
	(1) MH0792	2. S-In	8	Vitrified Clay	No		Future		0.5	No
	(1) MH0751	1. NE-O	8	Vitrified Clay	No		Future		1	No
(1) MH0795	(1) MH0840	2. SE-In	8	Vitrified Clay	No		Circular Cr		0.13	No
	(1) MH0794	1. NW-O	6	Vitrified Clay	No		Good		0.13	No
(1) MH0796	(1) MH0751	1. NW-O	10	Vitrified Clay	No		Good		7	No
	(1) MH0797	3. SE-In	8	Vitrified Clay	No		Good		4	Yes
	(1) MH0800	2. NE-In	8	Vitrified Clay	No		No Visual		7.5	No
(1) MH0797	(1) MH0796	1. NW-O	8	Vitrified Clay	No		Circular Cr		0.5	No
	(1) MH0798	2. SE-In	8	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0798	(1) MH0797	1. NW-O	8	Vitrified Clay	No		Good		0.13	No
	(1) MH0799	2. SE-In	8	Vitrified Clay	No		Circular Cr		0.13	No
(1) MH0799	(1) MH0828	2. E-In	8	Vitrified Clay	No		Good		5	No
	(1) SERVICE	3. SW-In	4	Vitrified Clay	No		Good		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0799	(1) MH0798	1. NW-O	8	Vitrified Clay	No		Good		5	No
(1) MH0800	(1) MH0801	2. NE-In	8	Vitrified Clay	No		Circular Cr		2	No
	(1) MH0913	3. SE-In	8	PVC	No		Circular Cr		3	No
	(1) MH0796	1. SW-O	8	Vitrified Clay	No		Good		4	No
(1) MH0801	(1) MH0802	2. NE-In	8	Vitrified Clay	No		Future		0	No
	(1) MH0800	1. SW-O	8	Vitrified Clay	No		Circular Cr		0	No
(1) MH0802	(1) UNKNOWN	2. NE-In	0	Cast Iron	No		No Visual		0	No
	(1) MH0801	1. SW-O	8	N/A	No		No Visual		0	No
(1) MH0803	(1) SERVICE	4. SE-In	4	Vitrified Clay	No		Future		0	No
	(1) MH0751	1. SW-O	12	Vitrified Clay	No		Circular Cr		4	No
	(1) MH0804	2. NE-In	12	Vitrified Clay	No		Circular Cr		4	No
	(1) SERVICE	3. E-In	6	PVC	No		Circular Cr		0	No
(1) MH0804	(1) MH0803	1. SW-O	12	Vitrified Clay	No		Good		5	No
	(1) MH0940	3. SE-In	6	PVC	No		Good		0.25	No
	(1) ABANDONED	4. SE-In	8	Vitrified Clay	No		Collapsed		0	No
	(1) MH0805	2. NE-In	12	Vitrified Clay	No		Good		6	No
(1) MH0805	(1) MH0807	2. NE-In	8	N/A	No		No Visual		8	No
	(1) MH0804	1. SW-O	12	Vitrified Clay	No		Good		5	No
	(1) MH0806	3. SE-In	8	Vitrified Clay	No		Future		0.13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0806	(1) MH0805	1. NW-O	8	N/A	No		No Visual		0	No
	(1) UNKNOWN	2. SW-In	2	Cast Iron	No		No Visual		0	No
(1) MH0807	(1) MH0805	1. SW-O	8	Vitrified Clay	No		Good		4	No
	(1) MH0808	3. SE-In	8	Vitrified Clay	No		Future		4	Yes
	(1) MH0933	2. NE-In	8	Vitrified Clay	No		Future		4.5	No
(1) MH0808	(1) MH0807	1. NW-O	8	Vitrified Clay	No		Circular Cr		0.5	No
	(1) SERVICE	2. E-In	6	Vitrified Clay	No		Good		0	No
	(1) MH0809	3. SE-In	8	Vitrified Clay	No		Future		0.25	No
(1) MH0809	(1) MH0810	2. SE-In	8	Vitrified Clay	No		Future		0.25	No
	(1) MH0808	1. NW-O	8	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0810	(1) MH0809	1. NW-O	8	Vitrified Clay	No		Circular Cr		0.5	No
	(1) MH0811	2. NE-In	8	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH0811	(1) SERVICE	2. NE-In	6	Vitrified Clay	No	2	Good		0	No
	(1) MH0810	1. SW-O	6	Vitrified Clay	No		Good		0	No
(1) MH0812	(1) MH0813	1. SE-O	6	Vitrified Clay	No		No Visual		0	No
(1) MH0813	(1) MH0814	1. SE-O	8	Vitrified Clay	No		Future		0.25	No
	(1) MH0812	2. NW-In	8	Vitrified Clay	No		Good		0.25	No
(1) MH0815	(1) MH0816	4. SE-In	8	Vitrified Clay	No		Good		0	Yes
	(1) MH0820	1. SW-O	8	Vitrified Clay	No		Good		1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0815	(1) MH0814	2. NW-In	8	Vitrified Clay	No	Circular Cr		0.25	No
	(1) MH0030	3. NE-In	8	Vitrified Clay	No	Good		0	No
(1) MH0816	(1) MH0815	1. NW-O	8	Cured In Pla	No	Good		0	No
	(1) SERVICE	3. SE-In	4	Vitrified Clay	No	Circular Cr		0	No
	(1) SERVICE	2. SE-In	4	PVC	No	Good		0	No
(1) MH0817	(1) MH0818	1. SE-O	6	Vitrified Clay	No	No Visual		0	No
(1) MH0819	(1) MH0820	3. SE-In	8	Vitrified Clay	No	Good		2	No
	(1) MH0922	1. SW-O	8	Vitrified Clay	No	Good		4	No
	(1) MH0818	2. NW-In	8	Vitrified Clay	No	Good		1	Yes
(1) MH0820	(1) MH0815	2. NE-In	8	Vitrified Clay	No	Future		1	No
	(1) MH0821	3. SE-In	8	Vitrified Clay	No	Future		3	No
	(1) MH0819	1. NW-O	8	Vitrified Clay	No	Future		2	No
(1) MH0821	(1) MH0820	1. NW-O	8	Vitrified Clay	No	Good		2	No
	(1) MH0822	2. SE-In	8	Vitrified Clay	No	Future		2	No
(1) MH0823	(1) MH0824	3. S-In	8	Vitrified Clay	Yes	Future		1.5	No
	(1) UNKNOWN	2. N-In	8	Vitrified Clay	No	Good		0	Yes
	(1) MH0822	1. W-Out	8	Vitrified Clay	No	Circular Cr		2	No
(1) MH0824	(1) MH0823	1. N-Out	8	Vitrified Clay	No	Good		2.5	No
	(1) MH0009	2. E-In	8	Vitrified Clay	No	Future		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>	
(1) MH0825	(1)	MH0827	1. W-Out	6	Vitrified Clay	No		No Visual	5	No
(1) MH0826	(1)	MH0919	1. NW-O	8	Vitrified Clay	Yes		Future	0.5	No
	(1)	MH0827	2. E-In	8	Vitrified Clay	No		Good	0.5	No
(1) MH0827	(1)	MH0826	1. W-Out	8	Vitrified Clay	No		Good	1	No
	(1)	MH0825	2. E-In	8	Vitrified Clay	No		Future	1.25	No
(1) MH0828	(1)	MH0842	2. S-In	8	Vitrified Clay	No		Circular Cr	0.13	No
	(1)	MH0799	1. W-Out	8	Vitrified Clay	No		Good	0.25	No
(1) MH0829	(1)	MH0830	1. W-Out	6	Concrete	No		Circular Cr	0	No
	(1)	SERVICE	3. E-In	6	Concrete	No	0.25	Good	0	No
	(1)	SERVICE	2. NE-In	4	Vitrified Clay	No		Good	0	No
(1) MH0830	(1)	MH0831	1. W-Out	6	Concrete	No		Circular Cr	0.25	No
	(1)	MH0829	2. E-In	6	Concrete	No		Future	0.25	No
(1) MH0831	(1)	MH0839	1. N-Out	12	Vitrified Clay	No		Good	4	No
	(1)	MH0830	2. E-In	8	Concrete	No		Good	1	No
	(1)	MH0832	3. S-In	12	Vitrified Clay	No		Circular Cr	3	No
(1) MH0832	(1)	MH0831	1. N-Out	15	Vitrified Clay	No		Good	4	No
	(1)	SERVICE	3. W-In	8	PVC	No		Good	0.13	No
	(1)	MH0833	2. E-In	15	Vitrified Clay	No		Circular Cr	4	No
(1) MH0833	(1)	MH0853	3. S-In	12	Vitrified Clay	Yes		Circular Cr	4	No

							<i>Observed</i>		
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0833	(1) MH0834	2. E-In	6	Vitrified Clay	Yes	Circular Cr		0.25	Yes
	(1) MH0832	1. W-Out	15	Vitrified Clay	Yes	Circular Cr		3	No
(1) MH0834	(1) SERVICE	2. NE-In	6	Vitrified Clay	No	No Visual		0	No
	(1) MH0835	3. E-In	6	Vitrified Clay	No	Good		0.13	No
	(1) MH0833	1. W-Out	6	Vitrified Clay	No	Circular Cr		0.25	No
(1) MH0835	(1) MH0834	1. W-Out	6	Vitrified Clay	No	Good		0.13	No
	(1) MH0836	2. NE-In	6	Vitrified Clay	No	Good		0.13	No
(1) MH0836	(1) MH0837	2. E-In	6	Vitrified Clay	No	Future		0	No
	(1) MH0835	1. SW-O	6	Vitrified Clay	No	Circular Cr		0	No
(1) MH0837	(1) UNKNOWN	3. E-In	6	PVC	No	Future		0.13	No
	(1) MH0838	2. N-In	6	Vitrified Clay	No	Good		0.13	No
	(1) MH0836	1. W-Out	6	Vitrified Clay	No	Good		0.25	No
(1) MH0838	(1) MH0837	1. S-Out	6	Vitrified Clay	No	Good		0	No
	(1) SERVICE	2. N-In	4	PVC	No	Good		0	No
(1) MH0839	(1) MH0786	2. NE-In	8	Concrete	No	Good		0.5	No
	(1) MH0736	1. NW-O	12	Vitrified Clay	No	Good		2	No
	(1) MH0831	3. S-In	12	Vitrified Clay	No	Future		1.5	No
(1) MH0842	(1) MH0828	1. N-Out	6	Vitrified Clay	No	Good		0	No
	(1) UNKNOWN	2. NW-In	2	Cast Iron	No	No Visual		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0844	(1) MH0845	1. S-Out	6	Concrete	No		Good		0	No
	(1) MH0942	2. W-In	6	Concrete	No		Future		0	No
	(1) PLUGGED	3. NE-In	6	Concrete	No	0.13	No Visual		0	No
(1) MH0845	(1) MH0844	3. N-In	6	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0849	1. E-Out	6	N/A	No		No Visual		6	No
	(1) MH0846	2. W-In	6	N/A	No		No Visual		5.5	No
(1) MH0846	(1) MH0845	1. E-Out	6	Vitrified Clay	No		Future		0.25	No
	(1) MH0847	2. W-In	6	Vitrified Clay	No		Future		0.13	No
(1) MH0847	(1) MH0846	1. E-Out	8	Vitrified Clay	No		Future		0.13	No
	(1) MH0848	2. W-In	6	Vitrified Clay	Yes		Circular Cr		0.13	Yes
(1) MH0849	(1) MH0863	1. S-Out	8	Vitrified Clay	No		Future		5	No
	(1) MH0850	3. E-In	8	Vitrified Clay	No		Future		1	No
	(1) MH0845	2. W-In	6	Vitrified Clay	No		Circular Cr		1	No
(1) MH0850	(1) MH0849	1. W-Out	8	Vitrified Clay	No		Good		1	No
	(1) SERVICE	4. E-In	4	PVC	No		Good		0	No
	(1) SERVICE	3. NE-In	4	Cast Iron	No		Good		0	No
	(1) MH0851	2. N-In	6	PVC	No		Good		0	No
	(1) CO0858	5. SE-In	8	Vitrified Clay	No		Circular Cr		2	No
(1) MH0851	(1) SERVICE	4. NE-In	6	PVC	No		Good		0	No

									<i>Observed</i>	
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>	
(1) MH0851	(1) SERVICE	2. W-In	4 PVC	No		Good		0	No	
	(1) SERVICE	3. NW-In	4 PVC	No		Good		0	No	
	(1) MH0850	1. S-Out	6 PVC	No		Good		0	No	
(1) MH0854	(1) SERVICE	3. SE-In	4 Vitrified Clay	No		Future		0	No	
	(1) MH0855	2. N-In	6 Vitrified Clay	No		Good		0	No	
	(1) MH0853	1. W-Out	6 Vitrified Clay	No		Circular Cr		0	No	
(1) MH0855	(1) MH0854	1. S-Out	6 Vitrified Clay	No		Circular Cr		0	No	
(1) MH0857	(1) MH0856	1. NW-O	6 Concrete	No		Good		2	No	
	(1) MH0894	3. SE-In	6 N/A	No		No Visual		2	No	
	(1) MH0954	2. N-In	6 N/A	No		No Visual		0.25	No	
(1) MH0859	(1) SERVICE	3. NW-In	4 Vitrified Clay	No		Future		0	No	
	(1) MH0860	1. E-Out	6 Vitrified Clay	No		Circular Cr		0	No	
	(1) PLUGGED	2. SW-In	4 N/A	No		No Visual		0	No	
(1) MH0860	(1) MH0859	2. W-In	6 Vitrified Clay	No		Longitudin		0.13	No	
	(1) MH0861	1. E-Out	6 Vitrified Clay	No		Circular Cr		0.13	No	
(1) MH0861	(1) MH0862	1. E-Out	6 Vitrified Clay	Yes		Circular Cr		0.13	No	
	(1) MH0860	2. W-In	6 Vitrified Clay	Yes		Circular Cr	0	0.13	No	
(1) MH0862	(1) MH0865	1. S-Out	6 Vitrified Clay	No		Circular Cr		3	No	
	(1) MH0863	3. E-In	8 Vitrified Clay	No		Future		1	No	

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0862	(1) MH0861	2. W-In	6	Vitrified Clay	No		Circular Cr		1.5	No
(1) MH0863	(1) MH0849	2. N-In	8	Vitrified Clay	No		Circular Cr		4	No
	(1) MH0862	1. W-Out	8	Vitrified Clay	No		Good		4	No
	(1) MH0864	3. E-In	8	Vitrified Clay	No	0.25	Circular Cr		1.5	No
(1) MH0865	(1) SERVICE	4. SE-In	4	PVC	No		Good		0	No
	(1) MH0868	1. W-Out	6	N/A	No		No Visual		6	No
	(1) MH0862	2. N-In	6	N/A	No		No Visual		5	No
	(1) MH0866	3. E-In	6	Vitrified Clay	No		No Visual		0.25	Yes
(1) MH0866	(1) MH0867	2. E-In	6	Vitrified Clay	No		Future		0.13	No
	(1) MH0865	1. W-Out	6	Vitrified Clay	No		Future		0.13	No
(1) MH0867	(1) MH0943	3. E-In	6	Vitrified Clay	No		Future		1	No
	(1) SERVICE	2. NE-In	4	PVC	No		Good		0	No
	(1) MH0866	1. W-Out	6	Vitrified Clay	No		Future		0	No
	(1) SERVICE	4. S-In	4	PVC	No		Good		0	No
(1) MH0868	(1) MH0865	4. E-In	6	N/A	No		No Visual		6	No
	(1) UNKNOWN	2. W-In	6	Vitrified Clay	No		Future		0	No
	(1) MH0869	1. SW-O	6	N/A	No		No Visual		5.5	No
	(1) SERVICE	3. NW-In	4	PVC	No		Good		0	No
(1) MH0869	(1) MH0870	3. E-In	6	Vitrified Clay	No	0.13	Future		3	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0869	(1) MH0868	2. NE-In	8	Vitrified Clay	No	Future		3	No
	(1) MH0879	1. W-Out	8	Vitrified Clay	No	Future		4	No
(1) MH0870	(1) MH0871	3. S-In	6	Vitrified Clay	No	Future		0.25	No
	(1) MH0869	1. W-Out	8	Vitrified Clay	No	Future		0.5	No
	(1) SERVICE	2. E-In	4	Vitrified Clay	No	Future		0.13	No
(1) MH0871	(1) MH0870	1. N-Out	6	Vitrified Clay	Yes	Longitudin		0	No
	(1) MH0872	2. E-In	6	Vitrified Clay	No	Good		0	No
(1) MH0872	(1) MH0871	1. W-Out	8	Vitrified Clay	No	Circular Cr		0	No
	(1) MH0873	2. E-In	8	Vitrified Clay	No	Circular Cr		0	No
(1) MH0873	(1) PLUGGED	2. N-In	6	Vitrified Clay	No	6	No Visual	0	No
	(1) MH0872	1. W-Out	6	Vitrified Clay	No	Good		0	No
	(1) SERVICE	4. S-In	6	Vitrified Clay	No	3	Future	0	No
	(1) SERVICE	3. E-In	6	Vitrified Clay	No	Good		0	No
(1) MH0874	(1) MH0880	1. S-Out	8	Vitrified Clay	No	Circular Cr		2.5	No
	(1) MH0875	2. N-In	6	Vitrified Clay	No	Future		1	No
	(1) MH0879	3. E-In	8	Vitrified Clay	No	Circular Cr		2	No
(1) MH0875	(1) MH0874	1. S-Out	6	Vitrified Clay	No	Good		1	No
	(1) MH0946	3. E-In	6	Vitrified Clay	No	Circular Cr		0.25	No
	(1) MH0877	2. W-In	6	Vitrified Clay	No	Circular Cr		0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0876	(1) MH0877	1. E-Out	6	Vitrified Clay	No	Circular Cr		0	No
	(1) SERVICE	2. SW-In	4	Vitrified Clay	No	Future		0	No
	(1) SERVICE	3. NW-In	4	PVC	No	Good		0	No
(1) MH0878	(1) MH0947	1. S-Out	6	PVC	No	Good		0.13	No
	(1) SERVICE	3. E-In	4	PVC	No	Future		0	No
	(1) SERVICE	2. NE-In	6	PVC	No	Good		0.13	No
(1) MH0880	(1) MH0883	1. SW-O	8	Vitrified Clay	No	Good		5	No
	(1) MH0874	2. N-In	8	Vitrified Clay	No	Good		4	Yes
(1) MH0882	(1) SERVICE	2. SW-In	4	Vitrified Clay	No	Future		0	No
	(1) MH0012	1. E-Out	6	Vitrified Clay	No	Good		0	No
	(1) SERVICE	3. NW-In	4	Vitrified Clay	No	Good		0	No
(1) MH0884	(1) MH0884	2. NE-In	8	Vitrified Clay	No	Good			No
	(1) MH0888	1. SW-O	8	Vitrified Clay	No	Good			No
(1) MH0885	(1) MH0886	2. NW-In	6	Vitrified Clay	No	Future			No
	(1) MH0884	1. SE-O	6	Vitrified Clay	No	Good			No
(1) MH0886	(1) MH0885	1. SE-O	6	PVC	No	Good		0	No
	(1) SERVICE	2. N-In	4	Vitrified Clay	No	No Visual		0	No
(1) MH0887	(1) SERVICE	4. NE-In	4	PVC	No	Good		0	No
	(1) MH0888	1. SE-O	6	PVC	No	Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0887	(1) MH0944	2. NW-In	6	PVC	No		Good		0	No
	(1) SERVICE	3. NE-In	6	PVC	No		Good		0	No
(1) MH0888	(1) MH0887	2. NW-In	6	PVC	No		Good			No
	(1) MH0889	1. SW-O	6	Vitrified Clay	No		Good			No
	(1) MH0884A	3. NE-In	6	Vitrified Clay	No		Future			No
(1) MH0890	(1) MH0889	2. NE-In	10	Vitrified Clay	No		Good		3	No
	(1) MH0891	1. NW-O	10	Vitrified Clay	No		No Visual		3	No
(1) MH0891	(1) MH0890	2. SE-In	10	Vitrified Clay	No		Future		3	No
	(1) MH0892	1. NW-O	10	Vitrified Clay	No		Good		3	No
(1) MH0893	(1) MH0892	2. E-In	10	Vitrified Clay	No		Good		3	No
	(1) MH0883	1. NW-O	8	Vitrified Clay	No		Good		3	No
(1) MH0894	(1) MH0857	1. NW-O	10	Vitrified Clay	No		Circular Cr		5	No
	(1) MH0883	2. SE-In	10	Vitrified Clay	No		Good		5	No
(1) MH0895	(1) MH0889	1. W-Out	6	Vitrified Clay	No		No Visual			No
	(1) MH0015	2. E-In	6	Vitrified Clay	No		No Visual			No
(1) MH0900	(1) MH0901	1. NW-O	18	Concrete	No		Good		7	No
	(1) MH0899	2. SE-In	18	Concrete	No		Good		8	No
(1) MH0902	(1) MH0955	3. SE-In	18	Cast Iron	No		Good		5	No
	(1) MH0903	1. NW-O	18	Concrete	No		Good		8	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0902	(1) FORCE MAIN	4. S-In	6 PVC	No		Good		1	No
	(1) PLUGGED	2. SE-In	4 PVC	No		No Visual		0	No
(1) MH0903	(1) MH0904	1. NW-O	18 Concrete	No		Circular Cr		8	No
	(1) MH0902	2. SE-In	18 Concrete	No		Good		8	No
(1) MH0904	(1) MH0906	1. NW-O	18 Concrete	No		Good		8	No
	(1) MH0903	2. SE-In	18 Concrete	No		Good		8	No
(1) MH0905	(1) MH0907	1. NW-O	18 Cast Iron	No		Good		0	No
	(1) MH0906	2. E-In	18 Cast Iron	No		Good		0	No
(1) MH0909	(1) MH0910	1. NW-O	15 Concrete	No		Good		4	No
	(1) MH0908	2. SE-In	15 Concrete	No		Good		4	No
(1) MH0910	(1) MH0911	1. NW-O	15 Concrete	No		Good		4	No
	(1) MH0909	2. SE-In	15 Concrete	No		Circular Cr		4	No
(1) MH0911	(1) MH0912	1. NW-O	15 Concrete	No		Good		4	No
	(1) MH0910	2. SE-In	15 Concrete	No		Good		5	No
(1) MH0913	(1) SERVICE	4. S-In	6 PVC	No		Good		0	No
	(1) MH0800	1. NW-O	8 Vitrified Clay	No		Good		3	No
	(1) MH0914	2. NE-In	8 Vitrified Clay	No		Good		3	No
	(1) SERVICE	3. SE-In	4 Vitrified Clay	No	0.25	Good		0	No
(1) MH0914	(1) MH0913	1. SW-O	8 Vitrified Clay	No		Good		3	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0914	(1) MH0915	2. SE-In	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH0915	(1) MH0914	1. NW-O	8	Vitrified Clay	No		Good		3	No
	(1) MH0916	2. SE-In	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH0916	(1) MH0917	3. SE-In	8	Vitrified Clay	No		Good		1	No
	(1) MH0915	1. NW-O	8	Vitrified Clay	No		Good		3	No
	(1) MH0920	2. NE-In	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH0917	(1) MH0916	1. NW-O	8	Vitrified Clay	No		Circular Cr		0.5	No
	(1) MH0918	2. SW-In	8	Vitrified Clay	No		Future		0.5	No
(1) MH0918	(1) SERVICE	4. NW-In	4	Cast Iron	No		Good		0	No
	(1) ABANDONED	3. SW-In	8	Vitrified Clay	No	0.25	Circular Cr		0	No
	(1) MH0919	2. SE-In	8	Vitrified Clay	No		Circular Cr		0.5	No
	(1) MH0917	1. NE-O	8	Vitrified Clay	No		Circular Cr		0.5	No
(1) MH0919	(1) MH0826	2. SE-In	8	Vitrified Clay	No		Future		0.13	No
	(1) MH0918	1. NW-O	8	Vitrified Clay	No		Future		0.25	No
(1) MH0920	(1) MH0916	1. SW-O	8	Vitrified Clay	No		Good		4	No
	(1) MH0921	2. NW-In	8	Vitrified Clay	No		Circular Cr		4	No
	(1) MH0922	3. SE-In	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH0921	(1) MH0941	2. NW-In	8	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0920	1. SE-O	8	Vitrified Clay	No		Circular Cr		0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0921	(1) MH0923	3. NE-In	6	PVC	No		Good		0	No
(1) MH0922	(1) MH0920	1. NW-O	8	Vitrified Clay	No		Good		3	No
	(1) MH0925	3. SE-In	8	Vitrified Clay	No		Circular Cr		1	No
	(1) MH0819	2. NE-In	8	Vitrified Clay	No		Future	1	2	No
(1) MH0924	(1) UNKNOWN	2. NW-In	4	Vitrified Clay	No		No Visual		0	No
	(1) UNKNOWN	3. SW-In	2	Cast Iron	No		No Visual		0	No
	(1) MH0925	1. NW-O	6	Vitrified Clay	No		No Visual		1	No
(1) MH0925	(1) MH0922	1. NW-O	8	Vitrified Clay	No		Good		0.5	No
	(1) MH0924	2. SE-In	8	Vitrified Clay	No		Future		0.25	No
(1) MH0929	(1) MH0930	1. NW-O	8	Vitrified Clay	No		Circular Cr		1	No
	(1) MH0035	3. SE-In	8	Vitrified Clay	No		Circular Cr		1	No
	(1) UNKNOWN	4. NW-In	2	PVC	No		Good		0	No
	(1) MH0036	2. NE-In	8	Vitrified Clay	No		Future		0.13	No
(1) MH0930	(1) MH0931	1. NW-O	8	Vitrified Clay	No		Circular Cr		0.5	No
	(1) MH0929	2. SE-In	8	Vitrified Clay	No		Circular Cr		0.5	No
(1) MH0931	(1) MH0930	3. SE-In	8	Vitrified Clay	No		Good		2	Yes
	(1) MH0934	2. NE-In	8	Vitrified Clay	No		Future		5	No
	(1) MH0932	1. SW-O	8	Vitrified Clay	No		Circular Cr		4	No
(1) MH0932	(1) MH0931	2. NE-In	8	Vitrified Clay	No		Circular Cr		3	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>	
(1) MH0932	(1) SERVICE	3. SE-In	4	Vitrified Clay	No		Good		0	Yes
	(1) MH0933	1. SW-O	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH0933	(1) MH0932	2. NE-In	8	Vitrified Clay	No		Good		4	No
	(1) MH0926	3. SE-In	8	Cured In Pla	No		Good		2	No
	(1) MH0807	1. SW-O	8	Vitrified Clay	No		Good		6	No
	(1) PLUGGED	4. SE-In	8	Concrete	No		No Visual		0	No
(1) MH0934	(1) MH0931	1. SW-O	8	Vitrified Clay	No		Circular Cr		5	No
	(1) MH0006	3. SE-In	6	Vitrified Clay	No		Circular Cr		0.5	No
	(1) MH0034	2. NE-In	8	Vitrified Clay	No		Good		4	No
(1) MH0935	(1) MH0697	1. E-Out	4	N/A	No		No Visual		4	No
	(1) MH0696	2. W-In	4	N/A	No		No Visual		3.5	No
(1) MH0936	(1) MH0785	2. NE-In	6	Concrete	No		Circular Cr		1.5	No
	(1) MH0786	1. SW-O	6	Concrete	No		Good		1	No
(1) MH0941	(1) UNKNOWN	2. SE-O	3	Cast Iron	No		No Visual		0	No
	(1) MH0921	1. SE-O	6	Vitrified Clay	No		No Visual		0	No
(1) MH0947	(1) MH0954	1. S-Out	6	PVC	No		Future		0.25	No
	(1) MH0878	2. N-In	6	PVC	No		Good		0.13	No
	(1) UNKNOWN	3. E-In	6	PVC	No		Good		0.13	No
(1) MH0949	(1) SERVICE	2. NW-In	4	PVC	No		No Visual		0.13	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Drop Connection</i>
(1) MH0949	(1) MH0611	1. E-Out	8	PVC	No		Good	0.13	No
(1) MH0950	(1) SERVICE	4. SW-In	4	PVC	No		Good	0	No
	(1) MH0766	3. NE-In	8	Vitrified Clay	No		No Visual	7	No
	(1) SERVICE	2. W-In	4	PVC	No		Good	0	No
	(1) MH0769	1. SW-O	8	Vitrified Clay	No		Good	7	No
(1) MH0951	(1)	1. NW-O	6	PVC	No		Good	0	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good	2	No
(1) MH0952	(1)	1. NW-O	6	Concrete	No		Good	1	No
	(1) UNKNOWN	2. SW-In	6	Concrete	No		Good	4	No
(1) MH0956	(1) MH0718	3. E-In	15	Vitrified Clay	No		Good	6	No
	(1) MH0698	1. W-Out	15	Vitrified Clay	No		Circular Cr	6	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good	0	No
(1) MH0957	(1) MH0746	3. NE-In	12	Vitrified Clay	No		Future	4.5	No
	(1) MH0744	2. NW-In	6	Concrete	No		Good	0	No
	(1) MH0747	1. SW-O	12	Vitrified Clay	No		Circular Cr	4	No
(1) MH0958	(1) MH0755	3. E-In	8	Vitrified Clay	No		Circular Cr	2	No
	(1) MH1371	2. N-In	10	Vitrified Clay	No		Future	2	No
	(1) MH0752	1. S-Out	10	Vitrified Clay	No		Circular Cr	2	No
(1) MH0959	(1) MH0776	1. SW-O	15	PVC	No		No Visual	13	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0959	(1) MH0775	2. NE-In	15	Cast Iron	No		Good		12	No
(1) MH0960	(1) MH0912	2. SE-In	15	Concrete	No		Circular Cr		2	No
	(1) SERVICE	3. SW-In	8	Concrete	No		Circular Cr		0	No
	(1) SERVICE	4. SW-In	8	Concrete	No		Good		0	No
	(1) MH0717	1. NW-O	15	Concrete	No		Circular Cr		3	No
(1) MH0961	(1) MH0966	1. SE-O	6	Vitrified Clay	No		Good		1	No
	(1) MH0965	3. NE-In	6	Concrete	No		Good		1	No
	(1) MH1280	2. W-In	6	Concrete	No		Good		1	No
(1) MH0962	(1) SERVICE	4. NE-In	4	PVC	No		Good		0	No
	(1) MH0963	1. S-Out	6	Concrete	No		Good		0	No
	(1) SERVICE	3. N-In	4	PVC	No		Good		0	No
	(1) SERVICE	2. SW-In	4	PVC	No		Good		0	No
(1) MH0963	(1) MH0964	1. S-Out	6	Concrete	No		Good		0	No
	(1) MH0962	2. N-In	6	Concrete	No		Good		0	No
(1) MH0964	(1) MH0965	1. S-Out	6	Concrete	No		Good		0.25	No
	(1) MH0963	2. N-In	6	Concrete	Yes		Circular Cr		0.25	No
(1) MH0965	(1) MH0964	2. N-In	6	Concrete	No		Good		0.5	No
	(1) MH0961	1. SW-O	6	Concrete	Yes		Circular Cr		0.5	No
(1) MH0966	(1) MH1276	1. W-Out	8	Vitrified Clay	No		Good		1.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>	
(1) MH0966	(1)	MH0971	3. E-In	8	Vitrified Clay	No	Good	1.5	No	
	(1)	MH0961	2. NW-In	6	Vitrified Clay	No	Good	1	No	
(1) MH0967	(1)	MH00968	1. S-Out	6	Vitrified Clay	No	1	Circular Cr	0	No
(1) MH0968	(1)	MH0969	1. S-Out	6	Vitrified Clay	Yes	4	Circular Cr	0	No
	(1)	MH0967	2. N-In	6	Vitrified Clay	Yes		Circular Cr	0	No
(1) MH0969	(1)	MH0968	2. N-In	6	Vitrified Clay	No		Good	0.75	No
	(1)	MH0970	1. S-Out	6	Vitrified Clay	No		Good	1	No
	(1)	MH0986	3. E-In	6	Vitrified Clay	No		Good	0.25	No
(1) MH0970	(1)	MH0971	1. S-Out	6	Vitrified Clay	No		Good	0.5	No
	(1)	MH0969	2. N-In	6	Vitrified Clay	No		Good	0.5	No
(1) MH0971	(1)	MH0970	2. N-In	6	Vitrified Clay	No		Good	0.5	No
	(1)	MH0996	3. E-In	6	Vitrified Clay	No		Good	0.5	No
	(1)	MH1060	4. S-In	6	Vitrified Clay	No		Good	0	No
	(1)	MH0966	1. W-Out	8	Vitrified Clay	No		Good	1	No
(1) MH0972	(1)	MH1289	1. W-Out	6	Concrete	No		Good	0.5	No
	(1)	MH0973	2. E-In	6	Concrete	No		Good	0.5	No
(1) MH0973	(1)	MH0972	1. W-Out	6	Vitrified Clay	No		Circular Cr	0.5	No
	(1)	MH0974	2. N-In	6	Vitrified Clay	No		Circular Cr	0.25	No
(1) MH0974	(1)	MH1127	2. N-In	6	Concrete	No		Good	1.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH0974	(1) MH0973	1. S-Out	6	Concrete	No		Good		1.5	No
(1) MH0975	(1) SERVICE	2. NW-In	4	Cast Iron	No		Circular Cr		0	No
	(1) MH1128	3. NE-In	6	Concrete	Yes		Circular Cr		0.25	No
	(1) MH0976	1. S-Out	6	Concrete	No		Good		0.25	No
(1) MH0976	(1) MH0977	3. S-In	6	Concrete	No		Good		0.75	No
	(1) MH0975	2. N-In	6	Concrete	No		Good		0.75	No
	(1) MH1359	1. W-Out	6	Concrete	No		Circular Cr		1.5	No
(1) MH0977	(1) MH0976	1. N-Out	6	Concrete	No		Future		0	No
	(1) SERVICE	2. W-In	6	Cast Iron	No		Future		0	No
(1) MH0978	(1) MH0979	1. S-Out	6	Concrete	No		Good		0	No
	(1) PLUGGED	2. E-In	6	Concrete	No		Good		0	No
(1) MH0979	(1) MH1062	1. S-Out	6	Concrete	No		Circular Cr		1	No
	(1) MH0978	2. N-In	6	Concrete	No		Circular Cr		1	No
(1) MH0980	(1) MH0981	1. S-Out	6	Concrete	Yes		Circular Cr		0.25	No
	(1) MH1129	2. N-In	6	Concrete	No		Good		0.25	No
(1) MH0981	(1) MH0980	2. N-In	6	Concrete	No		Good		0.25	No
	(1) MH0982	1. S-Out	6	Concrete	No		Good		0.25	No
(1) MH0982	(1) MH0981	2. N-In	6	Concrete	No		Good		0.5	No
	(1) MH0983	1. S-Out	6	Concrete	No		Good		0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH0983	(1) MH1064	1. S-Out	6 Concrete	No		Good	0.75	No
	(1) MH0982	2. N-In	6 Concrete	No		Good	0.75	No
(1) MH0984	(1) SERVICE	2. E-In	4 PVC	No		Future	0	No
	(1) MH0985	1. S-Out	6 Vitrified Clay	No		Good	0	No
(1) MH0985	(1) MH0984	3. N-In	6 Vitrified Clay	No		Good	0.13	No
	(1) SERVICE	2. NW-In	4 PVC	No		Good	0	No
	(1) MH0986	1. S-Out	6 Vitrified Clay	No		Good	0.13	No
(1) MH0986	(1) MH0985	2. N-In	6 Vitrified Clay	No		Good	0.13	No
	(1) MH0988	3. E-In	6 Vitrified Clay	No		Good	0.25	No
	(1) MH0969	1. W-Out	6 Vitrified Clay	No		Good	0.25	No
	(1) MH0987	4. S-In	6 Vitrified Clay	No		Good	0	No
(1) MH0987	(1) SERVICE	3. W-In	4 PVC	No		Future	0	No
	(1) SERVICE	2. E-In	4 Vitrified Clay	No		Good	0	No
	(1) MH0986	1. N-Out	6 Vitrified Clay	No		Good	0	No
(1) MH0988	(1) MH0986	1. W-Out	6 Vitrified Clay	No		Good	0.25	No
	(1) MH0989	2. N-In	6 Vitrified Clay	Yes		Circular Cr	0.25	No
(1) MH0989	(1) MH0990	2. N-In	6 Vitrified Clay	No		Good	0.25	No
	(1) MH0988	1. S-Out	6 Vitrified Clay	No		Circular Cr	0.25	No
(1) MH0990	(1) SERVICE	2. N-In	4 PVC	No		Good	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>	
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Drop Connection</i>
(1) MH0990	(1)	MH0989	1. S-Out	6	Vitrified Clay	No	Good	0	No
(1) MH0991	(1)	SERVICE	2. NW-In	4	PVC	No	Good	0	No
	(1)	MH0992	1. W-Out	6	Vitrified Clay	No	Good	0	No
(1) MH0992	(1)	MH0993	3. E-In	6	Vitrified Clay	No	Good	0.5	No
	(1)	MH0991	2. W-In	6	Vitrified Clay	No	Circular Cr	0	No
	(1)	MH0995	1. S-Out	6	Vitrified Clay	No	Good	0.5	No
(1) MH0993	(1)	MH0992	1. W-Out	6	Vitrified Clay	No	Good	0.13	No
	(1)	MH0994	2. N-In	6	Vitrified Clay	No	Good	0.13	No
(1) MH0994	(1)	MH0993	1. S-Out	6	Vitrified Clay	No	Good	0	No
(1) MH0995	(1)	MH0992	2. N-In	6	Vitrified Clay	No	Good	0.5	No
	(1)	MH0996	1. S-Out	6	Vitrified Clay	No	Good	0.5	No
(1) MH0996	(1)	MH0995	2. N-In	6	Vitrified Clay	No	Good	1.5	No
	(1)	MH0997	3. E-In	6	Vitrified Clay	No	Good	1.5	No
	(1)	MH0971	1. W-Out	6	Vitrified Clay	No	Good	1.5	No
(1) MH0997	(1)	SERVICE	3. N-In	4	PVC	No	Good	0	No
	(1)	MH0998	4. E-In	6	Vitrified Clay	No	Good	1	No
	(1)	SERVICE	2. N-In	4	PVC	No	Good	0	No
	(1)	MH0996	1. W-Out	6	Vitrified Clay	No	Good	1	No
(1) MH0998	(1)	MH1006	2. NE-In	6	Vitrified Clay	No	Good	0.5	No

		<i>Observed</i>							
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>DepositionDepth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH0998	(1) PLUGGED	3. E-In	6	Vitrified Clay	No	Good		0	No
	(1) MH0997	1. W-Out	6	Vitrified Clay	No	Good		1.25	No
(1) MH0999	(1) MH1000	1. SW-O	6	Vitrified Clay	No	Good		1.25	No
	(1) MH1135	2. NE-In	6	PVC	No	Circular Cr		1	No
(1) MH1000	(1) MH1001	1. SW-O	6	Vitrified Clay	No	Good		0.25	No
	(1) MH0999	2. NE-In	6	Vitrified Clay	No	Good		0.25	No
(1) MH1001	(1) MH1002	1. SW-O	6	Vitrified Clay	No	Good		0.25	No
	(1) MH1000	2. NE-In	6	Vitrified Clay	Yes	Circular Cr		0.25	No
(1) MH1002	(1) MH1001	2. N-In	6	Vitrified Clay	No	Good		2	No
	(1) MH1003	1. SW-O	6	Vitrified Clay	No	No Visual		5.5	No
(1) MH1003	(1) MH1002	2. NE-In	6	Vitrified Clay	No	Good		0.25	No
	(1) MH1004	1. SW-O	6	Vitrified Clay	No	Good		0.25	No
(1) MH1004	(1) MH1003	2. NE-In	6	Vitrified Clay	No	Good		0.25	No
	(1) MH1005	1. SW-O	6	Vitrified Clay	No	Good		0.25	No
(1) MH1005	(1) SERVICE	2. N-In	4	PVC	No	Future		0	No
	(1) MH1006	1. SW-O	6	Vitrified Clay	No	Good		0.25	No
	(1) MH1004	3. NE-In	6	Vitrified Clay	No	Good		0.25	No
(1) MH1006	(1) MH0998	1. SW-O	6	Vitrified Clay	No	Longitudin		1	No
	(1) MH1005	2. NE-In	6	Vitrified Clay	No	Longitudin		1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1007	(1)	UNKNOWN	2. N-In	2	PVC	No	Good	No	0	No
	(1)	MH1014	1. S-Out	6	Vitrified Clay	No	Good	No	0	No
	(1)	SERVICE	3. N-In	4	PVC	No	Good	No	0	No
(1) MH1008	(1)	MH1009	1. S-Out	6	Vitrified Clay	No	Good	No	0	No
	(1)	SERVICE	2. NE-In	4	PVC	No	Good	No	0	No
(1) MH1009	(1)	MH1010	2. W-In	6	Vitrified Clay	No	Good	No	0	No
	(1)	MH1011	4. E-In	6	Vitrified Clay	No	Good	No	0	Yes
	(1)	MH1012	1. S-Out	6	Vitrified Clay	No	Good	No	0.25	No
	(1)	MH1008	3. N-In	6	Vitrified Clay	No	Good	No	0.25	No
(1) MH1010	(1)	PLUGGED	2. N-In	4	PVC	No	Good	No	0	No
	(1)	MH1009	1. E-Out	6	Vitrified Clay	No	Good	No	0	No
(1) MH1011	(1)	MH1009	1. W-Out	6	Vitrified Clay	No	Good	No	0	No
(1) MH1012	(1)	MH1009	2. N-In	6	Vitrified Clay	No	Good	No	0.25	No
	(1)	MH1013	1. E-Out	6	Vitrified Clay	No	Good	No	0.25	No
(1) MH1013	(1)	MH1014	3. N-In	6	Vitrified Clay	No	Good	No	1	No
	(1)	MH1012	2. W-In	6	Vitrified Clay	No	Good	No	0.25	No
	(1)	MH1019	1. S-Out	6	Vitrified Clay	No	Good	No	1	No
(1) MH1014	(1)	MH1007	3. N-In	6	Vitrified Clay	No	Good	No	1	No
	(1)	MH1013	1. S-Out	6	Vitrified Clay	Yes	Circular Cr	No	1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>						<i>Visual Infiltration</i>	<i>Drop Connection</i>	
(1) MH1014	(1)	SERVICE	4. SE-In	4	PVC	No		Good		0	No
	(1)	SERVICE	2. SW-In	4	PVC	No		Good		0	No
(1) MH1015	(1)	MH1016	1. S-Out	6	Vitrified Clay	No		Good		0	No
	(1)	SERVICE	2. N-In	4	Vitrified Clay	Yes		No Visual		0	No
(1) MH1016	(1)	MH1017	1. S-Out	6	Vitrified Clay	No		Good		0.25	No
	(1)	MH1015	2. N-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1017	(1)	MH1018	1. E-Out	6	Vitrified Clay	No		Good		1	No
	(1)	MH1016	2. N-In	6	Vitrified Clay	No		Good		1	No
(1) MH1018	(1)	MH1017	2. W-In	6	Vitrified Clay	No		Good		0.5	No
	(1)	MH1019	1. E-Out	6	Vitrified Clay	No		Good		1	No
(1) MH1019	(1)	MH1018	2. W-In	6	Vitrified Clay	No		Good		1	No
	(1)	MH1013	3. N-In	6	Vitrified Clay	No		Good		0.5	Yes
	(1)	MH1043	1. S-Out	6	Vitrified Clay	No		Good		1.5	No
(1) MH1020	(1)	MH1021	1. S-Out	6	Vitrified Clay	Yes		No Visual		0	No
	(1)	SERVICE	2. NE-In	4	Vitrified Clay	No		Good		0	No
(1) MH1021	(1)	MH1022	1. S-Out	6	Vitrified Clay	No		Good		0.13	No
	(1)	MH1020	2. N-In	6	Vitrified Clay	No		Good		0.13	No
(1) MH1022	(1)	MH1023	1. W-Out	6	Vitrified Clay	No		Good		0.25	No
	(1)	MH1021	2. N-In	6	Vitrified Clay	No		Good		0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1022	(1) MH1035	3. E-In	6	Vitrified Clay	No		Good		0.1	No
(1) MH1023	(1) MH1025	1. NW-O	6	Vitrified Clay	No		Good		1	No
	(1) MH1024	3. S-In	6	Vitrified Clay	No		Good		0.1	No
	(1) MH1022	2. E-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1024	(1) MH1023	1. N-Out	6	Vitrified Clay	Yes		No Visual		0	No
(1) MH1025	(1) MH1026	1. NW-O	6	Vitrified Clay	No		Good		0.5	No
	(1) MH1023	2. SE-In	6	Vitrified Clay	No		Good		0.5	No
(1) MH1026	(1) MH1029	1. NW-O	6	Vitrified Clay	No		Good		0.25	No
	(1) MH1025	2. SE-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1027	(1) MH1028	1. SE-O	6	Vitrified Clay	No		Good		0	No
(1) MH1028	(1) MH1029	1. E-Out	6	Vitrified Clay	No		Good		1	No
	(1) MH1027	2. NW-In	6	Vitrified Clay	No		Good		1	No
(1) MH1029	(1) MH1123	1. S-Out	8	Vitrified Clay	Yes		Circular Cr		2	No
	(1) MH1028	2. W-In	6	Vitrified Clay	No		Good		1	No
	(1) MH1026	3. SE-In	6	Vitrified Clay	Yes		Circular Cr		0.5	No
(1) MH1030	(1) MH1031	1. S-Out	8	N/A	No		Good		1.5	No
	(1) MH1123	2. N-In	8	N/A	No		Good		1.5	No
(1) MH1031	(1) MH1030	2. N-In	8	N/A	No		Good		3	No
	(1) MH1032	1. S-Out	8	N/A	No		Good		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1032	(1) MH1130	1. W-Out	8 N/A	No		Good		1	No
	(1) MH1031	2. N-In	8 N/A	No		Good		1	No
(1) MH1034	(1) MH1141	1. S-Out	8 Vitrified Clay	No		Good		1	No
	(1) MH1130	2. N-In	8 Vitrified Clay	No		Circular Cr		0.75	No
(1) MH1035	(1) MH1022	1. W-Out	6 Vitrified Clay	No		Good		0	No
	(1) PLUGGED	2. S-In	4 Vitrified Clay	No		Good		0	No
(1) MH1036	(1) SERVICE	3. SW-In	4 PVC	No		Future		0	No
	(1) SERVICE	2. SE-In	4 PVC	No		Future		0	No
	(1) MH1037	1. E-Out	6 Vitrified Clay	No		Good		0	No
(1) MH1037	(1) MH1039	1. E-Out	6 Vitrified Clay	No		Good		0.25	No
	(1) MH1038	2. S-In	6 Vitrified Clay	No		Good		0.25	No
	(1) MH1036	3. W-In	6 Vitrified Clay	No		Good		0.75	No
(1) MH1038	(1) SERVICE	4. W-In	4 Vitrified Clay	No		Good		0.1	No
	(1) SERVICE	2. NE-In	4 Vitrified Clay	Yes		Circular Cr		0	No
	(1) SERVICE	3. SW-In	4 PVC	No		Good		0.25	No
	(1) MH1037	1. N-Out	6 Vitrified Clay	No		Good		0.25	No
(1) MH1039	(1) MH1037	2. W-In	6 Vitrified Clay	No		Good		0.25	No
	(1) MH1040	1. E-Out	6 Vitrified Clay	No		Good		0.25	No
(1) MH1040	(1) MH1041	1. E-Out	6 Vitrified Clay	No		Good		0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1040	(1) MH1039	2. W-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1041	(1) MH1042	3. N-In	6	Vitrified Clay	No		Good		1.25	Yes
	(1) MH1046	1. S-Out	6	Vitrified Clay	No		Good		1.5	No
	(1) MH1040	2. W-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1042	(1) MH1041	1. S-Out	6	Vitrified Clay	No		Good		2	No
	(1) SERVICE	2. W-In	4	Vitrified Clay	No		Good		0	No
	(1) MH1043	3. N-In	6	Vitrified Clay	No		Good		0.5	No
	(1) MH1044	4. E-In	6	Vitrified Clay	Yes		Circular Cr		0.2	No
(1) MH1043	(1) MH1019	2. N-In	6	Vitrified Clay	No		Good		1	No
	(1) MH1042	1. S-Out	6	Vitrified Clay	No		Good		1	No
(1) MH1044	(1) MH1045	3. S-In	6	Vitrified Clay	No		Good		0	No
	(1) MH1042	1. W-Out	6	Vitrified Clay	No		Good		0	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH1046	(1) MH1047	1. S-Out	6	Vitrified Clay	No		Good		1	No
	(1) MH1041	3. N-In	6	Vitrified Clay	No		Good		1	No
	(1) PLUGGED	2. SW-In	4	Vitrified Clay	No		Good		0	No
(1) MH1047	(1) MH1048	4. E-In	6	Vitrified Clay	No		Good		0.5	No
	(1) MH1046	3. N-In	6	Vitrified Clay	No		Good		1	Yes
	(1) MH1122	2. NW-In	6	Vitrified Clay	No		Good		0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1047	(1) MH1052	1. S-Out	6	Vitrified Clay	No	Good		2.5	No
(1) MH1048	(1) MH1049	2. E-In	6	Vitrified Clay	No	Circular Cr		0.5	No
	(1) MH1047	1. W-Out	6	Vitrified Clay	No	Circular Cr		0.5	No
(1) MH1049	(1) MH1048	1. W-Out	6	Vitrified Clay	No	Good		0.13	No
	(1) SERVICE	2. NE-In	6	Vitrified Clay	No	5.5	Good	0.1	No
(1) MH1050	(1) SERVICE	2. E-In	6	Vitrified Clay	Yes	0.5	Circular Cr	0	No
	(1) MH1051	1. S-Out	6	Vitrified Clay	No	Good		0	No
(1) MH1051	(1) MH1108	1. S-Out	6	Vitrified Clay	No	Good		0.25	No
	(1) MH1050	2. N-In	6	Vitrified Clay	Yes	Circular Cr		0.5	No
(1) MH1052	(1) MH1095	1. S-Out	6	Concrete	No	Good		1.25	No
	(1) MH1047	2. N-In	6	Vitrified Clay	No	Good		1.25	No
	(1) SERVICE	3. E-In	4	PVC	No	Good		0	No
(1) MH1053	(1) MH1054	2. W-In	6	Vitrified Clay	Yes	Circular Cr		1.5	No
	(1) MH1122	1. E-Out	6	Vitrified Clay	No	Good		1.5	No
(1) MH1054	(1) MH1055	2. W-In	6	Vitrified Clay	No	Good		0.1	No
	(1) MH1053	1. E-Out	6	Vitrified Clay	No	Good		0.1	No
(1) MH1055	(1) MH1054	1. E-Out	6	Vitrified Clay	No	Good		0	No
(1) MH1056	(1) MH1057	1. W-Out	6	Vitrified Clay	No	Good		0	No
(1) MH1057	(1) MH1056	3. E-In	6	Vitrified Clay	No	Good		0.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1057	(1) MH1058	2. N-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH1084	1. S-Out	6	Vitrified Clay	No		Good		0.5	No
(1) MH1058	(1) MH1059	2. N-In	6	Vitrified Clay	No		Good		0.2	No
	(1) MH1057	1. S-Out	6	Vitrified Clay	No		Good		0.2	No
(1) MH1059	(1) MH060	2. N-In	6	Vitrified Clay	No	4	Circular Cr		4	No
	(1) UNKNOWN	3. E-In	1	PVC	No		Good		0	No
	(1) FORCE MAIN	4. SE-In	1	PVC	No		Good		0	No
	(1) MH1058	1. S-Out	6	Vitrified Clay	No		Good		4	No
(1) MH1060	(1) MH1059	1. S-Out	6	Vitrified Clay	Yes		Circular Cr		0	No
	(1) SERVICE	2. E-In	4	PVC	No		Circular Cr		0	No
(1) MH1062	(1) MH0979	2. N-In	6	Concrete	No		Good		1	No
	(1) MH1063	1. E-Out	6	Concrete	Yes		Circular Cr		1	No
(1) MH1063	(1) MH1064	1. E-Out	6	Concrete	No		Circular Cr		1	No
	(1) MH1062	2. W-In	6	Concrete	No		Good		1	No
(1) MH1064	(1) MH1065	1. S-Out	8	Concrete	No		Good		0.75	No
	(1) MH1063	2. W-In	6	Concrete	No		Good		0.5	No
	(1) MH0983	3. N-In	6	Concrete	No		Good		0.5	No
(1) MH1065	(1) MH1064	2. N-In	8	Concrete	No		Good		0.75	No
	(1) MH1066	1. S-Out	8	Concrete	No		Good		0.75	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1066	(1) MH1067	1. S-Out	8 Concrete	No		Good		0.75	No
	(1) MH1065	3. N-In	8 Concrete	No		Good		0.75	No
	(1) PLUGGED	2. W-In	4 N/A	No		No Visual		0	No
(1) MH1072	(1) MH1067	1. W-Out	6 Concrete	Yes		No Visual		1.5	No
	(1) MH1143	3. E-In	6 Concrete	No		Circular Cr	0	0.25	No
	(1) SERVICE	2. N-In	6 Concrete	No		Good		0	No
(1) MH1073	(1) SERVICE	2. NE-In	4 PVC	No		Future		0.25	No
	(1) MH1074	1. S-Out	6 Vitrified Clay	No		Good		0.25	No
(1) MH1074	(1) MH1073	2. N-In	6 Vitrified Clay	Yes		Circular Cr		0.5	No
	(1) MH1075	1. W-Out	6 Vitrified Clay	No		Good		0.5	No
(1) MH1080	(1) MH1081	2. N-In	6 Vitrified Clay	No		No Visual		2	No
	(1) MH1100	3. NE-In	12 Concrete	No		Good		6	No
	(1) MH1078	1. W-Out	12 Vitrified Clay	Yes		Circular Cr	1	6	No
(1) MH1081	(1) MH1080	1. S-Out	6 Vitrified Clay	No		Good		2	No
	(1) MH1082	2. E-In	6 Vitrified Clay	No		Good		1	No
(1) MH1082	(1) MH1083	2. N-In	6 Vitrified Clay	Yes		Circular Cr		1	No
	(1) MH1081	1. W-Out	6 Vitrified Clay	Yes		Circular Cr		2	No
(1) MH1083	(1) MH1091	3. SE-In	6 Vitrified Clay	No		Good		0.5	No
	(1) MH1084	2. N-In	6 Vitrified Clay	No		Good		0.75	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1083	(1) MH1082	1. S-Out	6	Vitrified Clay	No		Good		1	No
(1) MH1084	(1) MH1057	3. N-In	6	Concrete	Yes		Circular Cr		0.5	No
	(1) SERVICE	2. W-In	4	Vitrified Clay	No		Good		0	No
	(1) MH1083	1. S-Out	6	Concrete	Yes	5	Circular Cr		0.5	No
(1) MH1085	(1) MH1087	1. S-Out	8	Vitrified Clay	No		Good		1.5	No
	(1) MH1142	2. N-In	8	Vitrified Clay	No		Good		2	No
(1) MH1086	(1) MH1087	3. NW-In	8	Vitrified Clay	No		Good		1.5	No
	(1) SERVICE	2. W-In	6	PVC	No		Good		0.11	No
	(1) MH1075	1. E-Out	8	Vitrified Clay	No		Good		1.5	No
(1) MH1087	(1) MH1085	3. N-In	8	Vitrified Clay	No		Good		1.5	No
	(1) MH1088	2. W-In	6	PVC	No		Good		0	No
	(1) MH1086	1. S-Out	8	Vitrified Clay	No		Good		1.5	No
(1) MH1088	(1) MH1087	1. E-Out	6	PVC	No		Good		0	No
	(1) MH1089	2. N-In	6	PVC	No		Good		0	No
(1) MH1089	(1) MH1088	1. S-Out	6	PVC	No		Good		0.13	No
	(1) MH1125	2. W-In	4	PVC	No		Good		0	No
	(1) MH1090	3. N-In	6	PVC	No		Good		0.13	No
(1) MH1090	(1) MH1089	1. S-Out	6	PVC	No		Good		0	No
	(1) MH1124	1. W-In	4	PVC	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1091	(1) MH1093	3. E-In	6	Vitrified Clay	No		Good			No
	(1) MH1083	1. SW-O	6	Vitrified Clay	No		Good			No
	(1) MH1092	2. N-In	6	Vitrified Clay	No		Good			No
(1) MH1092	(1) SERVICE	3. E-In	4	PVC	No		Good			No
	(1) MH1091	1. S-Out	6	Vitrified Clay	No		Good			No
	(1) SERVICE	4. SE-In	4	PVC	No		Good			No
	(1) SERVICE	2. NE-In	4	PVC	No		Good			No
(1) MH1093	(1) SERVICE	5. S-In	4	PVC	No		Good	0		Yes
	(1) MH1094	4. E-In	6	Vitrified Clay	No		Good	0		No
	(1) SERVICE	3. NW-In	4	PVC	No		Good	0		No
	(1) MH1091	1. SW-O	6	Vitrified Clay	No		Good	0		No
	(1) SERVICE	2. NW-In	4	PVC	No		Good	0		No
(1) MH1095	(1) MH1052	3. N-In	6	Concrete	No		Good	2.75		No
	(1) SERVICE	2. NW-In	6	Concrete	No		Good	0.25		No
	(1) MH1096	1. S-Out	6	Concrete	No		Good	3		No
(1) MH1096	(1) MH1095	2. N-In	6	Concrete	Yes		Circular Cr	3		No
	(1) MH1105	3. NE-In	12	Concrete	No		Good	1		No
	(1) MH1097	1. SW-O	12	Concrete	No		Good	4		No
(1) MH1097	(1) MH1098	1. W-Out	12	Concrete	No		Good	3		No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1097	(1) MH1096	2. NE-In	12 Concrete	No		Good		3	No
(1) MH1098	(1) MH1099	1. SW-O	12 Concrete	No		Good		4	No
	(1) MH1097	2. E-In	12 Concrete	No		Good		4	No
(1) MH1099	(1) MH1098	2. NE-In	12 Concrete	No		Good		4	No
	(1) MH1100	1. SW-O	12 Concrete	No		Good		4	No
(1) MH1100	(1) MH1080	1. SW-O	12 Concrete	No		Good		3	No
	(1) MH1099	2. NE-In	12 Concrete	No		Good		3	No
(1) MH1103	(1) MH1104	1. S-Out	6 Vitrified Clay	Yes	0.25	Circular Cr		0	No
	(1) UNKNOWN	2. NW-In	1 PVC	No		Good		0	No
	(1) UNKNOWN	3. N-In	2 PVC	No		Good		0	No
(1) MH1104	(1) MH1107	1. S-Out	6 Vitrified Clay	No		Good		1	No
	(1) MH1103	2. N-In	6 Vitrified Clay	Yes		Circular Cr		0.5	No
(1) MH1105	(1) MH1106	2. E-In	8 Vitrified Clay	No		Good			No
	(1) MH 1096	1. W-Out	8 Vitrified Clay	No		Good			No
(1) MH1106	(1) MH1107	3. NE-In	12 Vitrified Clay	No		Good		1.5	No
	(1) MH1108	2. N-In	6 Vitrified Clay	No		Good		0.5	No
	(1) MH1105	1. SW-O	12 Vitrified Clay	No	0.13	Good		1	No
(1) MH1107	(1) MH1106	1. SW-O	12 Vitrified Clay	No		Good		1	No
	(1) MH1104	2. N-In	6 Vitrified Clay	Yes		Circular Cr		0.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1108	(1) MH1106	1. S-Out	6	Vitrified Clay	No		Good		0.5	No
	(1) MH1051	2. N-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1109	(1) MH1110	1. E-Out	8	Vitrified Clay	No		Good		0	No
(1) MH1110	(1) MH1112	1. N-Out	8	Vitrified Clay	No		Good		0.5	No
	(1) MH1111	2. E-In	8	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH0593	3. S-In	8	Vitrified Clay	No		Good		0.25	Yes
	(1) MH1109	4. W-In	8	Vitrified Clay	No		Good		1	No
(1) MH1112	(1) MH1113	1. SW-O	8	N/A	No		No Visual		7	No
	(1) MH1110	3. S-In	6	Vitrified Clay	No		Future		0.25	No
	(1) MH1114	2. E-In	6	N/A	No		No Visual		6	No
(1) MH1113	(1) MH1112	2. NE-In	8	Vitrified Clay	No		Circular Cr		3	No
	(1) MH1121	1. W-Out	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH1114	(1) MH1112	1. W-Out	6	N/A	No		No Visual		8	No
	(1) MH1133	2. E-In	8	Vitrified Clay	No		No Visual		2	No
	(1) MH1115	3. S-In	8	Vitrified Clay	No		No Visual		4	No
(1) MH1115	(1) MH1131	3. S-In	6	Vitrified Clay	No		Future		1	No
	(1) MH1116	2. E-In	8	Vitrified Clay	No		Good		4	No
	(1) MH1114	1. N-Out	8	Vitrified Clay	No		Circular Cr		3	No
(1) MH1116	(1) MH0090	2. S-In	8	PVC	No		Good		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH1116	(1) MH1115	1. W-Out	8 PVC	No		No Visual	2	No
(1) MH1117	(1) MH1118	2. NE-In	10 Vitrifified Clay	No		Future	5	No
	(1) MH0005	1. SW-O	10 Vitrifified Clay	No		Circular Cr	5	No
(1) MH1118	(1) MH1117	1. SW-O	10 Vitrifified Clay	No		No Visual	6	No
	(1) MH1119	2. NE-In	10 Vitrifified Clay	No		No Visual	6	No
(1) MH1119	(1) MH1118	1. SW-O	10 Vitrifified Clay	No		Circular Cr	9	No
	(1) MH1120	2. NE-In	10 Vitrifified Clay	No		No Visual	7	No
(1) MH1120	(1) MH0087	3. S-In	6 Vitrifified Clay	No		Good	0.13	No
	(1) MH1119	1. SW-O	8 Vitrifified Clay	No		Circular Cr	4	No
	(1) MH1121	2. NE-In	8 Vitrifified Clay	No		Good	4	No
(1) MH1121	(1) MH1113	2. E-In	8 Vitrifified Clay	No		Good	3	No
	(1) MH1120	1. SW-O	8 N/A	No		No Visual	3	No
(1) MH1122	(1) MH1047	1. E-Out	6 Vitrifified Clay	No		Good	2	No
	(1) MH1053	2. W-In	6 Vitrifified Clay	No		Good	2	No
(1) MH1123	(1) MH1029	2. N-In	6 Vitrifified Clay	No		Good	0.25	No
	(1) MH1030	1. S-Out	8 N/A	No		Good	0.25	No
(1) MH1130	(1) UNKNOWN	2. N-In	6 Vitrifified Clay	No		Good	0	No
	(1) MH1032	3. E-In	8 N/A	No		Good	1	No
	(1) MH1034	1. S-Out	6 Vitrifified Clay	No		Good	3	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1132	(1) MH0517	2. SE-In	6	Vitrified Clay	No		Good		0	No
	(1) MH0516	3. S-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH1160	1. N-Out	6	Vitrified Clay	No		Circular Cr		0.25	No
(1) MH1133	(1) MH1134	2. SE-In	8	N/A	No		No Visual		1.5	No
	(1) MH1114	1. W-Out	8	N/A	No		No Visual		1.5	No
(1) MH1134	(1) MH1145	2. E-In	8	PVC	No		Good		1.5	No
	(1) MH1133	1. NW-O	8	PVC	No		Good		1.5	No
(1) MH1135	(1) MH0999	1. SW-O	6	PVC	No		Good		0.25	No
	(1) MH1136	2. NE-In	6	PVC	No		Good		0.25	No
(1) MH1136	(1) UNKNOWN	2. W-In	2	PVC	Yes		No Visual		0	No
	(1) MH1140	3. NE-In	6	PVC	No		Good		2	No
	(1) MH1135	1. SW-O	6	PVC	No		Good		2	No
	(1) UNKNOWN	4. E-In	2	PVC	No		Good		0	No
(1) MH1138	(1) PLUGGED	2. SE-In	8	PVC	No		Good		0	No
	(1) MH1137	1. W-Out	8	PVC	No		Good		0	No
(1) MH1140	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
	(1) MH1136	1. SW-O	6	PVC	No		Good		0	No
	(1) UNKNOWN	3. NE-In	2	PVC	No		Good		0	No
(1) MH1141	(1) MH1034	2. N-In	8	Vitrified Clay	No		Good		1	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1141	(1) MH1142	1. S-Out	8	Vitrified Clay	No		Good		1	No
(1) MH1142	(1) MH1141	2. NE-In	8	Vitrified Clay	No		Good		1.5	No
	(1) MH1085	1. S-Out	8	Vitrified Clay	No		Good		1.5	No
(1) MH1144	(1) SERVICE	2. W-In	4	PVC	No		Good		0	No
	(1) SERVICE	5. E-In	4	PVC	No		Good		0	No
	(1) SERVICE	3. N-In	4	PVC	No		Good		0	No
	(1) MH1069	1. S-Out	6	PVC	No		Good		0	No
	(1) SERVICE	4. NE-In	4	PVC	No		Good		0	No
(1) MH1145	(1) MH1146	2. SE-In	8	PVC	No		Good		1.5	No
	(1) MH1134	1. W-Out	8	PVC	No		Good		1.5	No
(1) MH1146	(1) MH1145	1. W-Out	8	PVC	No		No Visual		1.5	No
	(1) MH1147	2. SE-In	8	PVC	No		Good		1.5	No
(1) MH1147	(1) MH1146	1. NW-O	8	PVC	No		Good		1.5	No
	(1) MH1148	2. SE-In	8	PVC	No		Good		1.5	No
(1) MH1148	(1) MH1149	2. NE-In	8	PVC	No		Good		2	No
	(1) MH1147	1. NW-O	8	PVC	No		Good		2	No
(1) MH1149	(1) MH1148	1. SW-In	8	PVC	No		Good		2	No
	(1) MH1150	2. E-In	8	PVC	No		Good		2	No
(1) MH1150	(1) MH1149	1. W-Out	8	PVC	No		Good		1.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1150	(1) MH1151	2. E-In	8	PVC	No		Good		1.5	No
	(1) MH1160	3. S-In	6	PVC	No		Good		1	No
(1) MH1151	(1) MH1152	3. E-In	8	PVC	No		Good		1.5	No
	(1) SERVICE	2. N-In	6	PVC	No		Good		1	No
	(1) MH1150	1. W-Out	8	PVC	No		Good		1.5	No
(1) MH1152	(1) MH1151	1. W-Out	8	PVC	No		Good		1.5	No
	(1) MH1153	2. E-In	8	PVC	No		Good		1.5	No
(1) MH1153	(1) MH1152	1. W-Out	8	PVC	No		Good		0.25	No
	(1) MH1154	2. E-In	8	PVC	No		Good		0.25	No
(1) MH1154	(1) MH1153	1. W-Out	8	PVC	No		Good		0.25	No
	(1) MH1155	2. E-In	8	PVC	No		Good		0.25	No
(1) MH1155	(1) MH1156	2. E-In	8	PVC	No		Good		2	No
	(1) MH1154	1. W-Out	8	PVC	No		Good		2	No
(1) MH1156	(1) MH1155	1. W-Out	8	PVC	No		Good		0	No
	(1) MH1157	2. S-In	8	PVC	No		Circular Cr		0	No
(1) MH1157	(1) MH1158	2. E-In	8	PVC	No		Good		0	No
	(1) MH1156	1. N-Out	8	PVC	No		Good		0	No
(1) MH1158	(1) MH1157	1. W-Out	8	PVC	No		Good		0	No
	(1) MH1159	2. S-In	8	PVC	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1160	(1) MH1161	2. E-In	6	Vitrified Clay	No		Good		0.25	No
	(1) MH1150	1. N-Out	6	PVC	No		Good		0.25	No
	(1) SERVICE	5. SW-In	4	Vitrified Clay	No		Good		0	No
	(1) MH1132	4. S-In	6	PVC	No		Good		0	No
	(1) PLUGGED	3. SE-In	4	N/A	No		No Visual		0	No
(1) MH1161	(1) MH1162	2. E-In	6	Vitrified Clay	No		Good		1	No
	(1) MH1160	1. W-Out	6	Vitrified Clay	No		Good		1	No
(1) MH1164	(1) SERVICE	2. SW-In	6	PVC	No		Good		0	No
	(1) MH1163	1. N-Out	8	Vitrified Clay	No		No Visual		1	No
(1) MH1165	(1) MH0005	2. S-In	8	Concrete	No		Good		2	No
	(1) MH1070	1. NW-O	8	Concrete	No		No Visual		2	No
(1) MH1228	(1) SERVICE	3. W-In	4	Concrete	No	0	Good	0	0	No
	(1) MH1229	1. E-Out	6	Concrete	No	0	Good	0	0	No
	(1) SERVICE	2. W-In	4	Concrete	No	0	Good	0	0	No
(1) MH1232	(1) SERVICE	3. N-In	6	Concrete	Yes	0	Circular Cr	0	0	No
	(1) MH1233	1. SE-O	6	Concrete	No	0	Good	0	2	No
	(1) MH1231	2. NW-In	6	N/A	No	0	No Visual	0	0	No
(1) MH1233	(1) MH1236	2. SW-In	6	Concrete	No	0	Good	0	1	No
	(1) FORCE MAIN	5. E-In	2	PVC	No	0	Good	0	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1233	(1) SERVICE	3. W-In	6 Concrete	No	0	Circular Cr	0	2	No
	(1) MH1237	1. E-Out	6 Concrete	No	0	Circular Cr	0	2	No
	(1) MH1232	4. NW-In	6 Concrete	No	0	Good	0	0.25	No
(1) MH1234	(1) UNKNOWN	2. S-In	2 PVC	No	0	Good	0	0	No
	(1) PLUGGED	3. W-In	6 N/A	No	0	Good	0	2	No
	(1) MH1235	1. E-Out	6 Concrete	No	0	Circular Cr	0	3	No
	(1) UNKNOWN	4. N-In	2 PVC	No	0	Good	0	0	No
(1) MH1235	(1) MH1234	2. W-In	6 Concrete	No	0	Good	0	0	No
	(1) MH1236	1. E-Out	6 Concrete	No	0	Circular Cr	0	0.13	No
(1) MH1236	(1) MH1233	1. NE-O	6 Concrete	No	0	Good	0	1	No
	(1) MH1235	2. W-In	6 Concrete	No	0	Good	0	1	No
(1) MH1238	(1) MH1237	2. N-In	8 Concrete	No	0	Good	0	1.25	No
	(1) MH1239	1. S-Out	8 Concrete	No	0.25	Good	0	1	No
(1) MH1239	(1) MH1243	1. S-Out	8 Concrete	No	0	Good	0	1	No
	(1) MH1242	2. W-In	8 Concrete	No	0	Good	0	1	No
(1) MH1240	(1) SERVICE	4. NW-In	4 Concrete	No	0	Future	0	0	No
	(1) SERVICE	2. SW-In	4 Concrete	No	0	Good	0	0	No
	(1) MH1241	1. E-Out	8 Concrete	No	0	Good	0	0	No
	(1) PLUGGED	3. W-In	8 N/A	No	0	No Visual	0	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1241	(1) MH1242	1. E-Out	8 Concrete	No	0	Good	0	0.13	No
	(1) MH1240	2. W-In	8 Concrete	No	0	Circular Cr	0	0.25	No
(1) MH1242	(1) MH1239	1. E-Out	8 Concrete	No	0	Good	0	0.25	No
	(1) MH1241	2. W-In	8 Concrete	No	0	Good	0	0.25	No
(1) MH1243	(1) MH1239	2. N-In	8 Concrete	No	0	Good	0	0.13	No
	(1) MH1244	1. S-Out	8 Cured In Pla	No	0	Good	0	0.25	No
(1) MH1244	(1) MH1243	4. N-In	8 Vitrified Clay	No		Good		3	No
	(1) MH1322	5. E-In	6 Vitrified Clay	No		Good		3	No
	(1) SERVICE	3. NW-In	4 PVC	No		Good		0	No
	(1) FORCE MAIN	2. NW-In	4 PVC	No		Good		0	No
	(1) MH1245	1. S-Out	8 Vitrified Clay	No		Good		3	No
(1) MH1245	(1) MH1244	2. N-In	8 Vitrified Clay	No		Future		2	No
	(1) MH1246	1. S-Out	8 Vitrified Clay	No		Good		2	No
(1) MH1246	(1) MH1246A	1. S-Out	8 Vitrified Clay	No		Circular Cr		1.5	No
	(1) MH1245	2. N-In	8 Vitrified Clay	No		Future		1.75	No
(1) MH1246	(1) MH1246	3. N-In	8 PVC	No		Good		2	No
	(1) SERVICE	2. NW-In	4 PVC	No		Good		0.25	No
	(1) MH1247	1. S-Out	8 Vitrified Clay	No		Good		2	No
(1) MH1247	(1) SERVICE	2. W-In	4 PVC	No		Good		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1247	(1) MH1319	1. SE-O	8 Cured In Pla	No		Good		2	No
	(1) MH1246A	3. N-In	8 Vitrified Clay	No		Future		0.5	No
(1) MH1248	(1) SERVICE	3. N-In	6 Vitrified Clay	No		Circular Cr		0.13	No
	(1) PLUGGED	2. N-In	4 Vitrified Clay	Yes		No Visual		0	No
	(1) MH1249	1. SE-O	6 Vitrified Clay	No		Good		0.13	No
(1) MH1249	(1) MH1250	1. S-Out	6 Vitrified Clay	No		Good		0.13	No
	(1) MH1248	2. NW-In	6 Vitrified Clay	No		Good		0.13	No
(1) MH1250	(1) MH1251	1. W-Out	6 Vitrified Clay	No		Good		0.13	No
	(1) MH1249	2. N-In	6 Vitrified Clay	No		Good		0.13	No
(1) MH1252	(1) MH1253	1. SW-O	6 N/A	No		No Visual		6	No
	(1) MH1459	2. W-In	6 Vitrified Clay	No		No Visual		5	No
	(1) MH1251	3. N-In	6 PVC	No		Good		0.13	Yes
(1) MH1254	(1) MH1253	2. NE-In	8 Concrete	No		Good		1.5	No
	(1) PS5	1. SW-O	8 Concrete	No		Good		2	No
(1) MH1255	(1) MH1256	2. NE-In	8 Vitrified Clay	No		Good		0.25	No
	(1) SERVICE	3. W-In	4 PVC	No		Good		0	No
	(1) MH1253	1. W-Out	8 Concrete	No		Good		0.25	No
(1) MH1256	(1) MH1255	1. SW-O	6 Concrete	No	0	Good	0	0.5	No
	(1) MH1257	3. SE-In	8 Vitrified Clay	No	0	Good	0	1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>		
(1) MH1256	(1) SERVICE	2. NW-In	4	Vitrified Clay	No	0	Future	0	0	No
(1) MH1257	(1) MH1258	2. SE-In	8	Cast Iron	No	0	Good	0	1	No
	(1) MH1256	1. NW-O	8	Cast Iron	No	0	Good	0	2	No
(1) MH1258	(1) MH1257	1. W-Out	8	Vitrified Clay	No		Good		1.5	No
	(1) MH1259	2. SE-In	8	Vitrified Clay	No		Good		1	No
(1) MH1260	(1) MH1259	1. NW-O	8	Vitrified Clay	No		Good		1	No
	(1) MH1261	2. SE-In	8	Vitrified Clay	No		Good		0.75	No
(1) MH1262	(1) MH1261	1. NW-O	8	Vitrified Clay	No		Good		0.5	No
	(1) MH1263	3. SE-In	8	Vitrified Clay	No		Circular Cr		0.25	No
	(1) SERVICE	2. N-In	4	Vitrified Clay	No		Good		0	No
(1) MH1263	(1) MH1264	4. SE-In	6	Vitrified Clay	No		Good		1	No
	(1) FORCE MAIN	3. NE-In	2	PVC	No		Good		0.13	No
	(1) SERVICE	2. N-In	6	Vitrified Clay	No	0.25	No Visual		0	No
	(1) MH1262	1. NW-O	8	Vitrified Clay	No		Good		0.75	No
(1) MH1264	(1) MH1265A	2. E-In	6	Vitrified Clay	No		Circular Cr		0.13	No
	(1) MH1264A	1. NW-O	6	Vitrified Clay	No		Good		0.13	No
(1) MH1264	(1) SERVICE	3. SE-In	6	PVC	No		Good		0	No
	(1) MH1264	2. E-In	6	Vitrified Clay	No		Good		1.5	No
	(1) MH1263	1. NW-O	6	Vitrified Clay	No		Good		1	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1265	(1) MH1266	2. E-In	6	Vitrified Clay	No		Good		0.13	No
	(1) MH1265A	1. W-Out	6	Vitrified Clay	No		Good		0.25	No
(1) MH1265	(1) SERVICE	3. S-In	4	Vitrified Clay	No		Good		0	No
	(1) MH1264	2. E-In	6	Vitrified Clay	Yes		Circular Cr		0.13	No
	(1) MH1265	1. W-Out	6	Vitrified Clay	No		Circular Cr		0.13	No
(1) MH1266	(1) MH1489	5. S-In	6	Vitrified Clay	Yes		Circular Cr		0.13	No
	(1) SERVICE	4. NE-In	4	PVC	No		Future		0	No
	(1) MH1267	3. N-In	6	Vitrified Clay	No		Circular Cr		0.5	No
	(1) SERVICE	2. W-In	4	PVC	No		Good		0	No
	(1) MH1265	1. W-Out	6	Vitrified Clay	No		Good		0.25	No
(1) MH1267	(1) SERVICE	4. NE-In	4	PVC	No		Good		0	No
	(1) MH1266	1. S-Out	6	Vitrified Clay	No		Circular Cr		0.25	No
	(1) MH1268	3. N-In	6	Vitrified Clay	No		Good		0.25	No
	(1) SERVICE	2. SW-In	4	PVC	No		Good		0	No
(1) MH1268	(1) MH1267	1. S-Out	6	Vitrified Clay	No		Good		0.13	No
	(1) SERVICE	2. W-In	4	PVC	No		Good		0	No
	(1) SERVICE	3. NW-In	4	PVC	No		No Visual		0	No
	(1) MH1269	4. E-In	6	Vitrified Clay	No		Good		0.13	No
	(1) SERVICE	5. SE-In	4	PVC	No		Good		0	No

		<i>Observed</i>							
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>DepositionDepth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1269	(1) MH1270	3. S-In	6	Vitrified Clay	No		Good	0.25	No
	(1) SERVICE	2. E-In	4	PVC	No		Good	0	No
	(1) MH1268	1. W-Out	6	Vitrified Clay	No		Good	0.25	No
(1) MH1270	(1) MH1269	1. N-Out	6	Vitrified Clay	No		Circular Cr	0.13	No
	(1) SERVICE	2. SW-In	4	PVC	No		Good	0.13	No
(1) MH1271	(1) SERVICE	3. NE-In	4	PVC	No		Good	0	No
	(1) MH1272	1. SE-O	6	Vitrified Clay	No		Good	0	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good	0	No
(1) MH1272	(1) SERVICE	3. SE-In	4	PVC	No		Good	0	No
	(1) MH1271	2. NW-In	6	Vitrified Clay	No		Good	0.13	No
	(1) MH1273	1. SW-O	6	Vitrified Clay	No		Good	0.13	No
(1) MH1273	(1) MH1272	2. NE-In	6	PVC	No		Good	0.25	No
	(1) MH1274	1. SE-O	6	PVC	No		Good	0.25	No
(1) MH1274	(1) MH1273	3. NW-In	6	Vitrified Clay	No		Good	1	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good	0	No
	(1) MH1275	1. S-Out	6	Vitrified Clay	No		Good	1	No
(1) MH1276	(1) MH1275	2. W-In	6	Vitrified Clay	No		Good	3.42	Yes
	(1) MH1287	1. S-Out	8	Vitrified Clay	No		Good	2	No
	(1) MH0966	3. E-In	8	Vitrified Clay	No		Good	1.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Material</i>	<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		
		<i>(in)</i>	<i>(in)</i>						<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1277	(1) SERVICE	5. NE-In	4	PVC	No			Good		0	No
	(1) SERVICE	4. N-In	4	PVC	No			Good		0	No
	(1) SERVICE	6. SE-In	4	PVC	No			Good		0	No
	(1) SERVICE	3. NW-In	4	PVC	No			Good		0	No
	(1) SERVICE	2. SW-In	4	PVC	No			No Visual		0	No
	(1) MH1278	1. S-Out	6	Concrete	No			Good		0	No
(1) MH1278	(1) MH1279	1. S-Out	6	Concrete	No			Good		0.5	No
	(1) SERVICE	3. NE-In	4	PVC	No			Good		0	No
	(1) MH1277	2. N-In	6	Concrete	No			Good		0.25	No
(1) MH1279	(1) MH1280	1. S-Out	6	Concrete	No			Good		0.5	No
	(1) SERVICE	3. E-In	4	PVC	No	2		Good		0	No
	(1) MH1278	2. N-In	6	Concrete	No			Good		0.5	No
(1) MH1280	(1) SERVICE	2. SW-In	4	PVC	No			Good		0	No
	(1) MH0961	1. E-Out	6	Concrete	No			Good		1.5	No
	(1) MH1279	3. N-In	6	Concrete	No			Good		1.5	No
(1) MH1281	(1) MH1499	2. N-In	6	Vitrified Clay	No			Good		0.25	No
	(1) MH1282	1. S-Out	6	Vitrified Clay	No			Good		0.25	No
(1) MH1282	(1) PLUGGED	3. N-In	6	Vitrified Clay	No			Good		0	No
	(1) SERVICE	4. NE-In	4	Vitrified Clay	Yes			Circular Cr		0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1282	(1) MH1283	1. S-Out	6	Vitrified Clay	No	Good		0.5	No
	(1) MH1281	2. N-In	6	Concrete	No	Good		0.13	No
(1) MH1283	(1) MH1500	2. W-In	6	PVC	No	Good		0.25	No
	(1) MHH1284	1. S-Out	6	Vitrified Clay	No	Good		0.25	No
	(1) MH1282	3. N-In	6	Vitrified Clay	No	Good		0.25	No
(1) MH1284	(1) MH1283	4. N-In	6	Vitrified Clay	No	2	Good	1.5	No
	(1) SERVICE	3. W-In	4	Vitrified Clay	No	1	Circular Cr	0	No
	(1) SERVICE	2. SE-In	6	PVC	No	Good		0	No
	(1) MH1285	1. E-Out	6	Vitrified Clay	No	Good		1.5	No
(1) MH1285	(1) MH1503	6. NE-In	4	Vitrified Clay	No	Good		0	No
	(1) SERVICE	4. N-In	6	Vitrified Clay	No	Good		0	No
	(1) SERVICE	3. NW-In	4	Vitrified Clay	No	Good		0.1	No
	(1) MH1284	2. W-In	6	Vitrified Clay	No	Good		1	No
	(1) MH1286	1. S-Out	6	Vitrified Clay	No	Circular Cr		2	No
	(1) SERVICE	5. NE-In	4	Vitrified Clay	No	Circular Cr		0.25	No
(1) MH1286	(1) MH1285	3. N-In	6	Vitrified Clay	No	Future		2	No
	(1) MH1550	1. S-Out	6	Vitrified Clay	No	Good		2	No
	(1) SERVICE	2. NW-In	4	PVC	No	Good		0	No
(1) MH1287	(1) MH1276	3. N-In	8	Vitrified Clay	No	Good		1.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1287	(1) SERVICE	2. NW-In	8	PVC	No		Good		0.5	No
	(1) MH1502	1. S-Out	8	Vitrified Clay	No		Good		1.25	No
(1) MH1288	(1) MH1289	1. S-Out	8	Vitrified Clay	No		Good		1.25	No
	(1) MH1502	2. N-In	8	Vitrified Clay	Yes		Circular Cr		1.25	No
	(1) SERVICE	3. E-In	4	PVC	No		Good		0	No
(1) MH1289	(1) MH1358	1. S-Out	6	Concrete	No		Good		3.5	No
	(1) MH1288	3. N-In	6	Cast Iron	No		Good		1.5	No
	(1) MH0972	4. E-In	6	Concrete	No		Good		0.1	No
	(1) MH1290	2. W-In	6	Concrete	No		Good		2	No
(1) MH1290	(1) SERVICE	2. SW-In	4	Concrete	Yes		Circular Cr		0	No
	(1) MH1289	1. E-Out	6	Concrete	No		Good		0	No
(1) MH1291	(1) MH1550	3. N-In	6	PVC	No		Future		3	No
	(1) MH1292	2. W-In	6	PVC	No		Good		1.5	No
	(1) MH1294	1. S-Out	6	PVC	No		Good		3	No
(1) MH1292	(1) PLUGGED	3. W-In	6	PVC	No		Good		0	No
	(1) MH1293	2. W-In	6	PVC	No		Good		0	No
	(1) MH1291	1. E-Out	6	PVC	No		Good		0	No
(1) MH1294	(1) PLUGGED	3. N-In	8	Vitrified Clay	No		Good		0	No
	(1) MH1291	2. N-In	8	Vitrified Clay	No		Circular Cr		2	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1294	(1) MH1296	1. SW-O	8	Concrete	No		Future		3	No
	(1) SERVICE	4. NE-In	4	Vitrified Clay	No		Future		0	No
(1) MH1295	(1) PLUGGED	3. SW-In	6	Vitrified Clay	Yes		Good		0	No
	(1) SERVICE	2. SW-In	6	Vitrified Clay	No		Future		0	No
	(1) PLUGGED	7. N-In	6	Vitrified Clay	No		Good		0	No
	(1) SERVICE	6. N-In	6	Vitrified Clay	No		Good		0	No
	(1)	1. SE-O	8	Vitrified Clay	No		Good		0	No
	(1) SERVICE	4. NW-In	6	Vitrified Clay	No		Future		0	No
	(1) PLUGGED	5. NW-In	6	Vitrified Clay	No		Good		0	No
(1) MH1296	(1) MH1294	2. NE-In	6	Vitrified Clay	No		Good		1.25	No
	(1) MH1297	1. E-Out	8	Concrete	No		Good		1.25	No
(1) MH1297	(1) MH1362	1. SW-O	8	PVC	No		Good		3.5	No
	(1) MH1296	2. W-In	8	Vitrified Clay	No		Circular Cr		1.25	No
	(1) MH1361	3. NE-In	8	PVC	No		Good		2.25	No
(1) MH1299	(1) MH1473	4. SE-In	10	Vitrified Clay	No	0	Good	0	2	No
	(1) MH1300	1. S-Out	8	Concrete	No	0	Circular Cr	0	2	No
	(1) FORCE MAIN	2. NW-In	12	Vitrified Clay	No	0	Good	0	0.13	No
	(1) SERVICE	3. E-In	4	PVC	No	0	Good	0	0.13	No
(1) MH1300	(1) MH1301	1. SE-O	8	Vitrified Clay	No	0	Good	0	0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1300	(1) MH1465	2. W-In	6 Concrete	No	0	Circular Cr	0	0.25	No
	(1) MH1299	3. N-In	8 Vitrified Clay	No	0	Circular Cr	0	1	No
(1) MH1302	(1) MH1301	2. NW-In	8 Vitrified Clay	No	0	Circular Cr	0	3	No
	(1) MH1303	1. SE-O	8 Vitrified Clay	No	0	Good	0	3	No
(1) MH1303	(1) MH1304	1. SE-O	8 Vitrified Clay	No	0	Good	0	4	No
	(1) MH1470	2. W-In	6 Vitrified Clay	No	0	Good	0	2	No
	(1) MH1302	3. NW-In	8 Vitrified Clay	No	0	Good	0	4.5	No
(1) MH1304	(1) MH1303	2. NW-In	10 Vitrified Clay	No	0	Good	0	3	No
	(1) MH1305	1. S-Out	10 Vitrified Clay	No	0	Future	0	3	No
(1) MH1305	(1) MH1306	4. E-In	6 Vitrified Clay	No		Future		1	No
	(1) MH1312	1. S-Out	8 Vitrified Clay	No		Good		3	No
	(1) MH1304	3. N-In	8 Vitrified Clay	No		Good		2	No
	(1) SERVICE	2. NW-In	8 Concrete	No		Good		0	No
(1) MH1306	(1) MH1305	1. W-Out	6 Vitrified Clay	No		Good		2	No
	(1) MH1549	2. N-In	6 Vitrified Clay	No		Good		0.25	No
	(1) MH1307	3. E-In	6 Vitrified Clay	No		Good		1.5	No
(1) MH1307	(1) MH1306	1. W-Out	6 Vitrified Clay	No		Good		2	No
	(1) ABANDONED	2. N-In	6 Vitrified Clay	No		No Visual		0	No
	(1) MH1308	3. E-In	6 Vitrified Clay	No		Good		2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>		
(1) MH1308	(1) PLUGGED	3. E-In	6	Vitrified Clay	No	Good		0	No	
	(1) MH1309	2. NW-In	6	Vitrified Clay	Yes	Future		2	No	
	(1) MH1307	1. W-Out	6	Vitrified Clay	Yes	Future		2	No	
(1) MH1309	(1) MH1310	2. NE-In	6	N/A	No	No Visual		0	No	
	(1) MH1308	1. SE-O	6	N/A	No	No Visual		0	No	
(1) MH1310	(1) MH1309	1. SW-O	6	N/A	No	No Visual		0.25	No	
	(1) MH1311	2. NE-In	6	Vitrified Clay	No	Good		0.25	No	
(1) MH1312	(1) MH1305	2. N-In	8	Vitrified Clay	No	Good		2	No	
	(1) MH1313	1. S-Out	8	Vitrified Clay	No	Good		2	No	
(1) MH1313	(1) MH1315	2. W-In	8	Vitrified Clay	No	Good		0.5	No	
	(1) MH1314	1. S-Out	8	Vitrified Clay	No	Circular Cr		2	No	
	(1) MH1312	3. N-In	8	Vitrified Clay	No	Circular Cr		1.5	No	
(1) MH1314	(1) MH1380	1. S-Out	8	Vitrified Clay	No	Future		3	No	
	(1) MH1313	2. N-In	8	Vitrified Clay	No	Future		3	No	
(1) MH1315	(1) MH1313	1. E-Out	8	Vitrified Clay	No	Good		6	No	
	(1) MH1316	2. N-In	8	Vitrified Clay	No	No Visual		6	No	
(1) MH1316	(1) SERVICE	2. W-In	8	Vitrified Clay	No	Future		0	No	
	(1) MH1315	1. S-Out	8	Vitrified Clay	No	Good		0	No	
(1) MH1318	(1) MH1317	1. S-Out	6	Vitrified Clay	No	0	Circular Cr	0	0.13	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
		<i>(in)</i>	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1318	(1) SERVICE	2. NE-In	6	Vitrified Clay	No	0	Good	0	0.13	No
(1) MH1319	(1) MH1367	1. S-Out	8	Vitrified Clay	No		Good		2	No
	(1) MH1247	2. NW-In	8	Vitrified Clay	No		Good		2	No
	(1) MH1317	3. NE-In	6	Vitrified Clay	No		Collapsed		0.5	No
(1) MH1320	(1) MH1321	1. N-Out	6	Vitrified Clay	No	0	Good	0	0	No
(1) MH1321	(1) SERVICE	2. E-In	4	PVC	No	0	Good	0	0	No
	(1) MH1322	1. N-Out	6	Vitrified Clay	No	0	Circular Cr	0	0.25	No
	(1) MH1320	3. S-In	6	Vitrified Clay	No	0	Good	0	0.13	No
(1) MH1322	(1) SERVICE	3. S-In	4	PVC	No	0	Good	0	0	No
	(1) MH1321	4. S-In	6	Vitrified Clay	No	0	Good	0	0	No
	(1) MH1323	2. N-In	10	Vitrified Clay	No	0	Good	0	1	No
	(1) MH1244	1. W-Out	8	Vitrified Clay	No	0	Longitudin	0	0.5	No
(1) MH1323	(1) MH1322	1. S-Out	8	Cast Iron	No	0	Good	0	0.25	No
	(1) MH1324	2. E-In	8	Cast Iron	No	0	Good	0	0.5	No
(1) MH1324	(1) MH1325	2. N-In	8	Concrete	No	0	Good	0	0.13	No
	(1) MH1323	1. W-Out	10	Cast Iron	No	0.5	Good	0	5	No
(1) MH1325	(1) MH1469	4. E-In	6	Vitrified Clay	Yes	0	Future	0	0	No
	(1) MH1330	3. N-In	6	Vitrified Clay	Yes	0	Circular Cr	0	0.25	No
	(1) MH1324	1. S-Out	8	N/A	No	0	No Visual	0	4	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1325	(1) MH1326	2. NW-In	6	Vitrified Clay	Yes	0	Circular Cr	0	1	No
(1) MH1326	(1) MH1327	2. NW-In	6	Vitrified Clay	No	0	Circular Cr	0	0	No
	(1) MH1325	1. SE-O	6	Vitrified Clay	No	0	Good	0	0	No
(1) MH1327	(1) MH1466	3. E-In	6	Vitrified Clay	No	0	Future	0	0	No
	(1) MH1328	2. N-In	6	Vitrified Clay	No	0	Circular Cr	0	0	No
	(1) MH1326	1. SE-O	6	Vitrified Clay	No	0	Future	0	0	No
(1) MH1329	(1) MH1466	1. W-Out	6	Vitrified Clay	No	0	Future	0	0	No
	(1) SERVICE	2. E-In	6	Vitrified Clay	Yes	0	Circular Cr	0	0	No
(1) MH1332	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
	(1) SERVICE	4. E-In	4	PVC	No		Good		0	No
	(1) SERVICE	5. E-In	4	PVC	No		Good		0	No
	(1) MH1333	1. S-Out	6	Vitrified Clay	No		Good		0.5	No
	(1) SERVICE	3. N-In	6	Vitrified Clay	No		Future		0.5	No
(1) MH1333	(1) MH1332	2. N-In	6	Concrete	No		Good		0.75	No
	(1) MH1372	1. S-Out	6	Concrete	No		Good		1.5	No
	(1) MH1334	3. NE-In	6	Concrete	No		Good		0.75	No
(1) MH1334	(1) MH1333	1. SW-O	6	Concrete	No		Future		0	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH1335	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No

									<i>Observed</i>	
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>	
(1) MH1335	(1) SERVICE	4. N-In	4 PVC	No		Good		0.13	No	
	(1) MH1336	1. S-Out	8 Vitrified Clay	No		Future		0.13	No	
	(1) PLUGGED	3. N-In	4 PVC	No		Good		0	No	
(1) MH1336	(1) MH1336	2. N-In	8 Vitrified Clay	No		Circular Cr		1.5	No	
	(1) MH1337	1. S-Out	8 Vitrified Clay	No		Circular Cr		1.5	No	
(1) MH1337	(1) MH1336A	2. N-In	8 Vitrified Clay	No		Future		1.5	No	
	(1) MH1542	1. W-Out	6 PVC	No		Good		1.5	No	
(1) MH1338	(1) MH1420	1. S-Out	6 Vitrified Clay	No		Good		1	No	
	(1) SERVICE	2. N-In	6 Vitrified Clay	No		Good		0.25	No	
	(1) MH1339	3. E-In	6 Vitrified Clay	No		Good		1.5	No	
(1) MH1339	(1) MH1338	1. W-Out	6 Vitrified Clay	No		Future		1	No	
	(1) MH1419	3. S-In	6 Vitrified Clay	No	0.25	Good		0.5	No	
	(1) MH1340	2. N-In	6 Vitrified Clay	No	0.25	Good		0.5	No	
(1) MH1340	(1) MH1339	1. S-Out	6 Vitrified Clay	No		Good		2	No	
	(1) MH1341	2. E-In	6 N/A	No		No Visual		2	No	
(1) MH1341	(1) MH1342	2. N-In	6 Vitrified Clay	No		Good		2	No	
	(1) MH1491	3. E-In	6 Vitrified Clay	No		Good		1	No	
	(1) MH1340	1. W-Out	6 Vitrified Clay	No		Good		3	No	
(1) MH1342	(1) MH1341	1. S-Out	6 Vitrified Clay	No		Good		0.5	No	

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1342	(1) MH1343	3. N-In	6	Vitrified Clay	No		Good		0.5	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
(1) MH1343	(1) SERVICE	4. SE-In	4	PVC	No		Good		0	No
	(1) MH1342	1. S-Out	6	Vitrified Clay	No	0.25	Good		2	No
	(1) MH1344	3. N-In	6	Vitrified Clay	No	0.25	Good		2	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH1344	(1) SERVICE	6. SE-In	4	Vitrified Clay	No		Good		0	No
	(1) MH1345	3. N-In	6	Vitrified Clay	Yes		Circular Cr		0.25	No
	(1) SERVICE	5. E-In	4	Vitrified Clay	Yes		No Visual		0	Yes
	(1) SERVICE	4. E-In	4	PVC	No		Good		0	Yes
	(1) MH1490	2. W-In	8	Vitrified Clay	No		Good		0.25	No
	(1) MH1343	1. S-Out	6	Vitrified Clay	No		Good		0.5	No
(1) MH1345	(1) MH1344	1. S-Out	6	Vitrified Clay	No		Good		0.5	No
	(1) SERVICE	2. NW-In	4	Concrete	No		Good		0.5	No
	(1) SERVICE	3. N-In	4	Concrete	No	2	Broken Pip		0	No
	(1) SERVICE	4. NE-In	6	Vitrified Clay	No		Good		0.25	No
(1) MH1346	(1) MH1504	1. S-Out	6	Vitrified Clay	Yes	1	Broken Pip		0	No
(1) MH1348	(1) MH1349	2. E-In	6	Vitrified Clay	No		Future		1	No
	(1) MH1506	1. S-Out	6	N/A	No	4	No Visual		6	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1349	(1) MH1348	1. W-Out	6	Vitrified Clay	No		Good		3	No
	(1) MH1347	2. N-In	6	PVC	No		Good		3	No
(1) MH1350	(1) MH1542	2. N-In	8	Vitrified Clay	No		Circular Cr		2	No
	(1) MH1351	1. SE-O	8	Vitrified Clay	No		Circular Cr		2	No
(1) MH1351	(1) MH1350	2. NW-In	8	Vitrified Clay	No		Good		2	No
	(1) PLUGGED	3. SE-In	8	Vitrified Clay	No		Good		0	No
	(1) MH1418	1. SW-O	8	Vitrified Clay	No		Good		2	No
(1) MH1353	(1) MH1458	2. N-In	6	Vitrified Clay	No	2.5	Good		2.5	No
	(1) MH1354	1. S-Out	6	Vitrified Clay	No	4	No Visual		4	No
(1) MH1354	(1) MH1353	3. N-In	6	Vitrified Clay	Yes		Circular Cr		0	Yes
	(1) MH1353	4. N-In	6	Vitrified Clay	Yes		Circular Cr		0.5	Yes
	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
	(1) MH1355	1. S-Out	6	Vitrified Clay	No		No Visual		1.5	No
(1) MH1355	(1) MH1354	2. N-In	6	Vitrified Clay	No		Good		1	No
	(1) MH1356	1. W-Out	6	Vitrified Clay	No	1	Broken Pip		1	No
(1) MH1356	(1) MH1355	3. E-In	6	Vitrified Clay	No		Good		1.5	No
	(1) SERVICE	2. SW-In	4	PVC	No		Good		0	No
	(1) MH1357	1. S-Out	6	PVC	No		Good		1.5	No
(1) MH1357	(1) MH1432	1. S-Out	6	Vitrified Clay	No		Good		0.75	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1357	(1) MH1356	2. N-In	6	Vitrified Clay	No	Good	No	1	No
(1) MH1358	(1) MH1359	1. S-Out	6	Concrete	No	Good	No	5	No
	(1) MH1289	2. N-In	6	Concrete	No	No Visual	No	5	No
(1) MH1359	(1) MH1360	1. W-Out	8	N/A	No	No Visual	No	7	No
	(1) MH1363	4. S-In	6	Concrete	Yes	Future	No	2	No
	(1) MH1358	2. N-In	6	Concrete	No	Circular Cr	No	3	No
	(1) MH0976	3. E-In	6	Concrete	No	Circular Cr	No	2	No
(1) MH1360	(1) MH1361	1. S-Out	8	N/A	No	No Visual	No	8	No
	(1) MH1359	2. E-In	8	PVC	No	No Visual	No	8	No
(1) MH1362	(1) MH1434	1. SW-O	8	PVC	No	Good	No	2.5	No
	(1) SERVICE	2. W-In	6	PVC	No	Good	No	0	No
	(1) MH1297	3. NE-In	8	PVC	No	Good	No	2.5	No
(1) MH1363	(1) MH1359	1. N-Out	6	Concrete	No	Good	No	1.25	No
	(1) MH1364	2. S-In	6	Concrete	No	Circular Cr	No	1.25	No
(1) MH1364	(1) MH1365	3. S-In	6	Concrete	No	Good	No	1	No
	(1) MH1363	1. N-Out	6	Concrete	No	Circular Cr	No	1.5	No
	(1) SERVICE	2. SE-In	6	Concrete	No	Circular Cr	No	0.5	No
(1) MH1365	(1) MH1366	2. E-In	6	Concrete	No	Circular Cr	No	0.5	No
	(1) MH1364	1. N-Out	6	Concrete	No	Good	No	1.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1365	(1) MH1437	3. S-In	6	Concrete	No		Circular Cr		1	No
(1) MH1366	(1) MH1365	1. W-Out	6	Concrete	No		Circular Cr		0	No
	(1) PLUGGED	2. NE-In	6	Concrete	No		Good		0	No
	(1) PLUGGED	3. SE-In	6	Concrete	No		Good		0	No
(1) MH1367	(1) MH1368	1. S-Out	8	Vitrified Clay	No		Circular Cr		2	No
	(1) MH1319	2. N-In	8	Vitrified Clay	No		Circular Cr		2	No
(1) MH1368	(1) MH1370	1. S-Out	10	Vitrified Clay	No		Circular Cr		3	No
	(1) MH1367	2. N-In	10	Vitrified Clay	No		Future		3	No
	(1) MH1373	3. E-In	8	Concrete	No		Good		2	No
(1) MH1369	(1) SERVICE	4. SE-In	6	Concrete	No		No Visual		0	No
	(1) MH1370	2. N-In	10	Vitrified Clay	No		Good		6	No
	(1) MH1397	3. SE-In	8	Vitrified Clay	No		Good		2	No
	(1) MH1371	1. S-Out	10	Vitrified Clay	No		Circular Cr		8	No
(1) MH1370	(1) MH1368	2. N-In	10	Vitrified Clay	No		Future		3	No
	(1) MH1369	1. S-Out	10	Vitrified Clay	No		Good		3	No
(1) MH1371	(1) PLUGGED	2. W-In	8	Vitrified Clay	No		Good		0	No
	(1) MH1369	3. N-In	10	Vitrified Clay	No		Future		2	No
	(1) MH0958	1. S-Out	10	Vitrified Clay	No		Circular Cr		2	No
(1) MH1372	(1) MH1373	1. S-Out	8	Concrete	No		Good		2	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1372	(1) MH1333	3. N-In	6	Concrete	No		Good		2	No
	(1) SERVICE	2. NW-In	4	PVC	No		Good		0	No
	(1) SERVICE	4. NE-In	4	PVC	No		Good		0	No
(1) MH1373	(1) MH1372	2. N-In	6	Concrete	No		Good		0.5	No
	(1) MH1375	3. E-In	8	Concrete	No		Future		2	No
	(1) MH1368	1. W-Out	8	Concrete	No		Circular Cr		2	No
(1) MH1374	(1) PLUGGED	3. N-In	6	Concrete	No		Good		0	No
	(1) MH1375	1. S-Out	6	Concrete	No		Good		0.13	No
	(1) MH1481	2. W-In	6	PVC	No		Good		0.13	No
(1) MH1375	(1) MH1376	3. E-In	6	Concrete	No		Circular Cr		1	No
	(1) MH1373	1. W-Out	6	Concrete	No		Good		1.5	No
	(1) MH1374	2. N-In	6	Concrete	No		Good		0.5	No
(1) MH1376	(1) MH1377	2. E-In	8	Concrete	No		Future		1	No
	(1) MH1403	3. S-In	8	Concrete	No		Circular Cr		1	No
	(1) MH1375	1. W-Out	8	Concrete	No		Good		1	No
(1) MH1377	(1) MH1376	1. W-Out	6	Concrete	No		Future		0.5	No
	(1) MH1378	2. N-In	6	Concrete	No		Good		0.25	No
	(1) MH1379	3. E-In	6	Concrete	No		Good		0.25	No
(1) MH1378	(1) MH1377	1. S-Out	6	Concrete	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1380	(1) MH1314	2. N-In	8	Concrete	No		Good		4	Yes
	(1) MH1381	1. SW-O	8	Concrete	No		Good		4	No
(1) MH1383	(1) MH1382	2. E-In	8	Concrete	No	0	Good	0	2.5	No
	(1) MH1384	1. S-Out	8	Concrete	No	0	Good	0	2.5	No
(1) MH1384	(1) MH1385	1. SW-O	8	Concrete	No	0	Good	0	2.5	No
	(1) MH1383	2. N-In	8	Concrete	No	0	Good	0	2.5	No
(1) MH1385	(1) MH1386	3. E-In	6	Concrete	No	0	Good	0	0.25	No
	(1) MH1384	2. NE-In	8	Concrete	No	0	Good	0	3	No
	(1) MH1388	1. S-Out	8	Concrete	No	0	Good	0	3	No
(1) MH1386	(1) MH1385	1. W-Out	6	Concrete	No	0	Good	0	0	No
	(1) SERVICE	2. N-In	4	Cast Iron	No	0	Circular Cr	0	0	No
(1) MH1387	(1) MH1389	1. S-Out	6	Concrete	No	0	Good	0	0	No
	(1) SERVICE	2. E-In	6	Concrete	No	0	Good	0	0	No
(1) MH1388	(1) MH1389	1. SW-O	8	Concrete	No	0	Good	0	3.5	No
	(1) MH1385	2. N-In	8	Concrete	No	0	Good	0	3.5	No
(1) MH1389	(1) MH1404	4. E-In	6	Concrete	No	0	Good	0	0.2	No
	(1) MH1388	3. NE-In	8	Concrete	No	0	Good	0	1.75	No
	(1) MH1387	2. N-In	6	Concrete	No	0	Good	0	3	No
	(1) MH1390	1. S-Out	8	Concrete	No	0	Good	0	2.5	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Observed Depth (in)</i>	<i>Drop Connection</i>
(1) MH1390	(1) MH1401	1. W-Out	8	Concrete	No	0	Good	0	3.5	No
	(1) MH1391	3. S-In	6	N/A	No	0	Good	0	6	No
	(1) MH1389	2. N-In	8	Concrete	No	0	Circular Cr	0	2.5	No
(1) MH1393	(1) MH1392	3. E-In	6	Concrete	No	0	Good	0	0.13	No
	(1) MH1394	1. W-Out	6	Concrete	No	0	Good	0	0.25	No
	(1) MH1400	2. N-In	6	Concrete	No	0	Good	0	0.13	No
(1) MH1394	(1) MH1395	1. N-Out	6	Concrete	No	0	Good	0	0.25	No
	(1) MH1393	2. E-In	6	Concrete	No	0	Good	0	0.25	No
(1) MH1395	(1) MH1397	1. W-Out	8	Concrete	No	0	Good	0	3.5	No
	(1) MH1396	2. N-In	6	Concrete	No	0	Good	0	3.5	No
	(1) MH1401	3. E-In	8	Concrete	No	0	Good	0	3.5	No
	(1) MH1394	4. S-In	6	Concrete	No	0	Good	0	3.5	No
(1) MH1396	(1) MH1395	1. S-Out	6	Concrete	No	0	Circular Cr	0	0	No
(1) MH1397	(1) MH1395	2. E-In	8	Vitrified Clay	No		Circular Cr		3	No
	(1) MH1369	1. NW-O	8	Vitrified Clay	No		Good		3	No
	(1) MH1398	3. SE-In	6	Concrete	No		Good		0.25	No
(1) MH1398	(1) MH1397	1. NW-O	6	Vitrified Clay	No	0	Good	0	0	No
(1) MH1399	(1) MH0755	1. SE-O	6	N/A	No	0	No Visual	0	0	No
(1) MH1400	(1) SERVICE	2. NE-In	6	Concrete	No	0	Good	0	0	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1400	(1) MH1393	1. S-Out	6 Concrete	Yes	0	Circular Cr	0	0	No
(1) MH1401	(1) MH1390	3. E-In	8 Concrete	No	0	Circular Cr	0	3	No
	(1) MH1402	2. N-In	6 Concrete	No	0	Good	0	2	No
	(1) MH1395	1. W-Out	8 Concrete	No	0	Good	0	3	No
	(1) PLUGGED	4. S-In	6 Concrete	No	5	Good	0	0	No
(1) MH1402	(1) SERVICE	2. NW-In	4 Vitrified Clay	No	0	Circular Cr	0	0.13	No
	(1) SERVICE	3. N-In	4 PVC	No	0	Good	0	0.13	No
	(1) MH1401	1. S-Out	6 Concrete	No	0	Good	0	0.5	No
(1) MH1403	(1) MH1376	1. N-Out	6 Concrete	No	0	Good	0	0.13	No
	(1) SERVICE	2. SE-In	6 Concrete	No	0	Good	0	0	No
	(1) PLUGGED	3. W-In	6 Concrete	No	1	Good	0	0	No
(1) MH1404	(1) MH1389	1. W-Out	6 Concrete	No	0	Good	0	0	No
(1) MH1405	(1) MH1412	3. NE-In	8 Vitrified Clay	No	0	Good	0	2.5	No
	(1) MH1406	1. S-Out	8 Vitrified Clay	No	0	Good	0	2.5	No
	(1) SERVICE	2. N-In	8 Vitrified Clay	No	0	Good	0	0	No
(1) MH1407	(1) MH1406	2. NW-In	8 Vitrified Clay	No	0	Circular Cr	0	0.25	Yes
	(1) MH1443	3. SE-In	8 Vitrified Clay	No	0	Good	0	3	No
	(1) MH1408	1. S-Out	8 Vitrified Clay	No	0	Good	0	2	No
(1) MH1408	(1) MH1409	1. SW-O	8 Polyethylene	No	0	Good	0	2	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>	
		<i>(in)</i>	<i>Material</i>					<i>Infiltration</i>	<i>Depth (in)</i>		
(1) MH1408	(1)	MH1407	2. N-In	8	Vitrified Clay	No	0	Good	0	2	No
(1) MH1409	(1)	MH1408	2. NE-In	8	Cured In Pla	No	0	Good	0	2.5	No
	(1)	MH1410	1. SW-O	8	Cured In Pla	No	0	Good	0	2.5	No
(1) MH1410	(1)	MH0758	1. SW-O	8	Vitrified Clay	No	0	Circular Cr	0	4	No
	(1)	MH1409	2. NE-In	8	Cured In Pla	No	0	Good	0	1.75	No
(1) MH1411	(1)	MH0758	1. SE-O	6	PVC	No	0	Good	0	0	No
	(1)	SERVICE	2. NE-In	4	PVC	No	0	Good	0	0	No
(1) MH1414	(1)	MH1413	1. SW-O	8	Cast Iron	No		Good		2	No
	(1)	MH1415	2. NE-In	8	Vitrified Clay	No		Broken Pip		1	No
(1) MH1415	(1)	SERVICE	4. S-In	6	Vitrified Clay	No		Good		0.25	No
	(1)	MH1414	1. SW-O	8	Vitrified Clay	No		Good		3	No
	(1)	MH1416	3. NE-In	6	Vitrified Clay	No		Future		0.5	No
	(1)	MH1418	2. NE-In	6	Vitrified Clay	No		Good		3	No
(1) MH1416	(1)	MH1415	1. SW-O	6	Vitrified Clay	No		Good		1.5	No
	(1)	MH1417	2. E-In	6	Vitrified Clay	No		Good		1	Yes
	(1)	INACTIVE	3. E-In	6	Vitrified Clay	No		Good		1	No
	(1)	MH1416A	4. S-In	6	Vitrified Clay	No		Good		1	No
(1) MH1416	(1)	SERVICE	2. SE-In	4	PVC	No		Good		0	No
	(1)	MH1416	1. N-Out	6	Vitrified Clay	Yes		Circular Cr		0.25	No

		<i>Observed</i>							
<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1416	(1) SERVICE	3. S-In	4 PVC	No		Good		0.25	No
(1) MH1418	(1) MH1415	1. SW-O	8 Vitrified Clay	No		Good		2	No
	(1) SERVICE	2. NW-In	4 PVC	No		Good		0	No
	(1) MH1351	3. NE-In	8 Vitrified Clay	No		Circular Cr		2	No
(1) MH1419	(1) MH1507	2. S-In	6 Vitrified Clay	No		Good		0.5	No
	(1) MH1339	1. N-Out	6 Vitrified Clay	Yes		Circular Cr		0.5	No
(1) MH1420	(1) MH1417	1. W-Out	6 Vitrified Clay	No		Good		2	No
	(1) MH1338	2. N-In	6 Vitrified Clay	No		Good		2	No
	(1) MH1493	3. E-In	6 Vitrified Clay	No		Good		0.25	No
	(1) MH1508	4. S-In	6 Vitrified Clay	No	4	No Visual		0	No
	(1) SERVICE	5. S-In	6 Vitrified Clay	No	6	Collapsed		2	No
(1) MH1421	(1) MH1422	1. S-Out	6 Vitrified Clay	No		Good		0.25	No
	(1) MH1506	2. N-In	6 PVC	No		Good		0.25	No
(1) MH1422	(1) INACTIVE	3. N-In	6 Vitrified Clay	No	6	Good		0	Yes
	(1) MH1423	1. E-Out	6 PVC	No		Good		1	No
	(1) MH1421	2. N-In	6 Vitrified Clay	No	6	Good		1.25	Yes
(1) MH1423	(1) MH1422	2. W-In	6 PVC	No		Good		1	No
	(1) MH1426	1. S-Out	6 Concrete	No		Good		2	No
	(1) MH1424	3. N-In	6 Concrete	No		Good		1	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1424	(1) MH1423	1. S-Out	6	Concrete	No		Good		2	No
	(1) SERVICE	3. SE-In	6	Concrete	No	2.5	No Visual		0	No
	(1) MH1425	2. NW-In	6	Concrete	No		Good		1.5	No
(1) MH1425	(1) SERVICE	4. NE-In	6	Vitrified Clay	No		Good		1.5	No
	(1) MH1424	1. SE-O	6	Vitrified Clay	No		Circular Cr		1.75	No
	(1) SERVICE	2. SW-In	6	Vitrified Clay	No	3	No Visual		0.5	No
	(1) MH1433	3. N-In	6	Vitrified Clay	No		Future		0.75	No
(1) MH1426	(1) MH1427	1. S-Out	6	Concrete	No		Good		1.75	No
	(1) MH1423	2. N-In	6	Concrete	No		Good		2	No
(1) MH1427	(1) MH1426	2. N-In	6	Concrete	No		Good		1.5	No
	(1) MH1428	1. SE-O	6	Concrete	No		Good		3	No
(1) MH1428	(1) MH1429	1. E-Out	6	PVC	No	2.5	Good		2.5	No
	(1) MH1427	3. NW-In	6	Concrete	No	2.5	No Visual		6	No
	(1) SERVICE	2. W-In	6	Concrete	No	4	No Visual		0	No
(1) MH1429	(1) MH1430	1. SE-O	10	PVC	No	1	Good		8	No
	(1) MH1428	2. W-In	8	PVC	No	2	Good		6	No
	(1) MH1439	3. NE-In	8	PVC	No	1	Good		4	No
(1) MH1430	(1) MH1431	1. SE-O	8	Vitrified Clay	No		Good			No
	(1) MH 1429	2. NW-In	8	Vitrified Clay	No		Good			No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1430	(1) SERVICE	3. E-In	4	PVC	No		Good			No
(1) MH1431	(1) MH1430	2. NW-In	10	PVC	No		Good		3	No
	(1) MH0760	1. SE-O	10	PVC	No		Good		5	No
(1) MH1433	(1) MH1425	1. S-Out	6	Vitrified Clay	Yes		Circular Cr		0.75	No
	(1) MH1432	2. N-In	6	Vitrified Clay	Yes		Circular Cr		0	Yes
	(1) MH1432	3. N-In	6	Vitrified Clay	No		Good		0.5	Yes
(1) MH1434	(1) MH1435	1. S-Out	8	PVC	No		Good		6	No
	(1) MH1362	2. NE-In	8	PVC	No		Good		6	No
(1) MH1435	(1) MH1438	1. SW-O	8	N/A	No		No Visual		6	No
	(1) MH1434	2. N-In	8	PVC	No		Good		3.5	No
	(1) MH1495	3. E-In	6	N/A	No		No Visual		5	No
(1) MH1436	(1) PLUGGED	2. SE-In	6	Concrete	No		Good		0	No
	(1) MH1495	1. W-Out	6	Concrete	No		Circular Cr		0	No
(1) MH1437	(1) MH1365	1. N-Out	6	Concrete	No		Good		0	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good		0	No
(1) MH1438	(1) MH1435	2. NE-In	8	PVC	No		Good		3	No
	(1) MH1439	1. S-Out	8	N/A	No		No Visual		8	No
(1) MH1439	(1) MH1429	1. SW-O	8	PVC	No		Good		2.5	No
	(1) MH1438	2. N-In	8	PVC	No		Good		3	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter</i>		<i>Root Growth</i>	<i>Deposition</i>	<i>Depth</i> (in)	<i>Structural Condition</i>	<i>Observed</i>		
		(in)	<i>Material</i>					<i>Visual Infiltration</i>	<i>Depth</i> (in)	<i>Drop Connection</i>
(1) MH1441	(1)	1. W-Out	6	PVC	No		Good		0	No
	(1) MH1440	2. N-In	6	PVC	No		Good		0	No
(1) MH1442	(1) MH1444	1. S-Out	6	Vitrified Clay	No		Good		0	No
	(1) MH1509	2. N-In	6	Vitrified Clay	No		Good		0	No
(1) MH1445	(1) MH1444	1. NW-O	8	Vitrified Clay	No	2	Good		4	No
	(1) MH1446	2. SE-In	8	Vitrified Clay	Yes	2	Circular Cr		4	No
(1) MH1446	(1) MH1510	2. N-In	6	Concrete	Yes		Circular Cr		0	No
	(1) MH1450	3. SE-In	8	Vitrified Clay	Yes	1	Circular Cr		2	No
	(1) MH1445	1. NW-O	8	Vitrified Clay	No	1	Good		2	No
(1) MH1447	(1) MH1448	2. NW-In	6	Concrete	No		Good		0	No
	(1) MH1510	1. S-Out	6	Concrete	No		Good		0	No
(1) MH1448	(1) MH1447	1. S-Out	6	Concrete	No		Good		0	No
	(1) SERVICE	2. NW-In	4	PVC	No	2	Good		0	Yes
(1) MH1450	(1) MH1446	1. NW-O	8	Vitrified Clay	Yes	1	Circular Cr		6	No
	(1) MH1451	2. NE-In	8	Vitrified Clay	Yes	1	Circular Cr		6	No
(1) MH1451	(1) MH1450	1. SW-O	8	Vitrified Clay	No		Good		2	No
	(1) MH1452	2. NE-In	8	Vitrified Clay	No		Good		2	No
	(1) FORCE MAIN	3. SE-In	2	PVC	No		Good			No
(1) MH1452	(1) MH1451	1. SW-O	8	Vitrified Clay	No		Good		0.5	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>		<i>Drop Connection</i>
							<i>Visual Infiltration</i>	<i>Depth (in)</i>	
(1) MH1452	(1) MH1453	2. NW-In	6 Cast Iron	No		Good		0.5	No
(1) MH1453	(1) MH1452	1. SE-O	8 Vitrified Clay	No		Good		1	No
	(1) MH1511	2. NE-In	8 Concrete	No		Good		1	No
(1) MH1461	(1) MH1462	3. E-In	6 PVC	No		Good		0.75	No
	(1) MH1460	1. SE-O	6 PVC	No		Good		1	No
	(1) SERVICE	2. E-In	4 PVC	No		Good		0.13	No
(1) MH1463	(1) MH1462	1. S-Out	6 PVC	No		Circular Cr		0	No
	(1) MH1464	3. NE-In	6 PVC	No		Good		0	Yes
	(1) SERVICE	2. W-In	6 PVC	No		Good		2	No
	(1) SERVICE	4. E-In	4 PVC	No		N/A		0.5	No
(1) MH1464	(1) MH1463	1. S-Out	6 PVC	No		Good		0	No
	(1) SERVICE	3. NW-In	4 PVC	No		Good		0	No
	(1) SERVICE	4. NE-In	6 PVC	No		Good		0	No
	(1) FORCE MAIN	2. NW-In	2 PVC	No		Good		0	No
(1) MH1466	(1) MH1327	1. W-Out	6 Vitrified Clay	No	0	Good	0	0	No
	(1) MH1329	2. E-In	6 Vitrified Clay	Yes	0	Circular Cr	0	0	No
(1) MH1470	(1) MH1303	1. E-Out	6 Vitrified Clay	No	0	Good	0	1	No
	(1) MH1471	2. W-In	6 Vitrified Clay	No	0	Future	0	2	No
(1) MH1473	(1) MH1299	1. NW-O	10 PVC	No		Good		4	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1473	(1) MH1480	2. N-In	6	PVC	No		No Visual		1	No
	(1) MH1473A	3. SE-In	10	PVC	No		Good		3	No
(1) MH1473	(1) MH1476	2. SE-In	10	Vitrified Clay	No		Future		1.5	No
	(1) MH1473	1. NW-O	10	Vitrified Clay	No		Good		1.5	No
	(1) SERVICE	3. SW-In	6	PVC	No		Good		0	No
(1) MH1474	(1) MH1475	1. NW-O	6	Vitrified Clay	No		Good		1	No
	(1) SERVICE	5. SE-In	6	Concrete	No		Good		0	No
	(1) FORCE MAIN	4. SE-In	2	Cast Iron	No		No Visual		0	No
	(1) SERVICE	3. NE-In	6	Concrete	No		Good		1	No
	(1) SERVICE	2. N-In	4	PVC	No		Good		0	No
(1) MH1475	(1) SERVICE	3. SW-In	8	PVC	No		Good		0	No
	(1) MH1474	2. SE-In	8	PVC	No		Good		1	Yes
	(1) MH1476	1. NW-O	10	Concrete	No		Good		1	No
(1) MH1476	(1) MH1473A	1. NW-O	10	Vitrified Clay	No		Good		3	No
	(1) MH1477	3. NE-In	6	Concrete	No		Good		0.5	No
	(1) MH1475	4. SE-In	10	Vitrified Clay	No		Good		2	No
	(1) MH1478	2. NW-In	8	Cast Iron	No		Good		0.5	No
(1) MH1477	(1) MH1476	1. SW-O	6	Concrete	No		No Visual		0.1	No
	(1) SERVICE	2. NE-In	6	Concrete	No		No Visual		0.1	No

<i>Line Segment</i>	<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Observed</i>	
							<i>Visual Infiltration</i>	<i>Depth (in)</i>
(1) MH1478	(1) MH1476	1. SE-O	8	Vitrified Clay	No	Good		No
	(1) SERVICE	2. N-In	6	Vitrified Clay	No	Good		No
	(1) MH1479	3. NE-In	8	Vitrified Clay	No	Good		No
(1) MH1479	(1) MH1478	1. SW-O	8	Vitrified Clay	No	Good		No
	(1) SERVICE	2. N-In	6	Vitrified Clay	No	Good		No
	(1) SERVICE	3. NE-In	4	PVC	No	Good		No
	(1) SERVICE	4. SE-In	6	Vitrified Clay	No	Good		No
(1) MH1481	(1) MH1374	1. SE-O	6	PVC	No	Good	0.13	No
	(1) SERVICE	2. N-In	6	PVC	No	Good	0	No
(1) MH1489	(1) SERVICE	2. S-In	4	PVC	No	Circular Cr	0	No
	(1) MH1266	1. N-Out	6	Vitrified Clay	No	Circular Cr	0	No
(1) MH1493	(1) MH1494	2. SE-In	6	Vitrified Clay	No	Good	0	No
	(1) MH1420	1. W-Out	6	Vitrified Clay	No	Good	0	No
(1) MH1496	(1) MH1495	1. NW-O	6	Vitrified Clay	No	Good	0.25	No
	(1) MH1497	2. E-In	6	Vitrified Clay	No	Good	0.25	No
	(1) SERVICE	3. SE-In	4	Vitrified Clay	No	Future	2	No
	(1) SERVICE	4. SW-In	4	Vitrified Clay	No	Good	0	No
(1) MH1499	(1) PLUGGED	3. NE-In	6	Vitrified Clay	No	Good	0	No
	(1) SERVICE	2. N-In	6	Vitrified Clay	No	Good	0.25	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>Deposition Depth (in)</i>	<i>Structural Condition</i>	<i>Visual Infiltration</i>	<i>Depth (in)</i>	<i>Drop Connection</i>
(1) MH1499	(1) MH1281	1. S-Out	6	Vitrified Clay	No		Good		0.25	No
(1) MH1501	(1) PLUGGED	4. N-In	6	PVC	No		Good		0	No
	(1) MH1500	1. SE-O	6	PVC	No		Good		0.25	No
	(1) SERVICE	3. NW-In	6	PVC	No		Good		0.25	No
	(1) SERVICE	2. SW-In	6	PVC	No		Good		0.25	No
(1) MH1502	(1) MH1288	1. S-Out	8	PVC	Yes		Circular Cr		1.25	No
	(1) MH1287	2. N-In	8	Vitrified Clay	Yes		Circular Cr		1.25	No
	(1) PLUGGED	3. E-In	8	Vitrified Clay	Yes		Good		0	No
(1) MH1505	(1) SERVICE	4. N-In	4	PVC	No		Good		0	No
	(1) SERVICE	3. NW-In	6	PVC	No		Good		0.13	No
	(1) SERVICE	2. W-In	4	PVC	No		Good		0	No
	(1) MH1550	1. E-Out	6	Vitrified Clay	No		Future		0.13	No
(1) MH1506	(1) MH1348	2. N-In	6	Vitrified Clay	No		Good		2	No
	(1) MH1421	1. S-Out	6	Vitrified Clay	No		Broken Pip		2	No
(1) MH1507	(1) MH1419	1. N-Out	6	Vitrified Clay	No		Good		0	No
(1) MH1508	(1) SERVICE	3. S-In	4	Cast Iron	No		Good		2	No
	(1) MH1420	1. N-Out	6	Vitrified Clay	No		Good		2	No
	(1) SERVICE	2. SE-In	4	PVC	No		Good		1	No
(1) MH1510	(1) MH1447	2. NE-In	6	Concrete	No		Good		0	No

<i>Line Segment</i>		<i>Dir.</i>	<i>Diameter (in)</i>	<i>Material</i>	<i>Root Growth</i>	<i>DepositionDepth (in)</i>	<i>Structural Condition</i>	<i>Observed Visual Infiltration</i>		<i>Depth (in)</i>	<i>Drop Connection</i>				
(1) MH1510	(1) MH1446	1. S-Out	6	Concrete	No		Good			0	No				
(1) MH1542	(1) MH1350	1. S-Out	8	Vitrified Clay	No		Good			4	No				
	(1) MH1352	2. N-In	8	Vitrified Clay	No		Circular Cr			4	No				
	(1) MH1337	3. E-In	8	PVC	No		Good			1.5	No				
(1) MH1550	(1) MH1286	3. N-In	6	PVC	No		Good			3	No				
	(1) MH1291	1. S-Out	6	PVC	No		Good			3	No				
	(1) MH1505	2. W-In	6	PVC	No		Good			0.13	No				
							<u>Structural Condition</u>		<u>Total Length to Clean</u>						
Total Segments	3062	Good	2065	Long Crack	19	Collapsed	9	Flush	0	Jet	0	Bucket	0	Root Control	0
Total Footage		Broken	8	Circular Crac	436	No Visual	234								
Report Totals							<u>Structural Condition</u>		<u>Total Length to Clean</u>						
Total Segments	3062	Good	2065	Long Crack	19	Collapsed	9	lush	0	Jet	0	Bucket	0	Root Control	0
Total Footage		Broken	8	Circular Crac	436	No Visual	234								

APPENDIX C
SMOKE TEST REPORT

Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(2)MH0003 - (2)MH0002	S WALCO RD	No Defect	N/A		526
(2)MH0004 - (2)MH0003	S WALCO RD	No Defect	N/A		283
(2)MH0005 - (2)MH0004	S WALCO RD	No Defect	N/A		220
(2)MH0006 - (2)MH0005	S WALCO RD	No Defect	N/A		230
(2)MH0007 - (2)MH0006	120 S WALCO RD	Upper Cleanout Defective	Medium	846	323
(2)MH0008 - (2)MH0007	S WALCO RD	No Defect	N/A		292
(2)MH0009 - (2)MH0008	S WALCO ST	No Defect	N/A		318
(2)MH0010 - (2)MH0009	234 N WALCO RD	Upper Sewer Service	Medium	1,440	361
	234 N WALCO RD	Upper Cleanout Defective	Light	1,270	361
(2)MH0011 - (2)MH0010	N WALCO RD	No Defect	N/A		328
(2)MH0013 - (2)MH0014	420 HAPPY ST	Upper Cleanout Defective	Medium	1,693	338
(2)MH0014 - (2)MH0015	HAPPY ST	No Defect	N/A		313
(2)MH0015 - (2)MH0010	405 N WALCO RD	Upper Cleanout Defective	Medium	1,693	315
(2)MH0016 - (2)MH0017	HAPPY ST	No Defect	N/A		445
(2)MH0017 - (2)MH0024	1324 HOPE ST	Upper Cleanout Defective	Light	1,693	339
	1324 HOPE ST	Upper Sewer Service	Light	1,440	339
(2)MH0018 - (2)MH0017	HAPPY ST	No Defect	N/A		341
(2)MH0019 - (2)MH0020	HAPPY ST	No Defect	N/A		267
(2)MH0020 - (2)MH0021	CABE ST	No Defect	N/A		240
(2)MH0021 - (2)MH0006	S WALCO RD	No Defect	N/A		344
(2)MH0022 - (2)MH0021	CABE ST	No Defect	N/A		180
(2)MH0023 - (2)MH0024	CABE AVE	No Defect	N/A		330
(2)MH0024 - (2)MH0008	HOPE ST	No Defect	N/A		40
(2)MH0025 - (2)MH0013	W YOUNG ST	No Defect	N/A		278
(2)MH0026 - (2)MH0027	417 CHURCH ST	Upper Sewer Service	Light	1,440	272

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.
 2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(2)MH0026 - (2)MH0027	417 CHURCH ST	Upper Cleanout Defective	Light	10	272
(2)MH0027 - (2)MH0015	BERGER ST	No Defect	N/A		367
(2)MH0028 - (2)MH0027	BERGER ST	No Defect	N/A		145
(2)MH0029 - (2)MH0028	CHURCH ST	No Defect	N/A		247
(2)MH0030 - (2)MH0031	224 CHURCH ST	Upper Cleanout Defective	Heavy	1,693	224
	224 CHURCH ST	Upper Sewer Service	Light	1,440	224
(2)MH0031 - (2)MH0017	1219 HOPE ST	Upper Cleanout Defective	Heavy	10	332
(2)MH0032 - (2)MH0033	CHURCH ST	No Defect	N/A		170
(2)MH0033 - (2)MH0018	FAITH ST	No Defect	N/A		330
(2)MH0034 - (2)MH0033	1119 FAITH ST	Upper Cleanout Defective	Medium	10	180
	1126 FAITH ST	Storm Ditch	Light	2,016	180
(2)MH0035 - (2)MH0036	BARNETT ST	No Defect	N/A		277
(2)MH0036 - (2)MH0031	HOPE ST	No Defect	N/A		332
(2)MH0038 - (2)MH0036	BARNETT ST	No Defect	N/A		190
(2)MH0038A - (2)MH0038	BARNETT ST	No Defect	N/A		10
(2)MH0040 - (2)MH0038	228 BARNETT ST	Upper Cleanout Defective	Medium	1,693	283
	228 BARNETT ST	Upper Cleanout Defective	Medium	1,693	283
	228 BARNETT ST	Upper Cleanout Defective	Light	10	283
(2)MH0041 - (2)MH0028	W BERGER ST	No Defect	N/A		203
(2)MH0041A - (2)MH0038A	BARNETT ST	No Defect	N/A		282
(2)MH0042A - (2)MH0051	BARNETT ST	No Defect	N/A		177
(2)MH0043 - (2)MH0043A	N PARK DR	No Defect	N/A		182
(2)MH0043A - (2)MH0042A	BARNETT ST	No Defect	N/A		170
(2)MH0045 - (2)MH0041	BARNETT ST	No Defect	N/A		333
(2)MH0046 - (2)MH0047	N PARK DR	No Defect	N/A		310

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(2)MH0047 - (2)MH0048	N PARK DR	No Defect	N/A		209
(2)MH0048 - (2)MH0043	N PARK DR	No Defect	N/A		95
(2)MH0050 - (2)MH0041A	HENRY ST	No Defect	N/A		252
(2)MH0051 - (2)MH0041A	BARNETT ST	No Defect	N/A		30
(2)MH0054 - (2)MH0038	CHARITY ST	No Defect	N/A		249
(2)MH0579 - (2)PS5	TENNIS LN	No Defect	N/A		300
(2)MH0580 - (2)MH0579	TENNIS LN	No Defect	N/A		293
(2)MH0581 - (2)MH2103	WOOD ST	No Defect	N/A		247
(2)MH0582 - (2)MH2108	BROWNWOOD ST	No Defect	N/A		275
(2)MH0582A - (2)MH0601	WOOD ST	No Defect	N/A		125
(2)MH0583 - (2)MH0584	MARTIN LUTHER	No Defect	N/A		199
(2)MH0584 - (2)MH0585	MARTIN LUTHER	No Defect	N/A		199
(2)MH0585 - (2)MH0590	N WALCO RD	No Defect	N/A		264
(2)MH0589 - (2)MH0594	N WALCO RD	No Defect	N/A		380
(2)MH0590 - (2)MH0589	N WALCO RD	No Defect	N/A		309
(2)MH0591 - (2)MH0591A	MOLINE ST	No Defect	N/A		31
(2)MH0591A - (2)MH0589	MOLINE ST	No Defect	N/A		195
(2)MH0591B - (2)MH0591A	MOLINE ST	No Defect	N/A		45
(2)MH0594 - (2)MH0595	N WALCO RD	No Defect	N/A		233
(2)MH0595 - (2)MH0595A	711 N WALCO RD	Upper Cleanout Defective	Medium	10	298
(2)MH0595A - (2)MH0598	N WALCO RD	No Defect	N/A		54
(2)MH0596 - (2)MH0591	HALBERT AVE	No Defect	N/A		448
(2)MH0597 - (2)MH0599	611 HALBERT AVE	Upper Cleanout Defective	Light	1,693	501
	652 HALBERT AVE	Upper Cleanout Missing Cap	Medium	10	501
(2)MH0598 - (2)MH0012	N WALCO RD	No Defect	N/A		403

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Smoke Test Report

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Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(2)MH0599 - (2)MH0012	HALBERT AVE	No Defect	N/A		374
(2)MH0600 - (2)MH0591B	MOLINE ST	No Defect	N/A		291
(2)MH0601 - (2)MH0600	WOOD ST	No Defect	N/A		187
(2)MH0603 - (2)MH0582A	WOOD ST	No Defect	N/A		76
(2)MH0603A - (2)MH0603	WOOD ST	No Defect	N/A		75
(2)MH0604 - (2)MH0580	TENNIS LN	No Defect	N/A		390
(2)MH0605 - (2)MH0604	COLLIE RD	No Defect	N/A		384
(2)MH0606 - (2)MH0605	1407 MARTIN LUTHER	Upper Sewer Service	Light	1,440	197
	1407 MARTIN LUTHER	Upper Sewer Service	Light	1,440	197
	1407 MARTIN LUTHER	Upper Sewer Service	Light	1,440	197
(2)MH0607 - (2)MH0606	COLLIE RD	No Defect	N/A		46
(2)MH0612 - (2)MH0979	N PARK DR	No Defect	N/A		160
(2)MH0613 - (2)MH0615	N PARK DR	No Defect	N/A		484
(2)MH0614 - (2)MH0613	MCKINNEY ST	No Defect	N/A		152
(2)MH0615 - (2)MH0046	608 N PARK DR	Upper Cleanout Defective	Light	1,693	205
(2)MH0616 - (2)MH0614	MCKINNEY ST	No Defect	N/A		323
(2)MH0618 - (2)MH0616	936 MCKINNEY ST	Upper Sewer Service	Light	1,440	276
(2)MH0622 - (2)MH0607	COLLIE RD	No Defect	N/A		408
(2)MH0623 - (2)MH0622	COLLIE RD	No Defect	N/A		380
(2)MH0624 - (2)MH0623	COLLIE RD	No Defect	N/A		264
(2)MH0625 - (2)MH0624	COLLIE RD	No Defect	N/A		275
(2)MH0632 - (2)MH0625	COLLIE RD	No Defect	N/A		343
(2)MH0632A - (2)MH0632	COLLIE RD	No Defect	N/A		127
(2)MH0633 - (2)MH0632A	COLLIE RD	No Defect	N/A		89
(2)MH0677 - (2)MH0682	EDGEWOOD ST	No Defect	N/A		127

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Smoke Test Report

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Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(2)MH0678 - (2)MH0682A	MILLER AVE	No Defect	N/A		223
(2)MH0679 - (2)MH0680	PINEHURST ST	No Defect	N/A		301
(2)MH0680 - (2)MH0688	PINEHURST ST	No Defect	N/A		307
(2)MH0682 - (2)MH0683	EDGEWOOD ST	No Defect	N/A		110
(2)MH0682A - (2)MH0686	MILLER AVE	No Defect	N/A		396
(2)MH0683 - (2)MH0684	EDGEWOOD RD	No Defect	N/A		162
(2)MH0684 - (2)MH0684A	EDGEWOOD RD	No Defect	N/A		127
(2)MH0684A - (2)MH0685	EDGEWOOD CIR	No Defect	N/A		188
(2)MH0685 - (2)MH0583	MILLER AVE	No Defect	N/A		95
(2)MH0686 - (2)MH0685	MILLER AVE	No Defect	N/A		182
(2)MH0688 - (2)MH0585	PINEHURST ST	No Defect	N/A		294
(2)MH0854 - (2)MH1142	W YOUNG ST	No Defect	N/A		340
(2)MH0972 - (2)MH0973A	GRAYSON CIR	No Defect	N/A		335
(2)MH0973 - (2)MH0975	GRAYSON CIR	No Defect	N/A		185
(2)MH0973A - (2)MH0973	1230 GRAYSON CIR	Upper Sewer Service	Light	1,693	362
(2)MH0975 - (2)MH0976A	GRAYSON CIR	No Defect	N/A		316
(2)MH0976 - (2)MH2125	DIVISION ST	No Defect	N/A		86
(2)MH0976A - (2)MH0976	DIVISION ST	No Defect	N/A		250
(2)MH0976B - (2)MH0976A	GRAYSON CIR	No Defect	N/A		180
(2)MH0977 - (2)MH1023	DIVISION ST	No Defect	N/A		340
(2)MH0979 - (2)MH0613	N PARK DR	No Defect	N/A		400
(2)MH0981 - (2)MH0013	716 MARTIN LUTHER	Upper Cleanout Missing Cap	Light	4,353	425
	1206 W YOUNG ST	Upper Cleanout Missing Cap	Medium	10	425
(2)MH1023 - (2)MH0580	DIVISION ST	No Defect	N/A		213
(2)MH1024 - (2)MH0977	COLLIE RD	No Defect	N/A		250

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(2)MH1142 - (2)MH0046	W YOUNG ST	No Defect	N/A		156
(2)MH1143 - (2)MH2105A	W MOLINE ST	No Defect	N/A		315
(2)MH1154 - (2)MH1024	COLLIE RD	No Defect	N/A		450
(2)MH1155 - (2)MH1154	COLLIE RD	No Defect	N/A		66
(2)MH2013 - (2)MH1023	DIVISION ST	No Defect	N/A		253
(2)MH2102 - (2)MH0601	WOOD ST	No Defect	N/A		290
(2)MH2102A - (2)MH0612	W MOLINE ST	No Defect	N/A		500
(2)MH2103 - (2)MH0601	WOOD ST	No Defect	N/A		286
(2)MH2105A - (2)MH0614	PARK RD	No Defect	N/A		494
(2)MH2107 - (2)MH2102A	W MOLINE ST	No Defect	N/A		70
(2)MH2108 - (2)MH0581	BROWNWOOD ST	No Defect	N/A		275
(2)MH2108A - (2)MH0582A	WOOD ST	No Defect	N/A		77
(2)MH2109 - (2)MH0581	1207 MCMILLIAN	Upper Cleanout Missing Cap	Light	1,693	161
(2)MH2111 - (2)MH2013	COLLIE RD	No Defect	N/A		393
(2)MH2113 - (2)MH2111	COLLIE RD	No Defect	N/A		50
(2)MH2114 - (2)MH2113	COLLIE RD	No Defect	N/A		151
(2)MH2114A - (2)MH2114	COLLIE RD	No Defect	N/A		375
(2)MH2115 - (2)MH2114A	COLLIE RD	No Defect	N/A		112
(2)MH2125 - (2)MH0633	1242 DIVISON ST	Upper Cleanout Defective	Light	10	460
(2)MH2200 - (2)MH0026	CHURCH ST	No Defect	N/A		15
(2)MH2510 - (2)MH0618	MCKINNEY ST	No Defect	N/A		160
(5)EOL - (5)MH0491	CARMICHEAL ST	No Defect	N/A		261
(5)EOL - (5)MH1078A	SULTON ST	No Defect	N/A		140
(5)MH0001 - (5)MH0281	WALCO RD	No Defect	N/A		206
(5)MH0002 - (5)MH0001	WALCO RD	No Defect	N/A		477

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Smoke Test Report

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0066 - (5)MH0066A	WALCO RD	No Defect	N/A		343
(5)MH0066A - (5)MH0001	WALCO RD	No Defect	N/A		25
(5)MH0069 - (5)MH0001	WALCO RD	No Defect	N/A		477
(5)MH0071 - (5)MH0069	WALCO RD	No Defect	N/A		272
(5)MH0073 - (5)MH2157	S WALCO ST	No Defect	N/A		326
(5)MH0073A - (5)MH0073	S WALCO ST	No Defect	N/A		48
(5)MH0073B - (5)MH0073	1413 BRYANT ST	Upper Cleanout Defective	Medium	1,693	311
	1414 BRYANT ST	Upper Sewer Service	Medium	1,440	311
(5)MH0074 - (5)MH0073A	S WALCO ST	No Defect	N/A		264
(5)MH0075 - (5)MH0074	S WALCO ST	No Defect	N/A		360
(5)MH0075A - (5)MH0075	1418 W SULLENBERGE	Upper Sewer Service	Light	1,440	195
(5)MH0077 - (5)MH0074	1425 CLARK ST	Upper Cleanout Defective	Medium	1,693	311
(5)MH0079 - (5)MH0071	KELLY ST	No Defect	N/A		468
(5)MH0080 - (5)MH0085	BRYANT ST	No Defect	N/A		270
(5)MH0081 - (5)MH0084	CLARK ST	No Defect	N/A		362
(5)MH0082 - (5)MH0075A	W SULLENBERGE	No Defect	N/A		344
(5)MH0084 - (5)MH0090	1212 CLARK ST	Upper Sewer Service	Light	1,440	270
(5)MH0085 - (5)MH0087	1228 BRYANT ST	Upper Cleanout Missing Cap	Light	1,693	248
(5)MH0086 - (5)MH0079	1156 KELLY ST	USMH	Light	0	465
(5)MH0087 - (5)MH0086	KELLY ST	No Defect	N/A		315
(5)MH0089 - (5)MH0090	1139 CLARK ST	Upper Cleanout Defective	Medium	1,693	345
	1203 CLARK ST	Upper Cleanout Defective	Medium	1,693	345
(5)MH0090 - (5)MH0087	MORZETT ST	No Defect	N/A		332
(5)MH0092 - (5)MH0091	ACME ST	No Defect	N/A		345
(5)MH0093 - (5)MH0089	ACME ST	No Defect	N/A		45

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0094 - (5)MH0093	ACME ST	No Defect	N/A		535
(5)MH0095 - (5)MH0090	CLARK ST	No Defect	N/A		353
(5)MH0096A - (5)MH1140	932 S PARK DR	Upper Sewer Service	Light	1,440	65
(5)MH0100 - (5)MH0094	934 BURRIS RD	Storm Ditch	Heavy	2,016	608
(5)MH0101 - (5)MH0100	BURRIS RD	No Defect	N/A		365
(5)MH0103 - (5)MH0101	BURRIS RD	No Defect	N/A		128
(5)MH0105A - (5)MH0103	MARIGOLD ST	No Defect	N/A		192
(5)MH0106 - (5)MH0105A	816 CABE ST	Upper Sewer Service	Medium	1,440	192
(5)MH0107 - (5)MH0103	805 BURRIS RD	Upper Cleanout Defective	Medium	10	270
	805 BURRIS RD	Upper Cleanout Defective	Medium	1,693	270
(5)MH0172 - (5)MH0173	925 SPRUCE ST	Upper Sewer Service	Medium	1,440	350
	925 SPRUCE ST	Upper Sewer Service	Medium	1,440	350
(5)MH0173 - (5)MH2159	SPRUCE ST	No Defect	N/A		246
(5)MH0174 - (5)MH0479	SPRUCE ST	No Defect	N/A		263
(5)MH0175 - (5)MH0174	W SULLENBERGE	No Defect	N/A		345
(5)MH0176 - (5)MH0175	W SULLENBERGE	No Defect	N/A		108
(5)MH0270 - (5)MH0075	W SULLENBERGE	No Defect	N/A		402
(5)MH0270A - (5)MH0270	W SULLENBERGE	No Defect	N/A		40
(5)MH0273 - (5)MH0274	1612 SULLENBERGER	Upper Cleanout Defective	Medium	10	307
	1612 SULLENBERGER	Upper Sewer Service	Light	1,440	307
(5)MH0274 - (5)MH0074	1523 CLARK ST	Upper Cleanout Defective	Medium	1,693	385
(5)MH0275 - (5)MH0276	TURNER ST	No Defect	N/A		546
(5)MH0276 - (5)MH0277	TURNER ST	No Defect	N/A		349
(5)MH0277 - (5)MH0280	TURNER ST	No Defect	N/A		301
(5)MH0278 - (5)MH0279	TURNER ST	No Defect	N/A		119

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0279 - (5)MH0279A	KELLY ST	No Defect	N/A		271
(5)MH0279A - (5)MH2157	1612 KELLY ST	Storm Ditch	Heavy	2,016	262
(5)MH0280 - (5)MH0620	TURNER ST	No Defect	N/A		359
(5)MH0281 - (5)MH0281A	WALCO RD	No Defect	N/A		99
(5)MH0470 - (5)MH0469	W SULLENBERGE	No Defect	N/A		149
(5)MH0471 - (5)MH0470	W SLULLENBERG	No Defect	N/A		210
(5)MH0472 - (5)MH0471	W SULLENBERGE	No Defect	N/A		28
(5)MH0473 - (5)MH0472	W SULLENBERGE	No Defect	N/A		326
(5)MH0474 - (5)MH0473	W SULLENBERGE	No Defect	N/A		385
(5)MH0475 - (5)MH0474	W SULLENBERGE	No Defect	N/A		451
(5)MH0476 - (5)MH0475	STANLEY ST	No Defect	N/A		304
(5)MH0477 - (5)MH0478	1314 SPRUCE ST	Upper Sewer Service	Light	1,440	361
	1314 SPTUCE ST	Upper Cleanout Defective	Medium	1,693	361
(5)MH0478 - (5)MH0479	SPRUCE ST	No Defect	N/A		125
(5)MH0479 - (5)MH0092	W SULLENBERGE	No Defect	N/A		379
(5)MH0480 - (5)MH0478	SUNSET ST	No Defect	N/A		396
(5)MH0481 - (5)MH0480	SUNSET ST	No Defect	N/A		304
(5)MH0482 - (5)MH0477	804 HIGHLAND AVE	Upper Cleanout Defective	Medium	1,693	508
(5)MH0482A - (5)MH0482	717 HIGHLAND AVE	Upper Sewer Service	Light	1,440	173
(5)MH0483 - (5)MH0482A	1406 STANLEY ST	Upper Sewer Service	Light	1,440	128
	1406 STANLEY ST	Upper Cleanout Defective	Medium	10	128
(5)MH0485 - (5)MH0487A	SUNSET ST	No Defect	N/A		334
(5)MH0486 - (5)MH0507	HIGHLAND AVE	No Defect	N/A		476
(5)MH0487 - (5)MH0483	W HIGHLAND AVE	No Defect	N/A		60
(5)MH0487A - (5)MH0487	1409 STANLEY ST	Upper Cleanout Missing Cap	Medium	10	124

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0488 - (5)MH0489	712 OAKLAWN ST	Upper Sewer Service	Light	1,440	209
(5)MH0489 - (5)MH0490	OAKLAWN ST	No Defect	N/A		135
(5)MH0490 - (5)MH0482	BIRCH ST	No Defect	N/A		329
(5)MH0491 - (5)MH0491A	1511 CARMICHEAL ST	Upper Cleanout Defective	Medium	1,693	130
(5)MH0491A - (5)MH0508	506 W MILL ST	Upper Sewer Service	Light	1,440	396
	506 W MILL ST	Upper Cleanout Missing Cap	Light	10	396
(5)MH0493 - (5)MH0476	1514 STANLEY ST	USMH	Heavy	0	330
(5)MH0495 - (5)MH1080	STANLEY ST	No Defect	N/A		345
(5)MH0496 - (5)MH3084	STANLEY ST	No Defect	N/A		0
(5)MH0497 - (5)MH0494	US-67	No Defect	N/A		247
(5)MH0501 - (5)MH0505A	KIRKLAND ST	No Defect	N/A		475
(5)MH0505A - (5)MH0523A	416 W HIGHLAND AVE	Upper Sewer Service	Light	1,440	350
	416 W HIGHLAND AVE	Upper Sewer Service	Medium	1,440	350
	427 W HIGHLAND AVE	Upper Cleanout Defective	Heavy	1,693	350
(5)MH0507 - (5)MH0522	420 OAKLAWN ST	Upper Sewer Service	Heavy	4,320	369
	427 W HIGHLAND AVE	Upper Sewer Service	Medium	1,440	369
	427 W HIGHLAND AVE	Upper Sewer Service	Medium	1,440	369
(5)MH0508 - (5)MH0509	KIRKLAND ST	No Defect	N/A		189
(5)MH0508A - (5)MH0508	KIRKLAND ST	No Defect	N/A		142
(5)MH0511 - (5)MH0497	US-67	No Defect	N/A		373
(5)MH0512 - (5)MH0496	STANLEY ST	No Defect	N/A		0
(5)MH0513 - (5)MH0512	STANLEY ST	No Defect	N/A		0
(5)MH0514 - (5)MH0513	STANLEY ST	No Defect	N/A		0
(5)MH0516 - (5)MH0515	W DONNELLY ST	No Defect	N/A		332
(5)MH0517 - (5)MH0509	W MILL ST	No Defect	N/A		214

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Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5)MH0518 - (5)MH0517	W MILL ST	No Defect	N/A		200
(5)MH0519 - (5)MH0520	W MILL ST	No Defect	N/A		125
(5)MH0520 - (5)MH0518	W MILL ST	No Defect	N/A		103
(5)MH0521 - (5)MH0518	341 W MILL ST	Upper Cleanout Missing Cap	Heavy	10	210
	347 W MILL ST	Upper Cleanout Defective	Heavy	1,693	210
(5)MH0522 - (5)MH0527	1411 EARNEST ST	Upper Cleanout Defective	Light	10	344
	332 OAKLAWN ST	Upper Cleanout Defective	Medium	10	344
	332 OAKLAWN ST	Upper Cleanout Defective	Light	1,693	344
(5)MH0523A - (5)MH0526	1319 EARNEST ST	Upper Sewer Service	Light	1,440	350
(5)MH0525 - (5)MH0526	LEON ST	No Defect	N/A		215
(5)MH0526 - (5)MH0548	SUNSET ST	No Defect	N/A		264
(5)MH0527 - (5)MH0528	OAKLAWN ST	No Defect	N/A		329
(5)MH0528 - (5)MH0521	MEYER ST	No Defect	N/A		185
(5)MH0529 - (5)MH0519	ROCK ST	No Defect	N/A		242
(5)MH0530 - (5)MH0516	W DONNELLY ST	No Defect	N/A		276
(5)MH0531 - (5)MH0530	W DONNELLY ST	No Defect	N/A		443
(5)MH0532 - (5)MH0514	1919 DYER ST	USMH	Light	0	528
(5)MH0533 - (5)MH0532	DYER ST	No Defect	N/A		414
(5)MH0534 - (5)MH3108	2410 S MAIN ST	Upper Cleanout Defective	Heavy	1,693	166
(5)MH0535 - (5)MH0710	S MAIN ST	No Defect	N/A		100
(5)MH0536 - (5)MH0536A	S MAIN ST	No Defect	N/A		76
(5)MH0536A - (5)MH0535	S MAIN ST	No Defect	N/A		588
(5)MH0537 - (5)MH0536	MAIN ST	No Defect	N/A		679
(5)MH0538 - (5)MH0537	SOUTHGATE DR	No Defect	N/A		130
(5)MH0543 - (5)MH0561	DYER ST	No Defect	N/A		34

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0544 - (5)MH0531	W DONNELLY ST	No Defect	N/A		88
(5)MH0545 - (5)MH0529	1620 ROCK ST	Upper Cleanout Defective	Medium	1,693	196
	1620 ROCK ST	Upper Cleanout Defective	Light	10	196
	1620 ROCK ST	Upper Cleanout Defective	Light	1,693	196
	1620 ROCK ST	Upper Cleanout Defective	Light	1,693	196
(5)MH0546 - (5)MH0528	MEYER ST	No Defect	N/A		250
(5)MH0547 - (5)MH0527	OAKLAWN ST	No Defect	N/A		282
(5)MH0548 - (5)MH0547	W HIGHLAND AVE	No Defect	N/A		351
(5)MH0553 - (5)MH0548	LOCUST ST	No Defect	N/A		464
(5)MH0554 - (5)MH0553	LOCUST ST	No Defect	N/A		173
(5)MH0554A - (5)MH0547	1413 LOCUST ST	Upper Cleanout Defective	Heavy	10	375
	1421 LOCUST ST	Upper Sewer Service	Light	1,440	375
	1424 LOCUST ST	Upper Cleanout Defective	Heavy	1,693	375
	224 OAKLAWN ST	Upper Sewer Service	Light	1,440	375
(5)MH0556 - (5)MH0546	MEYER ST	No Defect	N/A		271
(5)MH0557 - (5)MH0559	107 E MILL ST	Upper Cleanout Defective	Light	1,693	391
(5)MH0559 - (5)MH0691	W MILL ST	No Defect	N/A		341
(5)MH0561 - (5)MH0562A	DYER ST	No Defect	N/A		188
(5)MH0562 - (5)MH0544	DYER ST	No Defect	N/A		86
(5)MH0562A - (5)MH0563	1726 DYER ST	USMH	Medium	0	300
(5)MH0563 - (5)MH0544	DYER ST	No Defect	N/A		260
(5)MH0563 - (5)MH0564	DYER ST	No Defect	N/A		478
(5)MH0564 - (5)MH0565	DYER ST	No Defect	N/A		32
(5)MH0565 - (5)MH0566	1810 DUER ST	USMH	Heavy	0	210
(5)MH0566 - (5)MH0569A	DYER ST	No Defect	N/A		100

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Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5)MH0567 - (5)MH0533	DYER ST	No Defect	N/A		250
(5)MH0569 - (5)MH0569B	DYER ST	No Defect	N/A		55
(5)MH0569A - (5)MH0569B	DYER ST	No Defect	N/A		50
(5)MH0569B - (5)MH0567	DYER ST	No Defect	N/A		232
(5)MH0571 - (5)MH0569	DYER ST	No Defect	N/A		132
(5)MH0572 - (5)MH0571	DYER ST	No Defect	N/A		749
(5)MH0573 - (5)MH0572	DYER ST	No Defect	N/A		397
(5)MH0574 - (5)MH0573	DYER ST	No Defect	N/A		395
(5)MH0575 - (5)MH0574	2404 DYER ST	Upper Cleanout Defective	Light	1,693	410
(5)MH0576 - (5)MH0575	2416 DYER ST	Upper Cleanout Defective	Medium	1,693	131
(5)MH0577 - (5)MH0576	2425 DYER ST	Upper Cleanout Missing Cap	Light	1,693	266
	2425 DYER ST	Upper Cleanout Defective	Medium	1,693	266
(5)MH0578 - (5)MH0577	DYER ST	No Defect	N/A		251
(5)MH0586 - (5)MH0562	221 W DONNELLY ST	USMH	Medium	0	266
(5)MH0620 - (5)MH0281A	WALCO RD	No Defect	N/A		255
(5)MH0690 - (5)MH0691	POTTS ST	No Defect	N/A		273
(5)MH0691 - (5)MH2076	E MILL ST	No Defect	N/A		284
(5)MH0692 - (5)MH0691	203 E MILL ST	Upper Cleanout Defective	Medium	1,693	165
	212 E MILL ST	Upper Sewer Service	Light	1,440	165
(5)MH0699 - (5)MH0699A	JESTER ST	No Defect	N/A		324
(5)MH0699A - (5)MH0565	DYER ST	No Defect	N/A		324
(5)MH0700 - (5)MH0699	1734 JESTER ST	USMH	Light	0	192
(5)MH0700A - (5)MH0718A	E DONNELLY ST	No Defect	N/A		241
(5)MH0710 - (5)MH3109	MAIN ST	No Defect	N/A		357
(5)MH0713 - (5)MH0714	MAIN ST	No Defect	N/A		216

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0714 - (5)MH0715A	MAIN ST	No Defect	N/A		110
(5)MH0715 - (5)MH2501	MAIN ST	No Defect	N/A		936
(5)MH0715A - (5)MH0715	MAIN ST	No Defect	N/A		64
(5)MH0718 - (5)MH0700	E DONNELLY ST	No Defect	N/A		447
(5)MH0718A - (5)MH0718	339 E DONNELLY ST	Upper Cleanout Defective	Light	1,693	425
(5)MH0718B - (5)MH0718A	E DONNELLY ST	No Defect	N/A		35
(5)MH0720 - (5)MH0716	1814 S MAIN ST	USMH	Light	0	118
(5)MH0720 - (5)MH0718	S MAIN ST	No Defect	N/A		448
(5)MH0720A - (5)MH0720	1814 S MAIN ST	USMH	Light	0	87
(5)MH0757 - (5)MH0758	1706 HARPER ST	Upper Cleanout Defective	Light	1,693	395
(5)MH0758 - (5)MH0759	1708 HARPER ST	USMH	Light	0	348
(5)MH0759 - (5)MH0759A	SCHLEY ST	No Defect	N/A		340
(5)MH0759A - (5)MH0759B	SCHLEY ST	No Defect	N/A		127
(5)MH0759B - (5)MH0761	SCHELY ST	No Defect	N/A		250
(5)MH0761 - (5)MH0764	1843 HARPER ST	Upper Cleanout Missing Cap	Light	10	325
(5)MH0762 - (5)MH0758	HARPER ST	No Defect	N/A		240
(5)MH0762A - (5)MH0762	HARPER ST	No Defect	N/A		195
(5)MH0764A - (5)MH0764	HARPER ST	No Defect	N/A		315
(5)MH0769 - (5)MH3105C	SULTON ST	No Defect	N/A		328
(5)MH0770 - (5)MH0769	SULTON ST	No Defect	N/A		231
(5)MH0771 - (5)MH0773	CHERRY LN	No Defect	N/A		385
(5)MH0783 - (5)MH0773	PLEASENT ST	No Defect	N/A		340
(5)MH0784 - (5)MH0771	GLOVER ST	No Defect	N/A		349
(5)MH0786 - (5)MH0538	SOUTHGATE DR	No Defect	N/A		143
(5)MH0787 - (5)MH0788	GLENMERE CIR	No Defect	N/A		388

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.
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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0787A - (5)MH3115B	GARDEN CIR	No Defect	N/A		260
(5)MH0787B - (5)MH0787A	GARDEN CIR	No Defect	N/A		185
(5)MH0788 - (5)MH0788A	GLENMERE CIR	No Defect	N/A		238
(5)MH0788A - (5)MH0789	SOUTHGATE DR	No Defect	N/A		288
(5)MH0789 - (5)MH0538	SOUTHGATE DR	No Defect	N/A		105
(5)MH0790 - (5)MH0847	2513 BRIARWOOD DR	USMH	Heavy	0	145
(5)MH0791 - (5)MH0787	1314 GLENMERE CIR	Upper Cleanout Missing Cap	Medium	1,693	364
(5)MH0791A - (5)MH0788A	SOUTHGATE DR	No Defect	N/A		271
(5)MH0792 - (5)MH0790	2513 BRAIRWOOD DR	Mainline (Multiple Defects)	Heavy	108,000	324
(5)MH0793 - (5)MH0791A	SOUTHGATE DR	No Defect	N/A		381
(5)MH0794 - (5)MH0793	SOUTHGATE DR	No Defect	N/A		351
(5)MH0795 - (5)MH0800	JONES ST	No Defect	N/A		336
(5)MH0796 - (5)MH0796A	FOWLER AVE	No Defect	N/A		186
(5)MH0796A - (5)MH0799	SULTON ST	No Defect	N/A		241
(5)MH0796B - (5)MH0796	SULTON ST	No Defect	N/A		345
(5)MH0799 - (5)MH0770	SULTON ST	No Defect	N/A		410
(5)MH0799A - (5)MH0799	1910 ROOSEVELT ST	Upper Cleanout Defective	Medium	1,693	245
(5)MH0800 - (5)MH0799A	1405 REED ST	Upper Cleanout Defective	Heavy	1,693	336
(5)MH0801 - (5)MH0802	PARK AVE	No Defect	N/A		338
(5)MH0802 - (5)MH0799A	SULTON ST	No Defect	N/A		335
(5)MH0803 - (5)MH0784	1500 GLOVER ST	Upper Cleanout Missing Cap	Heavy	1,693	290
(5)MH0804 - (5)MH0783	PLEASENT ST	No Defect	N/A		316
(5)MH0814 - (5)MH0804	PLEASENT ST	No Defect	N/A		357
(5)MH0815 - (5)MH0803	GLOVER ST	No Defect	N/A		330
(5)MH0816 - (5)MH1117	1703 WILSON ST	Foundation Drain	Medium	8,640	158

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH0817 - (5)MH0082	1236 W SULLENBERGE	Upper Cleanout Missing Cap	Light	1,693	344
(5)MH0817 - (5)MH0815	GLOVER ST	No Defect	N/A		363
(5)MH0818 - (5)MH0801	1510 PARK AVE	Upper Cleanout Defective	Light	1,693	222
(5)MH0819 - (5)MH0820	1704 REED ST	Upper Cleanout Defective	Heavy	1,693	307
	1714 REED ST	Upper Sewer Service	Light	0	307
(5)MH0820 - (5)MH0820A	REED ST	No Defect	N/A		130
(5)MH0820A - (5)MH0800	REED ST	No Defect	N/A		275
(5)MH0822 - (5)MH0795	FOWLER AVE	No Defect	N/A		310
(5)MH0824 - (5)MH2610	BRIARWOOD DR	No Defect	N/A		172
(5)MH0825 - (5)MH0824	OAKWOOD DR	No Defect	N/A		119
(5)MH0827 - (5)MH0710	MAIN ST	No Defect	N/A		129
(5)MH0828 - (5)MH0827	MAIN ST	No Defect	N/A		646
(5)MH0830 - (5)MH0790	BAIRWOOD DR	No Defect	N/A		182
(5)MH0830A - (5)MH0830	VALLEY VIEW DR	No Defect	N/A		66
(5)MH0830B - (5)MH0830	VALLEY VIEW DR	No Defect	N/A		59
(5)MH0831 - (5)MH0830A	VALLEY VEIW DR	No Defect	N/A		180
(5)MH0831 - (5)MH3149	DYER ST	No Defect	N/A		213
(5)MH0832 - (5)MH2605	1304 SOUTHGATE CIR	Upper Cleanout Defective	Medium	1,693	272
(5)MH0835 - (5)MH0836	OAKHILL DR	No Defect	N/A		220
(5)MH0836 - (5)MH0848	SOUTHGATE DR	No Defect	N/A		209
(5)MH0837 - (5)MH0844A	VALLEY VIEW DR	No Defect	N/A		85
(5)MH0840 - (5)MH0840A	OAKWOOD DR	No Defect	N/A		90
(5)MH0840A - (5)MH0830A	OAKWOOD CIR	No Defect	N/A		448
(5)MH0843 - (5)MH0840	OAKWOOD DR	No Defect	N/A		217
(5)MH0844 - (5)MH0843	VALLEY VIEW DR	No Defect	N/A		130

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5)MH0844A - (5)MH0844	VALLEY VIEW DR	No Defect	N/A		85
(5)MH0845 - (5)MH0837	VALLEY VIEW DR	No Defect	N/A		115
(5)MH0846 - (5)MH0845	VALLEY VIEW DR	No Defect	N/A		250
(5)MH0846A - (5)MH0846	SOUTHGATE DR	No Defect	N/A		140
(5)MH0847 - (5)MH2611A	BAIRWOOD DR	No Defect	N/A		145
(5)MH0848 - (5)MH0844	SOUTHGATE DR	No Defect	N/A		357
(5)MH0861 - (5)MH0759	EVANS ST	No Defect	N/A		189
(5)MH0862 - (5)MH0819	PARK AVE	No Defect	N/A		381
(5)MH0863 - (5)MH0820	REED ST	No Defect	N/A		210
(5)MH0865 - (5)MH0866	PINE DR	No Defect	N/A		138
(5)MH0866 - (5)MH0862	PARK AVE	No Defect	N/A		137
(5)MH0867 - (5)MH1106	PINE DR	No Defect	N/A		158
(5)MH0867A - (5)MH1106	1821 ROYAL OAKS DR	USMH	Light	0	117
	1821 ROYAL OAKS DR	Upper Sewer Service	Light	1,440	117
	1821 ROYAL OAKS DR	Upper Cleanout Defective	Light	1,693	117
(5)MH0869 - (5)MH0867	PINE DR	No Defect	N/A		222
(5)MH0870 - (5)MH0874	1637 REED ST	Upper Sewer Service	Light	1,440	313
(5)MH0871 - (5)MH0870	REED ST	No Defect	N/A		147
(5)MH0874 - (5)MH0863	1609 REED ST	Upper Sewer Service	Light	1,440	380
(5)MH1041 - (5)MH1125	SHADY LN	No Defect	N/A		100
(5)MH1041A - (5)MH1041	SHADY LN	No Defect	N/A		64
(5)MH1041B - (5)MH1041A	1824 REED ST	USMH	Light	0	145
(5)MH1051 - (5)MH1041B	REED ST	No Defect	N/A		195
(5)MH1052 - (5)MH1053A	HILLCREST ST	No Defect	N/A		150
(5)MH1053 - (5)MH1041A	SHADY LN	No Defect	N/A		232

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5)MH1053A - (5)MH1041B	REED ST	No Defect	N/A		145
(5)MH1053B - (5)MH1053A	REED ST	No Defect	N/A		35
(5)MH1055 - (5)MH1052	HILLCREST ST	No Defect	N/A		93
(5)MH1056 - (5)MH1056A	SHADY LN	No Defect	N/A		55
(5)MH1056A - (5)MH2268	SHADY LN	No Defect	N/A		100
(5)MH1056B - (5)MH1056	SHADY LN	No Defect	N/A		142
(5)MH1057 - (5)MH1056A	SHADY LN	No Defect	N/A		165
(5)MH1059 - (5)MH3126	SULPHUR SPRIN	No Defect	N/A		136
(5)MH1060 - (5)MH1056	SHADY LN	No Defect	N/A		131
(5)MH1061 - (5)MH1060	SHADY CIR	No Defect	N/A		141
(5)MH1080 - (5)MH0493	1514 STANLEY ST	USMH	Heavy	0	447
(5)MH1082 - (5)MH0561	W DONNELLY ST	No Defect	N/A		228
(5)MH1083 - (5)MH1082	W DONNELLY ST	No Defect	N/A		232
(5)MH1093 - (5)MH1095	BRIARWOOD DR	No Defect	N/A		413
(5)MH1094 - (5)MH0847	BRIARWOOD DR	No Defect	N/A		346
(5)MH1095 - (5)MH1094	BRIARWOOD DR	No Defect	N/A		370
(5)MH1106 - (5)MH0866	PINE DR	No Defect	N/A		247
(5)MH1109 - (5)MH0867A	ROYAL OAKS DR	No Defect	N/A		103
(5)MH1109A - (5)MH1109	1809 ROYAL OAKS DR	USMH	Light	0	290
	1809 ROYAL OAKS DR	Upper Sewer Service	Light	1,440	290
(5)MH1109B - (5)MH1109A	1810 ROYAL OAKS DR	USMH	Light	0	215
(5)MH1109C - (5)MH1109A	ROYAL OAKS DR	No Defect	N/A		225
(5)MH1110 - (5)MH1111	ROYAL OAKS DR	No Defect	N/A		213
(5)MH1111 - (5)MH1112	ROYAL OAKS DR	No Defect	N/A		204
(5)MH1112 - (5)MH1115	ROYAL OAKS DR	No Defect	N/A		513

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH1114 - (5)MH1115	1726 REGAL DR	Upper Cleanout Missing Cap	Light	1,693	254
(5)MH1114A - (5)MH1116A	REGENCY DR	No Defect	N/A		262
(5)MH1114B - (5)MH1114A	REGENCY DR	No Defect	N/A		184
(5)MH1114C - (5)MH1114B	REGENCY DR	No Defect	N/A		185
(5)MH1115 - (5)MH1116A	ROYAL OAKS DR	No Defect	N/A		347
(5)MH1116 - (5)MH1117A	ROYAL OAKS DR	No Defect	N/A		242
(5)MH1116A - (5)MH1116	1729 E MILL ST	Upper Cleanout Defective	Medium	1,693	182
	715 REGENCY DR	USMH	Light	0	182
(5)MH1117 - (5)MH0814	1611 PLEASANT ST	Upper Cleanout Defective	Medium	1,693	340
(5)MH1117A - (5)MH1117	WILSON ST	No Defect	N/A		220
(5)MH1121 - (5)MH1121A	SHADY LN	No Defect	N/A		88
(5)MH1121A - (5)MH1128	SHADY LN	No Defect	N/A		108
(5)MH1122 - (5)MH1123	SHADY LN	No Defect	N/A		105
(5)MH1123 - (5)MH1124	SHADY LN	No Defect	N/A		86
(5)MH1124 - (5)MH1125	SHADY LN	No Defect	N/A		140
(5)MH1125 - (5)MH1126A	SHADY LN	No Defect	N/A		75
(5)MH1126A - (5)MH1126	SHADY LN	No Defect	N/A		155
(5)MH1128 - (5)MH0869	PINE DR	No Defect	N/A		206
(5)MH1140 - (5)MH1140A	BRYANT ST	No Defect	N/A		148
(5)MH1140A - (5)MH0087	1132 BRYANT ST	Upper Sewer Service	Light	1,440	216
(5)MH1140A - (5)MH0093	ACME ST	No Defect	N/A		100
(5)MH1146 - (5)MH1057	SHADY LN	No Defect	N/A		181
(5)MH1148 - (5)MH0691	203 E MILL ST	Upper Cleanout Defective	Heavy	1,693	415
(5)MH1158 - (5)MH1121	SHADY LN	No Defect	N/A		183
(5)MH1176 - (5)MH1158	PINE HILL CIR	No Defect	N/A		197

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH1177 - (5)MH1176	PINE HILL CIR	No Defect	N/A		174
(5)MH2075 - (5)MH1148	224 E DONNELLY ST	Upper Cleanout Missing Cap	Light	1,693	54
(5)MH2076 - (5)MH0543	DYER ST	No Defect	N/A		435
(5)MH2076A - (5)MH1148	E DONNELLY ST	No Defect	N/A		201
(5)MH2077 - (5)MH2077A	DYER ST	No Defect	N/A		216
(5)MH2077A - (5)MH0578	829 CLOUD RD	Upper Cleanout Defective	Heavy	1,693	253
	829 CLOUD RD	Upper Cleanout Defective	Light	1,693	253
	829 CLOUD RD	Upper Cleanout Defective	Light	1,693	253
(5)MH2089 - (5)MH0840A	1519 OAKWOOD CIR	USMH	Heavy	0	384
(5)MH2089A - (5)MH0840	OAKWOOD DR	No Defect	N/A		154
(5)MH2089B - (5)MH2089A	OAKWOOD DR	No Defect	N/A		309
(5)MH2092 - (5)MH2089B	OAKWOOD DR	No Defect	N/A		105
(5)MH2157 - (5)MH0071	903 S WALCO ST	Upper Cleanout Defective	Heavy	1,693	45
(5)MH2158 - (5)MH0086	KELLY ST	No Defect	N/A		478
(5)MH2159 - (5)MH0174	SPRUCE ST	No Defect	N/A		305
(5)MH2168 - (5)MH0525	LEON ST	No Defect	N/A		163
(5)MH2169 - (5)MH0556	W MILL ST	No Defect	N/A		134
(5)MH2170 - (5)MH0586	W DONNELLY ST	No Defect	N/A		130
(5)MH2176 - (5)MH0713	SULPHUR SPRIN	No Defect	N/A		274
(5)MH2177 - (5)MH0764	816 SULPHUR SPRIN	Upper Sewer Service	Light	1,440	340
(5)MH2178 - (5)MH2177	825 SULPHUR SPRIN	Upper Cleanout Missing Cap	Medium	1,693	253
	825 SULPHUR SPRIN	Upper Cleanout Defective	Light	1,693	253
(5)MH2179 - (5)MH2178	SULPHUR SPRIN	No Defect	N/A		221
(5)MH2181 - (5)MH2182A	SULPHUR SPRIN	No Defect	N/A		100
(5)MH2182 - (5)MH2185	825 SULPHUR SPRIN	Upper Cleanout Missing Cap	Heavy	10	218

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH2182A - (5)MH2182	SULPHUR SPRIN	No Defect	N/A		138
(5)MH2184A - (5)MH2182	825 SULPHUR SPRIN	Upper Cleanout Defective	Medium	1,693	143
(5)MH2184B - (5)MH2181	SULPHUR SPRIN	No Defect	N/A		223
(5)MH2185 - (5)MH2185A	S MAIN ST	No Defect	N/A		339
(5)MH2185A - (5)MH3111A	S MAIN ST	No Defect	N/A		360
(5)MH2250 - (5)MH0773	1618 CHERRY LN	Upper Cleanout Missing Cap	Heavy	10	218
(5)MH2266 - (5)MH1109	ROYAL OAKS DR	No Defect	N/A		251
(5)MH2268 - (5)MH1053	SHADY LN	No Defect	N/A		218
(5)MH2269 - (5)MH0822	WILSON ST	No Defect	N/A		205
(5)MH2270 - (5)MH2270A	WILSON ST	No Defect	N/A		70
(5)MH2270A - (5)MH0822	2103 WILSON ST	USMH	Light	0	150
(5)MH2271 - (5)MH0795	JONES ST	No Defect	N/A		105
(5)MH2272 - (5)MH0795	FOWLER AVE	No Defect	N/A		93
(5)MH2273 - (5)MH0785	2114 TAYLOR ST	Upper Cleanout Missing Cap	Heavy	1,693	355
	2114 TAYLOR ST	Upper Cleanout Missing Cap	Heavy	1,693	355
(5)MH2274 - (5)MH0785	FOLWER AVE	No Defect	N/A		332
(5)MH2507 - (5)MH0553	LOCUST ST	No Defect	N/A		148
(5)MH2605 - (5)MH2605B	VALLEY VEIW DR	No Defect	N/A		155
(5)MH2605A - (5)MH2605	SOUTHGATE DR	No Defect	N/A		160
(5)MH2605B - (5)MH0831	VALLEY VEIW DR	No Defect	N/A		160
(5)MH2609 - (5)MH2605A	SOUTHGATE DR	No Defect	N/A		196
(5)MH2610 - (5)MH0792	BRIARWOOD DR	No Defect	N/A		410
(5)MH2610A - (5)MH2610	BRIARWOOD DR	No Defect	N/A		175
(5)MH2611 - (5)MH0786	2525 BRAIRWOOD DR	USMH	Medium	0	130
(5)MH2611A - (5)MH2611	BAIRWOOD DR	No Defect	N/A		58

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5)MH2612 - (5)MH0762	CHERRY LN	No Defect	N/A		163
(5)MH2614 - (5)MH2612	1800 CHERRY LN	Upper Sewer Service	Light	1,440	224
(5)MH2615 - (5)MH0764A	HARPER ST	No Defect	N/A		321
(5)MH2615A - (5)MH2615	HARPER ST	No Defect	N/A		149
(5)MH2616 - (5)MH2615	1224 PARK AVE	Upper Cleanout Missing Cap	Medium	1,693	673
	1228 PARK AVE	Upper Cleanout Defective	Medium	10	673
(5)MH3015 - (5)MH0516	W DONNELLY ST	No Defect	N/A		443
(5)MH3023 - (5)MH2501	MAIN ST	No Defect	N/A		387
(5)MH3084 - (5)MH0495	STANLEY ST	No Defect	N/A		0
(5)MH3085 - (5)MH3086	S MAIN ST	No Defect	N/A		95
(5)MH3086 - (5)MH3087A	S MAIN ST	No Defect	N/A		280
(5)MH3086A - (5)MH3087B	2104 S MAIN ST	USMH	Light	0	67
(5)MH3087 - (5)MH3093	2104 S MAIN ST	USMH	Light	0	165
(5)MH3087A - (5)MH3087B	S MAIN ST	No Defect	N/A		82
(5)MH3087B - (5)MH3087	S MAIN ST	No Defect	N/A		71
(5)MH3088 - (5)MH3090	S MAIN ST	No Defect	N/A		188
(5)MH3089 - (5)MH3090	ROSE BUD ST	No Defect	N/A		90
(5)MH3090 - (5)MH3091	2027 S MAIN ST	Upper Cleanout Missing Cap	Light	1,693	101
	2027 S MAIN ST	Upper Cleanout Defective	Medium	1,693	101
	2027 S MAIN ST	Upper Cleanout Missing Cap	Medium	1,693	101
	2027 S MAIN ST	Upper Sewer Service	Light	1,440	101
(5)MH3091 - (5)MH3087A	S MAIN ST	No Defect	N/A		93
(5)MH3093 - (5)MH3097	S MAIN ST	No Defect	N/A		363
(5)MH3096A - (5)MH3102	LILLIAN ST	No Defect	N/A		330
(5)MH3097 - (5)MH3096A	CHARLETTE	No Defect	N/A		260

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH3098 - (5)MH3097	CHARLOTTE ST	No Defect	N/A		414
(5)MH3099 - (5)MH3100	LILLIAN ST	No Defect	N/A		176
(5)MH3100 - (5)MH3101	LILLIAN ST	No Defect	N/A		221
(5)MH3101 - (5)MH3102	LILLIAN ST	No Defect	N/A		229
(5)MH3102 - (5)MH2501	LILLIAN ST	No Defect	N/A		320
(5)MH3104 - (5)MH3106	PARK AVE	No Defect	N/A		191
(5)MH3105C - (5)MH3104	PARK AVE	No Defect	N/A		219
(5)MH3106 - (5)MH2615A	HARPER ST	No Defect	N/A		170
(5)MH3108 - (5)MH3109A	MAIN ST	No Defect	N/A		235
(5)MH3109 - (5)MH3113B	MAIN ST	No Defect	N/A		423
(5)MH3109A - (5)MH3109	MAIN ST	No Defect	N/A		226
(5)MH3110 - (5)MH3109A	MAIN ST	No Defect	N/A		104
(5)MH3111A - (5)MH3113	MAIN ST	No Defect	N/A		398
(5)MH3112 - (5)MH3113A	MAIN ST	No Defect	N/A		269
(5)MH3113 - (5)MH0707	MAIN ST	No Defect	N/A		671
(5)MH3113A - (5)MH3113B	MAIN ST	No Defect	N/A		166
(5)MH3113B - (5)MH3113	MAIN ST	No Defect	N/A		45
(5)MH3114 - (5)MH3115	SULPHUR SPRIN	No Defect	N/A		415
(5)MH3115 - (5)MH3115A	SULPHUR SPRIN	No Defect	N/A		176
(5)MH3115A - (5)MH3116	GARDEN CIR	No Defect	N/A		31
(5)MH3115B - (5)MH3115A	GARDEN CIR	No Defect	N/A		129
(5)MH3116 - (5)MH3117	SULPHUR SPRIN	No Defect	N/A		302
(5)MH3117 - (5)MH3120A	SULPHUR SPRIN	No Defect	N/A		159
(5)MH3120A - (5)MH3120B	SULPHUR SPRIN	No Defect	N/A		67
(5)MH3120B - (5)MH3121	SULPHUR SPRIN	No Defect	N/A		249

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5)MH3121 - (5)MH2184B	SULPHUR SPRIN	No Defect	N/A		91
(5)MH3124 - (5)MH1059	SULPHUR SPRIN	No Defect	N/A		336
(5)MH3126 - (5)MH3127	SULPHUR SPRIN	No Defect	N/A		525
(5)MH3127 - (5)MH3128	SULPHUR SPRIN	No Defect	N/A		180
(5)MH3128 - (5)MH3129	SULPHUR SPRIN	No Defect	N/A		244
(5)MH3129 - (5)MH3130	SULPHUR SPRIN	No Defect	N/A		372
(5)MH3130 - (5)MH3131	WILSON ST	No Defect	N/A		263
(5)MH3131 - (5)MH3132	WILSON ST	No Defect	N/A		97
(5)MH3132 - (5)MH2270	WILSON ST	No Defect	N/A		175
(5)MH3134 - (5)MH3135	ROLLING HILLS D	No Defect	N/A		120
(5)MH3135 - (5)MH3136A	ROLLING HILLS D	No Defect	N/A		160
(5)MH3136 - (5)MH3138	ROLLING HILLS D	No Defect	N/A		184
(5)MH3136A - (5)MH3136	ROLLING HILLS D	No Defect	N/A		140
(5)MH3138 - (5)MH3139	ROLLING HILLS D	No Defect	N/A		171
(5)MH3139 - (5)MH3139A	ROLLING HILLS D	No Defect	N/A		192
(5)MH3139A - (5)MH3144A	ROLLING HILLS D	No Defect	N/A		339
(5)MH3143 - (5)MH3144B	ROLLING HILLS D	No Defect	N/A		150
(5)MH3144 - (5)MH3145	2313 REED ST	Upper Cleanout Defective	Heavy	1,693	406
(5)MH3144A - (5)MH3144	REED ST	No Defect	N/A		175
(5)MH3144B - (5)MH3145	ROLLING HILLS D	No Defect	N/A		276
(5)MH3145 - (5)MH3146	ROLLING HILLS D	No Defect	N/A		212
(5)MH3146 - (5)MH3147	ROLLING HILLS D	No Defect	N/A		140
(5)MH3147 - (5)MH3147A	2011 REED ST	Upper Cleanout Defective	Medium	1,693	50
(5)MH3147A - (5)MH1051	REED ST	No Defect	N/A		104
(5)MH3149 - (5)MH3150A	DUER ST	No Defect	N/A		172

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5)MH3150 - (5)MH3153	2820 DYER ST	Upper Cleanout Defective	Medium	1,693	230
(5)MH3150A - (5)MH3150	2819 DYER ST	Upper Cleanout Missing Cap	Light	1,693	229
(5)MH3152 - (5)MH3153	LARKIN ST	No Defect	N/A		508
(5)MH3153 - (5)MH2077	DYER ST	No Defect	N/A		406
(5)MH4017 - (5)MH0576	2415 DYER ST	Upper Sewer Service	Light	1,440	273
(5)MH6002 - (5)MH0700	1734 JESTER ST	Upper Cleanout Defective	Light	10	395
(5)MH6002A - (5)MH6002	1716 JESTER ST	Upper Sewer Service	Light	1,440	244
(5A)CO10 - (5A)MH0191	3RD ST	No Defect	N/A		125
(5A)EOL - (5A)MH0218	308 5TH ST	Lower Sewer Service	Medium	1,440	255
	330 5TH ST	Upper Sewer Service	Light	1,440	255
(5A)EOL - (5A)MH0222	1005 LOCUST ST	Lower Sewer Service	Light	1,440	320
(5A)EOL - (5A)MH0262	3RD ST	No Defect	N/A		53
(5A)EOL - (5A)MH0269	1018 DYER ST	Upper Sewer Service	Light	1,440	705
(5A)EOL - (5A)MH0292	PAGE ST	No Defect	N/A		217
(5A)EOL - (5A)MH0554B	573 W SULLENBERGE	Upper Cleanout Missing Cap	Heavy	846	182
(5A)EOL - (5A)MIDLINE	OLIVE ST	No Defect	N/A		428
(5A)EOL - (5A)MIDLINE	211 2ND ST	Lower Cleanout Missing Cap	Heavy	1,693	259
(5A)MH0168 - (5A)MH0107	CABE ST	No Defect	N/A		243
(5A)MH0169 - (5A)MH0168	W 1ST ST	No Defect	N/A		200
(5A)MH0170 - (5A)MH0169	W 1ST ST	No Defect	N/A		235
(5A)MH0171 - (5A)MH0170	WALNUT ST	No Defect	N/A		260
(5A)MH0177 - (5A)MH0178	320 STANLEY ST	Upper Sewer Service	Light	1,440	400
	320 STANLEY ST	Disconnected Downspout	Medium	10	400
(5A)MH0178 - (5A)MH0179	3RD ST	No Defect	N/A		162
(5A)MH0179 - (5A)MH0171	630 W 3RD ST	Upper Cleanout Defective	Medium	10	238

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5A)MH0179A - (5A)MH0179	622 3RD ST	Upper Cleanout Defective	Light	10	199
(5A)MH0180 - (5A)MH0179	313 WALNUT ST	Upper Cleanout Defective	Medium	1,693	296
	313 WALNUT ST	Upper Sewer Service	Light	1,440	296
(5A)MH0181 - (5A)MH0180	537 W SULLENBERGE	Upper Sewer Service	Light	1,440	318
	537 W SULLENBERGE	Upper Cleanout Missing Cap	Light	1,693	318
	537 W SULLENBERGE	Upper Cleanout Missing Cap	Medium	1,693	318
(5A)MH0182 - (5A)MH0183	412 S OAK ST	Upper Sewer Service	Light	1,440	554
	503 S OAK ST	Upper Sewer Service	Light	1,440	554
(5A)MH0182A - (5A)MH0182	1206 EARNEST ST	Lower Sewer Service	Medium	1,440	188
(5A)MH0183 - (5A)MH0184	314 OAK ST	Upper Cleanout Defective	Light	1,693	322
	323 OAK ST	Upper Cleanout Missing Cap	Light	1,693	322
(5A)MH0184 - (5A)MH0185	209 OAK ST	Lower Sewer Service	Light	1,440	388
	606 W 3RD ST	Upper Cleanout Defective	Medium	1,693	388
(5A)MH0185 - (5A)MH0169	OAK ST	No Defect	N/A		183
(5A)MH0186 - (5A)MH0185	OAK ST	No Defect	N/A		150
(5A)MH0187 - (5A)MH0169	106 PECAN ST	Upper Cleanout Defective	Medium	1,693	367
	106 PECON ST	Upper Sewer Service	Medium	1,440	367
(5A)MH0188 - (5A)MH0187	419 1ST ST	Upper Cleanout Defective	Medium	10	379
	419 1ST ST	Upper Cleanout Defective	Medium	10	379
	419 1ST ST	Upper Cleanout Defective	Medium	10	379
	419 1ST ST	Upper Cleanout Defective	Medium	1,693	379
(5A)MH0188A - (5A)MH0188	405 1ST ST	Upper Cleanout Defective	Light	1,693	259
	116 VINE ST	Upper Cleanout Defective	Medium	1,693	259
	117 VINE ST	Lower Sewer Service	Light	1,440	259
(5A)MH0189 - (5A)MH0190	406 2ND ST	Upper Sewer Service	Light	1,440	457

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Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5A)MH0190 - (5A)MH0186	2ND ST	No Defect	N/A		261
(5A)MH0191 - (5A)MH0186	PECAN ST	No Defect	N/A		376
(5A)MH0191A - (5A)MH0191	314 PECAN ST	Upper Cleanout Defective	Medium	10	165
(5A)MH0192 - (5A)MH0191A	VINE ST	No Defect	N/A		145
(5A)MH0194 - (5A)MH0192	VINE ST	No Defect	N/A		188
(5A)MH0194A - (5A)MH0195	413 W PAGE AVE	Mainline	Heavy		181
	421 W PAGE AVE	Upper Sewer Service	Light	1,440	181
(5A)MH0195 - (5A)MH0194	W PAGE AVE	No Defect	N/A		75
(5A)MH0197 - (5A)MH0194A	409 PECAN ST	Upper Sewer Service	Medium	1,693	358
	430 PECAN ST	Upper Cleanout Defective	Light	1,693	358
	513 W PAGE AVE	Upper Sewer Service	Light	1,440	358
(5A)MH0199 - (5A)MH0197	423 5TH ST	Upper Sewer Service	Heavy	4,320	451
	423 5TH ST	Upper Cleanout Missing Cap	Light	10	451
	423 5TH ST	Upper Sewer Service	Medium	1,440	451
	423 5TH ST	Upper Sewer Service	Light	1,440	451
	423 5TH ST	Storm Ditch	Light	2,016	451
	523 PECAN ST	Upper Sewer Service	Light	1,440	451
	333 W SULLENBERGE	Upper Cleanout Missing Cap	Medium	1,693	451
	339 W SULLENBERGE	Upper Sewer Service	Light	1,440	451
	339 W SULLENBERGE	Lower Sewer Service	Light	1,440	451
(5A)MH0200 - (5A)MH0199	W SULLENBERGE	No Defect	N/A		283
(5A)MH0201 - (5A)MH0202	VINE ST	No Defect	N/A		326
(5A)MH0202 - (5A)MH0204A	408 VINE ST	Upper Cleanout Defective	Light	4,353	370
	408 VINE ST	Upper Cleanout Defective	Light	10	370
(5A)MH0204 - (5A)MH0194	320 VINE ST	Mainline	Medium		178

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Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5A)MH0204A - (5A)MH0204	VINE ST	No Defect	N/A		69
(5A)MH0205 - (5A)MH0204A	W PAGE AVE	No Defect	N/A		360
(5A)MH0206 - (5A)MH0205	OLIVE ST	No Defect	N/A		393
(5A)MH0207 - (5A)MH0206	OLIVE ST	No Defect	N/A		0
(5A)MH0208 - (5A)MH0209	OLIVE ST	No Defect	N/A		315
(5A)MH0209 - (5A)MH0188	319 1ST ST	Upper Sewer Service	Light	1,440	362
	319 1ST ST	Upper Sewer Service	Light	1,440	362
(5A)MH0210 - (5A)MH0209	1ST ST	No Defect	N/A		372
(5A)MH0211 - (5A)MH0210	123 LOCUST ST	Lower Sewer Service	Medium	1,440	175
(5A)MH0212 - (5A)MH0211	LOCUST ST	No Defect	N/A		83
(5A)MH0212A - (5A)MH0212	LOCUST ST	No Defect	N/A		180
(5A)MH0214 - (5A)MH0212A	2ND ST	No Defect	N/A		186
(5A)MH0215 - (5A)MH0216	LOCUST ST	No Defect	N/A		237
(5A)MH0216 - (5A)MH0217	128 5TH ST	Lower Cleanout Defective	Light	4,353	15
	128 5TH ST	Lower Cleanout Defective	Light	4,353	15
	128 5TH ST	Lower Cleanout Defective	Light	4,353	15
	128 5TH ST	Upper Cleanout Defective	Light	4,353	15
	418 LOCUST ST	Upper Sewer Service	Medium	1,440	15
	418 LOCUST ST	Upper Cleanout Missing Cap	Light	10	15
(5A)MH0217 - (5A)MH0218	5THST	No Defect	N/A		382
(5A)MH0218 - (5A)MH0205	228 5TH ST	Upper Sewer Service	Light	1,440	369
(5A)MH0219 - (5A)MH0218	OLIVE ST	No Defect	N/A		378
(5A)MH0220 - (5A)MH0219	603 OLIVE ST	Upper Sewer Service	Light	1,440	268
	603 OLIVE ST	Upper Cleanout Defective	Light	1,693	268
(5A)MH0221 - (5A)MH0222	LOCUST ST	No Defect	N/A		250

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Smoke Test Report

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5A)MH0222 - (5A)MH0220	OLIVE ST	No Defect	N/A		119
(5A)MH0224 - (5A)MH0217	530 LOCUST ST	Lower Cleanout Defective	Light	10	255
(5A)MH0226 - (5A)MH0264	PAGE ST	No Defect	N/A		57
(5A)MH0228 - (5A)MH0230	133 MAIN ST	Upper Cleanout Defective	Medium	10	485
(5A)MH0229 - (5A)MH0230	1ST ST	No Defect	N/A		178
(5A)MH0230 - (5A)MH0210	1ST ST	No Defect	N/A		375
(5A)MH0231 - (5A)MH0229	200 1ST ST	Lower Sewer Service	Light	1,440	196
(5A)MH0232 - (5A)MH0231	1ST ST	No Defect	N/A		353
(5A)MH0233 - (5A)MH0232	1ST ST	No Defect	N/A		293
(5A)MH0261 - (5A)MH0232	LAUREL ST	No Defect	N/A		410
(5A)MH0262 - (5A)MH0261	LAUREL ST	No Defect	N/A		338
(5A)MH0262 - (5A)MH0263	3RD ST	No Defect	N/A		416
(5A)MH0263 - (5A)MH0617	ASH ST	No Defect	N/A		493
(5A)MH0264 - (5A)MH0263	ASH ST	No Defect	N/A		348
(5A)MH0265 - (5A)MH0264	PAGE ST	No Defect	N/A		341
(5A)MH0266 - (5A)MH1193A	PINE BLUFF ST	No Defect	N/A		115
(5A)MH0269 - (5A)MH0221	W SULLENBERGE	No Defect	N/A		418
(5A)MH0285 - (5A)MH0268	CLARDY ST	No Defect	N/A		232
(5A)MH0288 - (5A)MH0269	W SULLENBERGE	No Defect	N/A		500
(5A)MH0289A - (5A)MH1191	CLEM ST	No Defect	N/A		134
(5A)MH0290 - (5A)MH0285	CLARDY ST	No Defect	N/A		385
(5A)MH0291 - (5A)MH0313	PINE BLUFF ST	No Defect	N/A		385
(5A)MH0292 - (5A)MH0265	PAGE ST	No Defect	N/A		592
(5A)MH0303 - (5A)MH0291	303 PINE BLUFF ST	Catch Basin	Light		451
	306 PINE BLUFF ST	Catch Basin	Light		451

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<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5A)MH0303 - (5A)MH0291	306 PINE BLUFF ST	Lower Sewer Service	Light	1,440	451
(5A)MH0304 - (5A)MH0305	824 SCHOOL ST	Upper Sewer Service	Medium	18,518	256
(5A)MH0305 - (5A)MH0305A	CLARDY ST	No Defect	N/A		71
(5A)MH0305A - (5A)MH0290	307 CLARDY ST	Lower Sewer Service	Medium	1,440	393
	326 CLARDY ST	Lower Sewer Service	Light	1,440	393
	906 SCHOOL ST	Mainline	Light		393
(5A)MH0306 - (5A)#N/A	339 CLEM ST	Upper Sewer Service	Medium	1,440	608
	927 SCHOOL ST	Lower Sewer Service	Light	1,440	608
(5A)MH0307 - (5A)MH2074	1127 W SULLENBERGE	Upper Sewer Service	Light	1,440	475
(5A)MH0310 - (5A)MH2074	424 E SULLENBERGE	Upper Cleanout Defective	Medium	10	518
	522 E SULLENBERGE	Upper Cleanout Defective	Medium	1,693	518
(5A)MH0311 - (5A)MH0307	536 HALL ST	Mainline	Medium		693
	542 HALL ST	Upper Sewer Service	Light	1,440	693
(5A)MH0312 - (5A)MH0311	HALL ST	No Defect	N/A		54
(5A)MH0313 - (5A)MH0266	PINE BLUFF ST	No Defect	N/A		236
(5A)MH0317 - (5A)MH0292	437 PAGE ST	Lower Cleanout Missing Cap	Light	4,353	460
	437 PAGE ST	Lower Cleanout Missing Cap	Light	10	460
(5A)MH0318 - (5A)MH0317	PAGE ST	No Defect	N/A		376
(5A)MH0355A - (5A)MH0310A	E SULLENBERGE	No Defect	N/A		0
(5A)MH0502 - (5A)MH0503	W SULLENBERGE	No Defect	N/A		274
(5A)MH0503 - (5A)MH0181	WALNUT ST	No Defect	N/A		178
(5A)MH0505 - (5A)MH1199	SUNSET ST	No Defect	N/A		130
(5A)MH0523 - (5A)MH0182A	EARNEST ST	No Defect	N/A		430
(5A)MH0549 - (5A)MH0221	LOCUST ST	No Defect	N/A		185
(5A)MH0551 - (5A)MH0269	1304 DYER ST	Upper Cleanout Defective	Medium	1,693	332

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Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)
(5A)MH0552 - (5A)MH0551	1327 DYER ST	Upper Cleanout Missing Cap	Light	1,693	340
(5A)MH0587 - (5A)MH0552	1404 DYER ST	Upper Sewer Service	Medium	1,440	372
(5A)MH0617 - (5A)MH0231	126 2ND ST	Upper Cleanout Defective	Light	1,693	303
	126 2ND ST	Upper Cleanout Defective	Light	10	303
(5A)MH0689 - (5A)MH0552	1533 DYER ST	Upper Cleanout Missing Cap	Light	1,693	85
(5A)MH0694 - (5A)MH0689	E HIGHLAND AVE	No Defect	N/A		566
(5A)MH0695 - (5A)MH0694	SMITH ST	No Defect	N/A		324
(5A)MH0696 - (5A)MH0695	SMITH ST	No Defect	N/A		354
(5A)MH0697 - (5A)MH0696	E MILL ST	No Defect	N/A		165
(5A)MH0722 - (5A)MH0697	405 E MILL ST	Lower Sewer Service	Light	1,440	164
(5A)MH0722A - (5A)MH0723	S MAIN ST	No Defect	N/A		462
(5A)MH0725 - (5A)MH0725A	E HIGHLAND AVE	No Defect	N/A		130
(5A)MH0725A - (5A)MH0694	E HIGHLAND AVE	No Defect	N/A		260
(5A)MH0726 - (5A)MH0725	SCHOOL ST	No Defect	N/A		330
(5A)MH0727 - (5A)MH0728	GEORGIA ST	No Defect	N/A		335
(5A)MH0727A - (5A)MH0726	MCHENRY ST	No Defect	N/A		177
(5A)MH0728 - (5A)MH0725	1421 S MAIN ST	Upper Cleanout Missing Cap	Light	4,353	267
(5A)MH0729 - (5A)MH0727	604 MCHENRY ST	Catch Basin	Heavy		538
	613 MCHENRY ST	Lower Sewer Service	Light	1,440	538
	613 MCHENRY ST	Lower Sewer Service	Medium	1,440	538
	614 MCHENRY ST	Upper Cleanout Missing Cap	Medium	10	538
	620 MCHENRY ST	Upper Sewer Service	Light	1,440	538
(5A)MH0729A - (5A)MH0729	MCHENRY ST	No Defect	N/A		20
(5A)MH0729B - (5A)MH0729A	704 MCHENRY ST	Lower Sewer Service	Medium	1,440	70
(5A)MH0730 - (5A)MH0728	514 E HIGHLAND AVE	Upper Cleanout Missing Cap	Medium	1,693	300

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.
 2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Segment Name</i>	<i>Address</i>	<i>Smoke Source</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(5A)MH0730A - (5A)MH0731	525 E HIGHLAND AVE	USMH	Heavy	0	129
(5A)MH0731 - (5A)MH0730	525 E HIGHLAND AVE	USMH	Light	0	115
(5A)MH0732 - (5A)MH2070	E HIGHLAND AVE	No Defect	N/A		195
(5A)MH1047 - (5A)MH1048	322 VINE ST	Upper Cleanout Missing Cap	Light	1,693	195
(5A)MH1048 - (5A)MH0204	VINE ST	No Defect	N/A		80
(5A)MH1077 - (5A)MH0312	KEITH ST	No Defect	N/A		229
(5A)MH1077A - (5A)MH0305	CLARDY ST	No Defect	N/A		959
(5A)MH1152 - (5A)MH0200	232 W SULLENBERGE	Upper Cleanout Missing Cap	Light	1,693	406
(5A)MH1179 - (5A)MH0554	117 W HIGHLAND AVE	Lower Sewer Service	Medium	1,440	150
	117 W HIGHLAND AVE	Upper Cleanout Defective	Heavy	1,693	150
	133 W HIGHLAND AVE	Upper Sewer Service	Light	1,440	150
(5A)MH1193 - (5A)MH0217	5TH ST	No Defect	N/A		350
(5A)MH1193A - (5A)MH1193	PINE BLUFF ST	No Defect	N/A		226
(5A)MH1196 - (5A)MH0303	406 PINE BLUFF ST	Upper Sewer Service	Light	1,440	394
(5A)MH1199 - (5A)MIDLINE	SUNSET ST	No Defect	N/A		211
(5A)MH2068 - (5A)MH0312	702 WALL ST	Upper Sewer Service	Medium	1,440	315
(5A)MH2070 - (5A)MH0730	E HIGHLAND AVE	No Defect	N/A		300
(5A)MH2074 - (5A)MH0288	324 W SULLENBERGE	Upper Sewer Service	Light	1,440	501
(5A)MH2074 - (5A)MIDLINE	HALL ST	No Defect	N/A		349
(5A)MH2163 - (5A)MH0697	E MILL ST	No Defect	N/A		166
(5A)MH2164 - (5A)MH1048	VINE ST	No Defect	N/A		286
(5A)MH2506 - (5A)MH0215	LOCUST ST	No Defect	N/A		560
(5A)MH6004 - (5A)MH0214	212 MAIN ST	Lower Sewer Service	Light	1,440	514
	230 MAIN ST	Upper Cleanout Defective	Light	4,353	514

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.
 2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

Smoke Test Report

Project Number 18-3337-00 Malvern SSES 2018

Segment Name	Address	Smoke Source	Smoke Intensity	Inflow Rate (gpd)	Length (ft)	
Source Summary				Totals	477,898	179973
		Catch Basin	3			
		Disconnected Downspout	1			
		Foundation Drain	1			
		Lower Cleanout Defective	4			
		Lower Cleanout Missing Cap	3			
		Lower Sewer Service	18			
		Mainline	4			
		Mainline (Multiple Defects)	1			
		Storm Ditch	4			
		Upper Cleanout Defective	94			
		Upper Cleanout Missing Cap	38			
		Upper Sewer Service	74			
		USMH	24			
		Total Sources	269			

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.
 2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

APPENDIX D

DYED WATER FLOODING REPORT

Dyed Water Flooding Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Line Segment</i>	<i>Street Name</i>	<i>Location Flooded</i>	<i>Illegal Conditions</i>	<i>Flow Rate</i>
(2)MH0034 - (2)MH0033	Faith St	Storm Ditch	Main Line Defect	3.18
		Storm Ditch	Dyed Water Observed	0.00
(5)MH0100 - (5)MH0094	Burriss Dr	Storm Ditch	Dyed Water Observed	0.00
		Storm Ditch	Main Line Defect	125.35
(5)MH0279A - (5)MH2157	Kelly St	Storm Ditch	No Sources Found	0.00
(5)MH0819 - (5)MH0820	Reed St	Deprs Grass Area	No Sources Found	0.00
(5)MH1041B - (5)MH1041A		Catch Basin	Dyed Water Observed	0.00
(5A)MH0194A - (5A)MH0195	Page St	Deprs Grass Area	Dyed Water Observed	0.00
		Deprs Grass Area	Main Line Defect	3.34
(5A)MH0199 - (5A)MH0197	Pecan St	Storm Ditch	Dyed Water Observed	0.00
		Storm Ditch	Main Line Defect	8.25
(5A)MH0204 - (5A)MH0194	Vine St	Deprs Grass Area	Main Line Defect	37.01
		Deprs Grass Area	Dyed Water Observed	0.00
(5A)MH0303 - (5A)MH0291	Pine Bluff St	Catch Basin	Main Line Defect	7.05
		Catch Basin	Dyed Water Observed	0.00
(5A)MH0303 - (5A)MH0291(2)		Catch Basin	Dyed Water Observed	0.00
		Catch Basin	Main Line Defect	7.05
(5A)MH0304 - (5A)MH0305	School St	Deprs Grass Area	Dyed Water Observed	0.00
(5A)MH0305 - (5A)MH0290	Clardy St	Storm Ditch	Dyed Water Observed	0.00
		Storm Ditch	Main Line Defect	12.15
(5A)MH0305A - (5A)MH0290	McHenry St	Deprs Grass Area	No Sources Found	0.00
(5A)MH0305A - (5A)MH0290(2)	Clardy St	Deprs Grass Area	Main Line Defect	0.18
		Deprs Grass Area	Dyed Water Observed	0.00

Dyed Water Flooding Report

Project Number 18-3337-00 Malvern SSES 2018

<i>Line Segment</i>	<i>Street Name</i>	<i>Location Flooded</i>	<i>Illegal Conditions</i>	<i>Flow Rate</i>
(5A)MH0311 - (5A)MH0307	Hall St	Storm Ditch	Dyed Water Observed	0.00
		Storm Ditch	Main Line Defect	10.40
(5A)MH0729 - (5A)MH0727	McHenry St	Catch Basin	Main Line Defect	76.69
		Catch Basin	Dyed Water Observed	0.00
<i>Total Line Segments:</i>	16		<i>Total Flow (gpm):</i> 290.65	
<i>Total Recommended for TV:</i>	0			

APPENDIX E

MANHOLE REHABILITATION RECOMMENDATIONS

PRIORITY ONE

Manhole Rehabilitation Recommendations Priority One

Project Number 18-3337-00 Malvern SSES 2018

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltration (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
5-MH0494	Install Bolts/Gasket for Bolted Cover	617 W Mill St	Precast / N/A	Non-Paved	8.85	\$100	\$100	2,880		2,880	2,880	0.035	1
3-MH0118	Replace Bench/Trough	1002 Elmo St	Poured / N/A	Non-Paved	7.82	\$1,000	\$1,100		21,600	21,600	24,480	0.046	2
3-MH3083	Install Bolts/Gasket for Bolted Cover	612 Gail St	Precast / N/A	Non-Paved	6.47	\$100	\$1,200	2,160		2,160	26,640	0.046	3
2-MH0680	Replace Cover/Frame/Frame Seal	1512 Pinehurst Dr	None / N/A	Paved	4.04	\$1,450	\$2,650	504	21,600	22,104	48,744	0.066	4
2-MH0611	Complete Manhole Rehab w/ New Cover	1247 Brownwood St	Brick / N/A	Non-Paved	5.51	\$1,632	\$4,282	19,837	259	20,096	68,840	0.081	5
2-MH0600	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1211 Brownwood St	Poured / N/A	Non-Paved	4.82	\$3,100	\$7,382	27,749	547	28,296	97,136	0.110	6
3-MH0157	Install Bolts/Gasket for Bolted Cover	170 N Laurel St	None / N/A	Paved	4.04	\$100	\$7,482	864		864	98,000	0.116	7
5-MH0860A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1915 S Main St	Rehab / N/A	Paved	7.34	\$3,500	\$10,982	27,965	432	28,397	126,397	0.123	8
5-MH0569A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1919 Dyer St	Rehab / N/A	Non-Paved	8.69	\$3,100	\$14,082	22,074	547	22,621	149,018	0.137	9
2-MH0618	Cementitious Coating and Replace Cover/Frame/Frame Seal	936 McKinney St	Brick / N/A	Paved	9.04	\$3,396	\$17,478	21,061	936	21,997	171,015	0.154	10
3A-MH3032	Repair Corbel	1628 E Page Ave	Precast / N/A	Non-Paved	5.34	\$500	\$17,978	2,880		2,880	173,895	0.174	11
5A-MH0179	Complete Manhole Rehab w/ New Cover	630 W 3rd St	Brick / N/A	Paved	7.04	\$1,876	\$19,854	10,027	547	10,574	184,469	0.177	12
5-MH2182A	Grout Lower 18" of Manhole and Repair Bench/Trough	825 Sulphur Springs Rd	Poured / N/A	Non-Paved	5.61	\$1,000	\$20,854		3,600	3,600	188,069	0.278	13
3-MH0113	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	118 N Main St	Brick / N/A	Non-Paved	8.80	\$3,100	\$23,954	10,132	835	10,967	199,036	0.283	14
5A-MH0221	Complete Manhole Rehab w/ New Cover	203 W Sullenberger Ave	Brick / N/A	Paved	14.48	\$3,067	\$27,021	9,811	518	10,329	209,365	0.297	15
3-MH1074A	Grout Lower 18" of Manhole and Repair Bench/Trough	1203 Grayson Cir	None / N/A	Non-Paved	3.71	\$1,000	\$28,021		2,880	2,880	212,245	0.347	16
3-MH0152	Cementitious Coating and Install Bolts/Gasket for Bolted Cover	229 N Laurel St	Rehab / N/A	Non-Paved	5.80	\$1,028	\$29,049	2,448	288	2,736	214,981	0.376	17
5A-MH0197	Cementitious Coating and Grout Pipe Seals	423 5th St	Brick / N/A	Paved	5.55	\$1,538	\$30,587	216	3,859	4,075	219,057	0.377	18
5-MH0493	Replace Cover/Frame/Frame Seal and Adjustment	1514 Stanley St	Rehab / N/A	Non-Paved	6.80	\$1,500	\$32,087	3,744		3,744	222,801	0.401	19
5A-MH0189	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	205 Vine St	Rehab / N/A	Paved	5.84	\$3,500	\$35,587	8,001	288	8,289	231,090	0.422	20
2-MH0590	Replace Cover/Frame/Frame Seal	846 W Moline St	Rehab / N/A	Paved	4.84	\$1,450	\$37,037	504	2,880	3,384	234,474	0.428	21
3-MH0153	Replace Bench/Trough, Install External Chimney Seal, and Replace Bolts	211 N Laurel St	None / N/A	Non-Paved	5.08	\$1,600	\$38,637	3,024	576	3,600	238,074	0.444	22
5-MH2185	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	825 Sulphur Springs Rd	Poured / N/A	Non-Paved	6.04	\$1,700	\$40,337	864	2,880	3,744	241,818	0.454	23
5A-MH0191	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	513 W 3rd St	None / N/A	Paved	4.85	\$1,776	\$42,113	216	3,600	3,816	245,634	0.465	24
5-MH1094	Replace Bench/Trough and Replace Cover	2432 Briarwood Dr	None / N/A	Non-Paved	4.19	\$1,150	\$43,263	936	1,440	2,376	248,010	0.484	25
5-MH0715A	Replace Cover/Frame/Frame Seal and Adjustment	1848 S Main St	None / N/A	Non-Paved	3.74	\$1,500	\$44,763	3,096		3,096	251,106	0.484	26
3A-MH1046	Replace Cover/Frame/Frame Seal	307 Overman St	Precast / N/A	Non-Paved	4.27	\$1,050	\$45,813	2,160		2,160	253,266	0.486	27
5A-MH0289	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	345 Clem St	None / N/A	Paved	5.45	\$1,872	\$47,685	216	3,600	3,816	257,082	0.491	28
5-MH3109	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	2109 S Main St	Rehab / N/A	Non-Paved	8.55	\$3,100	\$50,785	288	6,019	6,307	263,389	0.492	29
3-MH0256	Replace Cover/Frame/Frame Seal and Adjustment	100 Babcock St	Not Visible / N/A	Non-Paved	10.34	\$1,500	\$52,285	3,024		3,024	266,413	0.496	30
3-MH0651	Replace Cover/Frame/Frame Seal and Adjustment	212 W Moline St	Precast / N/A	Non-Paved	9.81	\$1,500	\$53,785	2,448	576	3,024	269,437	0.496	31
4-MH2238	Replace Cover/Frame/Frame Seal and Adjustment	1423 Roosevelt St	Precast / N/A	Paved	2.70	\$1,500	\$55,285	2,736	288	3,024	272,461	0.496	32
5A-MH0215	Complete Manhole Rehab w/ New Cover	129 W Page Ave	Brick / N/A	Paved	8.25	\$2,070	\$57,355	3,528	518	4,046	276,508	0.512	33
3-MH0131	Replace Cover/Frame/Frame Seal and Adjustment	201 Hot Springs St	Precast / N/A	Non-Paved	8.81	\$1,500	\$58,855	2,880		2,880	279,388	0.521	34
3-MH0157A	Replace Cover/Frame/Frame Seal and Adjustment	170 N Laurel St	Precast / N/A	Non-Paved	4.74	\$1,500	\$60,355	2,880		2,880	282,268	0.521	35
5-MH0573	Replace Cover/Frame/Frame Seal and Adjustment	2202 Dyer St	Poured / N/A	Paved	6.41	\$1,500	\$61,855	2,880		2,880	285,148	0.521	36

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltration (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
5A-MH1191A	Complete Manhole Rehab w/ New Cover	1005 S Main St	Brick / N/A	Paved	7.35	\$1,926	\$63,781	504	3,139	3,643	288,791	0.529	37
5-MH0528	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	317 Oaklawn St	Brick / N/A	Non-Paved	11.00	\$3,760	\$67,541	6,444	648	7,092	295,883	0.530	38
5-MH0548	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	232 W Highland Ave	Rehab / N/A	Non-Paved	7.69	\$3,100	\$70,641	936	4,867	5,803	301,686	0.534	39
4-MH2512	Complete Manhole Rehab w/ New Cover	2005 E Sullenberger Ave	Rehab / N/A	Paved	5.49	\$1,628	\$72,270	2,664	259	2,923	304,609	0.557	40
5-MH0565	Replace Cover/Frame/Frame Seal and Adjustment	1810 Dyer St	Rehab / N/A	Non-Paved	8.41	\$1,500	\$73,770	2,448		2,448	307,057	0.613	41
3-MH0114	Replace Cover/Frame/Frame Seal and Adjustment	400 Martin Luther King Blvd	Poured / N/A	Paved	5.58	\$1,500	\$75,270	2,448		2,448	309,505	0.613	42
3-MH0330	Replace Cover/Frame/Frame Seal and Adjustment	UKN Veneer St	Not Visible / N/A	Paved	7.24	\$1,500	\$76,770	2,448		2,448	311,953	0.613	43
3-MH0944	Replace Cover/Frame/Frame Seal and Adjustment	1112 N Banks St	None / N/A	Paved	5.61	\$1,500	\$78,270	2,448		2,448	314,401	0.613	44
4-MH2243	Replace Cover/Frame/Frame Seal and Adjustment	1125 Cherry Ln	Poured / N/A	Paved	7.24	\$1,500	\$79,770	2,160	288	2,448	316,849	0.613	45
3-MH0158	Replace Cover/Frame/Frame Seal and Adjustment	104 N Laurel St	Poured / N/A	Non-Paved	5.72	\$1,500	\$81,270	2,160	259	2,419	319,268	0.620	46
3-MH0130	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	118 N Main St	None / N/A	Non-Paved	4.39	\$1,702	\$82,972	2,664		2,664	321,932	0.639	47
4-MH0461	Complete Manhole Rehab w/ New Cover	1026 Jefferson St	Rehab / N/A	Paved	7.47	\$1,945	\$84,917	2,664	259	2,923	324,856	0.665	48
5-MH0758A	Complete Manhole Rehab w/o New Frame and Cover	1730 Harper St	Poured / N/A	Non-Paved	6.02	\$1,563	\$86,480	216	2,088	2,304	327,160	0.678	49
4-MH0450	Complete Manhole Rehab w/ New Cover	905 Jefferson St	Rehab / N/A	Paved	9.01	\$2,192	\$88,672	2,664	547	3,211	330,371	0.682	50
5-MH3130	Replace Cover/Frame/Frame Seal and Adjustment	1601 Sulphur Springs Rd	Precast / N/A	Non-Paved	6.30	\$1,500	\$90,172	2,160		2,160	332,531	0.694	51
3-MH0061	Grout Lower 18" of Manhole and Repair Bench/Trough	160 Cabe Ave	Precast / N/A	Non-Paved	8.74	\$1,000	\$91,172		1,440	1,440	333,971	0.694	52
3-MH0379	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	400 N Banks St	Precast / N/A	Non-Paved	10.14	\$3,100	\$94,272	3,744	648	4,392	338,363	0.706	53
5-MH0066A	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	712 S Walco Rd	Poured / N/A	Non-Paved	7.88	\$3,261	\$97,533	3,744	835	4,579	342,942	0.712	54
3-MH0925	Grout Lower 18" of Manhole and Repair Bench/Trough	403 Griggs St	Poured / N/A	Non-Paved	5.70	\$1,000	\$98,533		1,382	1,382	344,324	0.723	55
3-MH1030A	Cementitious Coating and Replace Cover/Frame/Frame Seal	170 N Laurel St	Rehab / N/A	Paved	4.84	\$2,424	\$100,957	3,024	317	3,341	347,665	0.726	56
5-MH1080	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1514 Stanley St	Rehab / N/A	Non-Paved	6.00	\$3,100	\$104,057	3,744	288	4,032	351,697	0.769	57
5A-MH2068	Cementitious Coating	705 Hall St	Rehab / N/A	Non-Paved	1.75	\$280	\$104,337		360	360	352,057	0.778	58
5-MH0699A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1825 Dyer St	Brick / N/A	Non-Paved	5.78	\$3,100	\$107,437	3,312	648	3,960	356,017	0.783	59
5A-MH0200	Cementitious Coating and Grout Pipe Seals	305 W Sullenberger Ave	Brick / N/A	Paved	7.14	\$1,792	\$109,230	216	1,987	2,203	358,220	0.814	60
3-MH0118A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	431 Martin Luther King Blvd	Rehab / N/A	Non-Paved	7.90	\$3,100	\$112,330	2,880	835	3,715	361,936	0.834	61
5-MH0802	Replace Cover/Frame/Frame Seal	1406 Park Dr	Rehab / N/A	Paved	5.82	\$1,450	\$113,780	1,728		1,728	363,664	0.839	62
4-MH1151	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	1603 E Mill St	None / N/A	Paved	7.94	\$2,270	\$116,050	2,448	259	2,707	366,371	0.839	63
5A-MH0307	Complete Manhole Rehab w/ New Cover	1016 School St	Brick / N/A	Paved	7.52	\$1,953	\$118,003	504	1,699	2,203	368,574	0.887	64
5-MH3113B	Replace Cover/Frame/Frame Seal	2312 S Main St	Precast / N/A	Non-Paved	7.50	\$1,050	\$119,053	864	317	1,181	369,755	0.889	65
5-MH0521	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	335 Oaklawn St	Rehab / N/A	Non-Paved	10.82	\$3,100	\$122,153	3,168	288	3,456	373,211	0.897	66
5-MH2176A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	718 Sulphur Springs Rd Unit F	Brick / N/A	Paved	9.60	\$3,500	\$125,653	3,600	288	3,888	377,099	0.900	67
4-MH0807	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1501 E Highland St	Brick / N/A	Paved	6.99	\$3,500	\$129,153	2,664	1,195	3,859	380,958	0.907	68
5A-MH0697	Cementitious Coating and Grout Pipe Seals	405 E Mill St	Rehab / N/A	Paved	5.36	\$1,508	\$130,661	1,656		1,656	382,614	0.910	69
5-MH2184B	Replace Cover/Frame/Frame Seal	825 Sulphur Springs Rd	Precast / N/A	Non-Paved	6.42	\$1,050	\$131,711	1,152		1,152	383,766	0.911	70
3-MH0167	Replace Cover/Frame/Frame Seal	160 Cabe Ave	Precast / N/A	Non-Paved	8.30	\$1,050	\$132,761	1,152		1,152	384,918	0.911	71
5-MH3136	Replace Cover/Frame/Frame Seal	2140 Rolling Hills Dr	Precast / N/A	Non-Paved	8.01	\$1,050	\$133,811	1,152		1,152	386,070	0.911	72
3A-MH3036	Repair Bench/Trough	1002 Section Line St	Precast / N/A	Non-Paved	9.34	\$500	\$134,311		547	547	386,617	0.914	73
5A-MH1048	Repair Bench/Trough	320 Vine St	Precast / N/A	Paved	4.17	\$500	\$134,811		547	547	387,164	0.914	74

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltration (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
3-MH0923	Replace Cover/Frame/Frame Seal	804 E Moline St	Precast / N/A	Paved	6.52	\$1,450	\$136,261	1,584		1,584	388,748	0.915	75
3-MH1074	Cementitious Coating and Replace Cover/Frame/Frame Seal	1206 Grayson Cir	Precast / N/A	Non-Paved	6.44	\$2,280	\$138,541	2,160	317	2,477	391,225	0.921	76
5A-MH0262	Complete Manhole Rehab w/ New Cover	202 E 3rd St	Brick / N/A	Paved	8.10	\$2,046	\$140,587	1,656	547	2,203	393,428	0.929	77
5-MH0840A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1532 Valley View Dr	Brick / N/A	Non-Paved	3.80	\$3,100	\$143,687	1,440	1,886	3,326	396,755	0.932	78
3-MH1067	Replace Cover/Frame/Frame Seal	224 Harris St	Poured / N/A	Non-Paved	1.84	\$1,050	\$144,737	864	259	1,123	397,878	0.935	79
3-MH0298A	Replace Cover/Frame/Frame Seal and Adjustment	403 Griggs St	Precast / N/A	Non-Paved	7.88	\$1,500	\$146,237	1,584		1,584	399,462	0.947	80
5-MH0523A	Complete Manhole Rehab w/ New Cover	1311 Earnest St	Rehab / N/A	Paved	6.04	\$1,716	\$147,954	936	864	1,800	401,262	0.954	81
5A-MH2074	Cementitious Coating and Grout Pipe Seals	406 E Sullenberger Ave	Brick / N/A	Paved	7.70	\$1,882	\$149,836	216	1,757	1,973	403,235	0.954	82
5A-MH0552	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	1404 Dyer St	None / N/A	Paved	5.39	\$1,862	\$151,698	1,656	288	1,944	405,179	0.958	83
4-MH0885	Replace Bench/Trough and Replace Cover	2324 McHenry Cir	None / N/A	Non-Paved	4.81	\$1,150	\$152,848	936	259	1,195	406,374	0.962	84
3-MH0958	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	706 E Moline St	None / N/A	Paved	5.20	\$3,500	\$156,348	3,312	288	3,600	409,974	0.972	85
5-MH0105A	Replace Cover/Frame/Frame Seal	826 Marigold St	None / N/A	Non-Paved	2.20	\$1,050	\$157,398	1,080		1,080	411,054	0.972	86
5-MH2178A	Replace Cover/Frame/Frame Seal	825 Sulphur Springs Rd	Precast / N/A	Non-Paved	5.72	\$1,050	\$158,448	1,080		1,080	412,134	0.972	87
2-MH2114A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1625 Martin Luther King Blvd	Precast / N/A	Non-Paved	16.04	\$3,100	\$161,548	2,880	288	3,168	415,302	0.979	88
2-MH0604	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	339 Martin Luther King Blvd	Rehab / N/A	Non-Paved	6.48	\$3,100	\$164,648	2,880	288	3,168	418,470	0.979	89
5-MH3144	Grout Walls/Joints	2313 Reed St	Precast / N/A	Non-Paved	4.70	\$313	\$164,961		317	317	418,787	0.989	90
2-MH0032	Cementitious Coating	122 Church St	Rehab / N/A	Paved	3.61	\$578	\$165,539	216	360	576	419,363	1.003	91
2-MH0002	Cementitious Coating and Grout Pipe Seals	920 Walco Rd	Brick / N/A	Non-Paved	6.00	\$1,610	\$167,149	288	1,296	1,584	420,947	1.016	92
4-MH0440	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	820 Jefferson St	Rehab / N/A	Paved	3.71	\$3,500	\$170,649	2,448	936	3,384	424,331	1.034	93
3-MH0253A	Replace Cover/Frame/Frame Seal	100 Babcock St	Not Visible / N/A	Non-Paved	9.86	\$1,050	\$171,699	1,008		1,008	425,339	1.042	94
3-MH0964A	Repair Corbel, and Replace Cover/Frame/Frame Seal	1211 Fall St	Precast / N/A	Paved	6.56	\$1,950	\$173,649	1,872		1,872	427,211	1.042	95
5-MH0769	Replace Cover/Frame/Frame Seal	1910 Roosevelt St	None / N/A	Non-Paved	5.05	\$1,050	\$174,699	1,008		1,008	428,219	1.042	96
5-MH3143	Grout Walls/Joints	1906 Rolling Hills Dr	Precast / N/A	Non-Paved	5.00	\$333	\$175,032		317	317	428,536	1.052	97
5-MH0529	Complete Manhole Rehab w/ New Frame and Cover	1620 Rock St	Rehab / N/A	Paved	8.75	\$3,275	\$178,307	2,736	360	3,096	431,632	1.058	98
2-MH0597	Complete Manhole Rehab, Internal Chimney Seal, and New Cover	709 Halbert St	Brick / N/A	Paved	5.41	\$2,016	\$180,323	1,368	518	1,886	433,518	1.068	99
4-MH1104	Replace Cover/Frame/Frame Seal	1715 Delano Dr	Rehab / N/A	Paved	3.06	\$1,450	\$181,773	792	547	1,339	434,857	1.083	100
3A-MH0225	Complete Manhole Rehab w/ New Cover	506 Keith St	Brick / N/A	Paved	7.62	\$1,969	\$183,742	1,008	806	1,814	436,672	1.085	101
5-MH0718	Complete Manhole Rehab w/ New Cover	339 E Donnelly St	Brick / N/A	Non-Paved	8.59	\$2,124	\$185,866	504	1,440	1,944	438,616	1.093	102
5-MH0534	Grout Walls/Joints	2426 S Main St	Precast / N/A	Non-Paved	5.21	\$347	\$186,214		317	317	438,932	1.096	103
3-MH0056	Complete Manhole Rehab w/ New Frame and Cover	103 Barnett St	Rehab / N/A	Non-Paved	5.19	\$2,455	\$188,669	1,872	360	2,232	441,164	1.100	104
3-MH1031B	Complete Manhole Rehab, Internal Chimney Seal, and New Cover	305 Laurel St	Rehab / N/A	Paved	6.06	\$2,120	\$190,789	1,368	547	1,915	443,080	1.107	105
3A-MH1045	Complete Manhole Rehab, Internal Chimney Seal, and New Cover	615 J. W. Harrison St	Rehab / N/A	Non-Paved	4.10	\$1,806	\$192,595	1,368	259	1,627	444,707	1.110	106
5-MH0092	Complete Manhole Rehab w/ New Cover	910 W Sullenberger Ave	Rehab / N/A	Paved	5.69	\$1,660	\$194,255	936	547	1,483	446,190	1.119	107
3-MH0641	Complete Manhole Rehab, Internal Chimney Seal w/o New Frame and Cover	830 Division St	Brick / N/A	Paved	6.66	\$1,966	\$196,221	864	893	1,757	447,947	1.119	108
5-MH0538	Replace Cover/Frame/Frame Seal	2508 Southgate Dr	None / N/A	Non-Paved	4.10	\$1,050	\$197,271	936		936	448,883	1.122	109
4-MH0876A	Replace Cover/Frame/Frame Seal	1324 Maple St	None / N/A	Non-Paved	4.20	\$1,050	\$198,321	936		936	449,819	1.122	110
3-MH0916	Replace Cover/Frame/Frame Seal	211 Gough St	Precast / N/A	Non-Paved	7.50	\$1,050	\$199,371	936		936	450,755	1.122	111
3-MH0149	Replace Cover/Frame/Frame Seal	320 Elmo St	Rehab / N/A	Non-Paved	5.37	\$1,050	\$200,421	936		936	451,691	1.122	112

<u>Basin-Manhole</u>	<u>Repair Description</u>	<u>Street Address</u>	<u>Construction / MH Type</u>	<u>Surface</u>	<u>Depth</u>	<u>Repair Cost</u>	<u>Cumulative Repair Cost</u>	<u>Inflow (GPD)</u>	<u>Infilt (GPD)</u>	<u>Total Inflow (GPD)</u>	<u>Cumulative Flow (GPD)</u>	<u>Ratio (\$/GPD)</u>	<u>Count</u>
5-MH0827	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	2506 S Main St	Rehab / N/A	Non-Paved	8.70	\$3,392	\$203,813	1,440	1,570	3,010	454,700	1.127	113
5-MH0512	Replace Bench/Trough and Replace Cover	545 W Mill St	Rehab / N/A	Non-Paved	7.08	\$1,150	\$204,963	720	288	1,008	455,708	1.141	114
5-MH1127	Complete Manhole Rehab w/ New Cover	2020 Pine Dr	Rehab / N/A	Non-Paved	4.93	\$1,539	\$206,502	1,080	259	1,339	457,048	1.149	115

Report Totals:	Total Cost: \$206,502	Tota Inflow:	330,717
		Total Infiltration:	126,325
		Total Inflow:	457,048

APPENDIX F

MANHOLE REHABILITATION RECOMMENDATIONS
PRIORITY TWO

Manhole Rehabilitation Recommendations Priority Two

Project Number 18-3337-00 Malvern SSES 2018

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltration (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
3-MH1069	Replace Cover/Frame/Frame Seal	400 Martin Luther King Blvd	Rehab / N/A	Paved	3.06	\$1,450	\$1,450	864	360	1,224	1,224	1.185	1
3A-MH0369	Replace Cover/Frame/Frame Seal	725 E Page Ave	None / N/A	Paved	5.59	\$1,450	\$2,900	936	288	1,224	2,448	1.185	2
5A-MH0261	Repair Corbel, and Replace Cover/Frame/Frame Seal	211 E 2nd St	None / N/A	Paved	3.80	\$1,950	\$4,850	1,368	259	1,627	4,075	1.198	3
3A-MH3038	Grout Walls/Joints	1616 E Page Ave	Precast / N/A	Non-Paved	5.70	\$380	\$5,230		317	317	4,392	1.199	4
3A-MH2064	Cementitious Coating	1616 E Page Ave	Rehab / N/A	Non-Paved	4.91	\$786	\$6,016	288	360	648	5,040	1.212	5
5A-MH0554	Replace Cover/Frame/Frame Seal	1327 Locust St	Other / N/A	Non-Paved	2.11	\$1,050	\$7,066	864		864	5,904	1.215	6
5-MH3126	Replace Cover/Frame/Frame Seal	2212 Shady Ln	Precast / N/A	Non-Paved	6.30	\$1,050	\$8,116	864		864	6,768	1.215	7
5-MH3120B	Replace Cover/Frame/Frame Seal	1203 Sulphur Springs Rd	Precast / N/A	Non-Paved	7.49	\$1,050	\$9,166	864		864	7,632	1.215	8
5-MH3117	Replace Cover/Frame/Frame Seal	1203 S Sulphur Springs Rd	Precast / N/A	Non-Paved	11.87	\$1,050	\$10,216	864		864	8,496	1.215	9
5-MH3089	Replace Cover/Frame/Frame Seal	2027 S Main St	Precast / N/A	Non-Paved	5.84	\$1,050	\$11,266	864		864	9,360	1.215	10
5-MH3087A	Replace Cover/Frame/Frame Seal	2027 S Main St	Precast / N/A	Non-Paved	6.99	\$1,050	\$12,316	864		864	10,224	1.215	11
5-MH0563	Replace Cover/Frame/Frame Seal	211 W Donnelly St	Precast / N/A	Non-Paved	6.96	\$1,050	\$13,366	864		864	11,088	1.215	12
3-MH0129	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	118 N Main St	Rehab / N/A	Non-Paved	8.60	\$3,376	\$16,742	1,872	907	2,779	13,867	1.215	13
3A-MH0348	Complete Manhole Rehab w/ New Cover	411 S Banks St	Brick / N/A	Paved	5.85	\$1,686	\$18,428	576	806	1,382	15,250	1.220	14
2-MH2012	Repair Corbel and Replace Bench/Trough	1011 N Park Dr	Precast / N/A	Non-Paved	5.29	\$1,500	\$19,928	288	936	1,224	16,474	1.225	15
2-MH0973	Repair Corbel and Replace Bench/Trough	1226 Grayson Cir	Rehab / N/A	Non-Paved	4.10	\$1,500	\$21,428	288	936	1,224	17,698	1.225	16
3-MH0627	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	705 N Main St	Rehab / N/A	Non-Paved	6.10	\$3,100	\$24,528	1,872	648	2,520	20,218	1.230	17
5-MH0531	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	221 W Donnelly St	Rehab / N/A	Non-Paved	6.37	\$3,100	\$27,628	1,872	648	2,520	22,738	1.230	18
5-MH0772	Complete Manhole Rehab w/ New Cover	1730 Harper St	Rehab / N/A	Non-Paved	4.51	\$1,472	\$29,099	936	259	1,195	23,933	1.231	19
5A-MH0107	Complete Manhole Rehab w/ New Cover	906 Cabe St	Brick / N/A	Paved	5.55	\$1,638	\$30,737	792	518	1,310	25,243	1.250	20
5-MH0835	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	1416 Oakhill Dr	None / N/A	Paved	3.40	\$1,800	\$32,537	1,152	288	1,440	26,683	1.250	21
5-MH0863	Complete Manhole Rehab, Internal Chimney Seal, and New Cover	1720 Shady Ln	Rehab / N/A	Paved	5.61	\$2,048	\$34,585	1,368	259	1,627	28,310	1.258	22
3-MH0936	Replace Cover/Frame/Frame Seal	405 Sand Rd	Poured / N/A	Paved	11.30	\$1,450	\$36,035	1,152		1,152	29,462	1.259	23
3-MH0940	Replace Cover/Frame/Frame Seal	501 Sand Rd	Poured / N/A	Paved	7.04	\$1,450	\$37,485	1,152		1,152	30,614	1.259	24
3A-MH0433	Complete Manhole Rehab w/ New Cover	1621 Circle Dr	Rehab / N/A	Paved	5.64	\$1,652	\$39,137	504	806	1,310	31,925	1.261	25
3-MH0980	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	844 N Main St	None / N/A	Non-Paved	3.49	\$1,558	\$40,696	936	288	1,224	33,149	1.273	26
3-MH0118B	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	320 Hot Springs St	Poured / N/A	Non-Paved	5.84	\$3,100	\$43,796	1,584	835	2,419	35,568	1.281	27
3A-MH0373	Complete Manhole Rehab w/ New Cover	205 Sheppard St	Rehab / N/A	Non-Paved	4.90	\$1,534	\$45,330	936	259	1,195	36,763	1.283	28
5A-MH0212	Complete Manhole Rehab w/ New Cover	123 Locust St	Brick / N/A	Paved	6.40	\$1,774	\$47,104	792	576	1,368	38,131	1.297	29
2-MH2118	Replace Cover/Frame/Frame Seal and Adjustment	1 College Cir	Precast / N/A	Non-Paved	5.17	\$1,500	\$48,604	1,152		1,152	39,283	1.302	30
4-MH2038	Complete Manhole Rehab, Internal Chimney Seal, and New Cover	1903 Monroe St	Rehab / N/A	Paved	6.09	\$2,124	\$50,728	1,368	259	1,627	40,910	1.306	31
5A-MH0689	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1333 Dyer St	None / N/A	Paved	5.74	\$3,500	\$54,228	936	1,728	2,664	43,574	1.314	32
2-MH0009	Replace Bench/Trough, Install Internal Chimney Seal, and Repair Corbel	223 N Walco Rd	None / N/A	Paved	5.58	\$1,800	\$56,028	1,080	288	1,368	44,942	1.316	33
5-MH0483	Replace Bench/Trough, Install Internal Chimney Seal, and Repair Corbel	1328 Stanley St	Rehab / N/A	Paved	6.38	\$1,800	\$57,828	1,080	288	1,368	46,310	1.316	34
5-MH0790	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	2513 Briarwood Dr	Brick / N/A	Non-Paved	4.50	\$3,100	\$60,928	1,800	547	2,347	48,658	1.321	35
2-MH0608	Complete Manhole Rehab w/ New Cover	1212 McMillan St	Rehab / N/A	Non-Paved	5.21	\$1,584	\$62,512	936	259	1,195	49,853	1.325	36

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltration (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
3A-MH0349	Cementitious Coating and Grout Pipe Seals	702 E Page Ave	Brick / N/A	Paved	4.73	\$1,407	\$63,918	216	835	1,051	50,904	1.338	37
5-MH0515	Complete Manhole Rehab w/ New Cover	617 W Mill St	Rehab / N/A	Non-Paved	4.10	\$1,406	\$65,324	504	547	1,051	51,955	1.338	38
3-MH0150	Complete Manhole Rehab w/ New Cover	328 Berger St	Rehab / N/A	Non-Paved	5.31	\$1,600	\$66,924	936	259	1,195	53,150	1.338	39
5-MH1106	Replace Cover/Frame/Frame Seal	25 Pine Dr	Rehab / N/A	Paved	4.31	\$1,450	\$68,374	1,080		1,080	54,230	1.343	40
3A-MH3037	Grout Walls/Joints	1616 E Page Ave	Precast / N/A	Non-Paved	6.39	\$426	\$68,800		317	317	54,547	1.345	41
2-MH0018	Repair Corbel, and Replace Cover/Frame/Frame Seal	103 Happy St	Rehab / N/A	Paved	3.26	\$1,950	\$70,750	1,440		1,440	55,987	1.354	42
3-MH0141	Repair Corbel, and Replace Cover/Frame/Frame Seal	304 Fairview St	Rehab / N/A	Paved	8.10	\$1,950	\$72,700	1,440		1,440	57,427	1.354	43
3-MH0344	Replace Bench/Trough and Replace Cover/Frame/Frame Seal and Adjustment	400 N Banks St	Precast / N/A	Non-Paved	9.32	\$2,500	\$75,200	1,584	259	1,843	59,270	1.356	44
5-MH0547	Cementitious Coating and Grout Pipe Seals	234 Oaklawn St	Rehab / N/A	Paved	8.52	\$2,013	\$77,213	216	1,267	1,483	60,754	1.357	45
3A-MH1144	Complete Manhole Rehab w/ New Cover	1131 Pine Bluff St	Rehab / N/A	Paved	6.48	\$1,787	\$79,000	504	806	1,310	62,064	1.364	46
5-MH2158	Complete Manhole Rehab w/ New Frame and Cover	1137 Kelly St	Rehab / N/A	Paved	3.73	\$2,472	\$81,472	1,152	648	1,800	63,864	1.373	47
2-MH0608A	Complete Manhole Rehab w/ New Cover	1212 McMillan St	Rehab / N/A	Non-Paved	5.61	\$1,648	\$83,119	936	259	1,195	65,059	1.379	48
3A-MH2280	Replace Cover/Frame/Frame Seal	728 Pine Bluff St	Rehab / N/A	Paved	3.19	\$1,450	\$84,569	504	547	1,051	66,110	1.379	49
3-MH3042	Complete Manhole Rehab and External Chimney Seal w/o New Frame and Cover	719 Division St	Precast / N/A	Non-Paved	4.02	\$2,093	\$86,663	864	648	1,512	67,622	1.384	50
3A-MH0258	Complete Manhole Rehab w/ New Cover	425 E First St	Rehab / N/A	Paved	5.65	\$1,654	\$88,317	936	259	1,195	68,818	1.384	51
5-MH0710	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	2506 S Main St	Rehab / N/A	Non-Paved	9.31	\$3,490	\$91,806	1,872	648	2,520	71,338	1.385	52
3A-MH2202	Repair Bench/Trough	1016 McBee St	Precast / N/A	Paved	4.39	\$500	\$92,306		360	360	71,698	1.389	53
3-MH0654	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1324 Sherwood Dr	Rehab / N/A	Non-Paved	4.90	\$3,100	\$95,406	1,584	648	2,232	73,930	1.389	54
3-MH0927A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	403 Griggs St	Precast / N/A	Non-Paved	6.30	\$3,100	\$98,506	1,584	648	2,232	76,162	1.389	55
5-MH2605A	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	2706 Southgate Dr	Brick / N/A	Non-Paved	5.40	\$2,864	\$101,370	1,800	259	2,059	78,221	1.391	56
5-MH0862	Cementitious Coating and Grout Pipe Seals	1744 Park Ave	Rehab / N/A	Paved	5.34	\$1,504	\$102,875	1,080		1,080	79,301	1.393	57
5-MH0785	Complete Manhole Rehab w/ New Cover	2106 Taylor St	Rehab / N/A	Paved	7.01	\$1,872	\$104,746	1,080	259	1,339	80,640	1.398	58
5-MH0566	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1828 Dyer St	Rehab / N/A	Non-Paved	8.90	\$3,100	\$107,846	576	1,627	2,203	82,843	1.407	59
3-MH2020	Complete Manhole Rehab w/ New Cover	328 Berger St	Rehab / N/A	Non-Paved	5.87	\$1,689	\$109,535	936	259	1,195	84,038	1.413	60
3A-MH0418	Replace Cover/Frame/Frame Seal	640 Cherry Ln	Brick / N/A	Paved	3.71	\$1,450	\$110,985	504	518	1,022	85,061	1.418	61
4-MH0855	Repair Corbel, and Replace Cover/Frame/Frame Seal	1826 E Sullenberger Ave	Rehab / N/A	Paved	5.70	\$1,950	\$112,935	1,368		1,368	86,429	1.425	62
3-MH0673	Repair Corbel, and Replace Cover/Frame/Frame Seal	611 Hoover St	Rehab / N/A	Paved	4.86	\$1,950	\$114,885	1,368		1,368	87,797	1.425	63
4-MH0859	Complete Manhole Rehab and External Chimney Seal w/o New Frame and Cover	2021 E. Sullenberger Ave	Rehab / N/A	Non-Paved	3.85	\$2,066	\$116,951	1,152	288	1,440	89,237	1.435	64
3-MH0057	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	107 Barnett St	Rehab / N/A	Non-Paved	6.28	\$3,100	\$120,051	1,872	288	2,160	91,397	1.435	65
5-MH0762	Replace Cover/Frame/Frame Seal	1730 Harper St	Precast / N/A	Paved	5.75	\$1,450	\$121,501	720	288	1,008	92,405	1.438	66
5-MH3109A	Grout Walls/Joints	2109 S Main St	Precast / N/A	Non-Paved	6.89	\$459	\$121,961		317	317	92,722	1.450	67
2-MH0581	Complete Manhole Rehab w/ New Cover	1225 Brownwood St	Brick / N/A	Non-Paved	2.64	\$1,172	\$123,133	288	518	806	93,528	1.454	68
3-MH0113B	Replace Cover/Frame/Frame Seal	201 Hot Springs St	Rehab / N/A	Non-Paved	6.30	\$1,050	\$124,183	720		720	94,248	1.458	69
5-MH3129	Replace Cover/Frame/Frame Seal	1716 Sulphur Springs Rd	Precast / N/A	Non-Paved	5.58	\$1,050	\$125,233	720		720	94,968	1.458	70
2-MH0042A	Replace Cover/Frame/Frame Seal	1036 Berger St	Poured / N/A	Non-Paved	5.71	\$1,050	\$126,283	720		720	95,688	1.458	71
4-MH1103	Replace Cover/Frame/Frame Seal	1325 Mimosa St	Rehab / N/A	Non-Paved	6.00	\$1,050	\$127,333	720		720	96,408	1.458	72
3-MH0329	Replace Cover/Frame/Frame Seal	UKN Veneer St	Not Visible / N/A	Non-Paved	8.91	\$1,050	\$128,383	720		720	97,128	1.458	73
3-MH0950	Replace Cover/Frame/Frame Seal	927 West St	Precast / N/A	Non-Paved	6.42	\$1,050	\$129,433	720		720	97,848	1.458	74

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltration (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
3A-MH0428	Replace Cover/Frame/Frame Seal	1416 Dogwood Trl	Precast / N/A	Non-Paved	9.01	\$1,050	\$130,483	720		720	98,568	1.458	75
3-MH0332A	Replace Cover/Frame/Frame Seal	226 Elizabeth Ann St	None / N/A	Non-Paved	4.78	\$1,050	\$131,533	720		720	99,288	1.458	76
4-MH1100	Replace Cover/Frame/Frame Seal	1511 Maple St	Rehab / N/A	Non-Paved	8.71	\$1,050	\$132,583	720		720	100,008	1.458	77
5-MH0357	Replace Cover/Frame/Frame Seal	1848 S Main St	Precast / N/A	Non-Paved	8.24	\$1,050	\$133,633	720		720	100,728	1.458	78
3-MH0326	Replace Cover/Frame/Frame Seal	400 N Banks St	Precast / N/A	Non-Paved	9.08	\$1,050	\$134,683	720		720	101,448	1.458	79
5-MH0477	Compete Manhole Rehab w/ New Frame and Cover	1310 Spruce St	Rehab / N/A	Paved	11.44	\$3,705	\$138,389	1,872	648	2,520	103,968	1.470	80
4-MH0415	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	835 Cherry Ln	Rehab / N/A	Paved	4.92	\$3,500	\$141,889	1,368	1,008	2,376	106,344	1.473	81
5-MH3124	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	2216 Shady Ln	Precast / N/A	Non-Paved	5.89	\$1,700	\$143,589	864	288	1,152	107,496	1.476	82
3-MH0659	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	1327 Nottingham St	Rehab / N/A	Non-Paved	6.48	\$1,700	\$145,289	864	288	1,152	108,648	1.476	83
5-MH0491A	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	535 Oaklawn St	Other / N/A	Non-Paved	10.85	\$1,700	\$146,989	864	288	1,152	109,800	1.476	84
5A-MH1192	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	1023 S Main St	Precast / N/A	Non-Paved	2.65	\$1,700	\$148,689	864	288	1,152	110,952	1.476	85
4-MH0462	Complete Manhole Rehab w/ New Cover	1327 E Sullenberger Ave	Rehab / N/A	Paved	5.28	\$1,595	\$150,283	504	576	1,080	112,032	1.477	86
3-MH0120	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	328 Hot Springs St	Rehab / N/A	Non-Paved	7.20	\$3,152	\$153,435	1,872	259	2,131	114,163	1.479	87
3-MH1034	Replace Cover/Frame/Frame Seal	511 Elmo St	Rehab / N/A	Paved	5.34	\$1,450	\$154,885	720	259	979	115,142	1.481	88
5-MH0867	Replace Cover/Frame/Frame Seal	25 Pine Dr	Precast / N/A	Paved	1.96	\$1,450	\$156,335	720	259	979	116,122	1.481	89
3-MH0424	Replace Cover/Frame/Frame Seal	406 Woodland St	Precast / N/A	Paved	6.04	\$1,450	\$157,785	720	259	979	117,101	1.481	90
5-MH0831	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	1520 Valley View Dr	Brick / N/A	Non-Paved	6.60	\$3,056	\$160,841	1,800	259	2,059	119,160	1.484	91
3A-MH0302	Cementitious Coating	201 Overman St	Rehab / N/A	Non-Paved	8.02	\$1,283	\$162,125	216	648	864	120,024	1.485	92
5-MH0770	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1910 Roosevelt St	None / N/A	Non-Paved	6.80	\$3,100	\$165,225	1,800	288	2,088	122,112	1.485	93
5-MH0471	Complete Manhole Rehab w/ New Cover	1352 S Walco Rd	Rehab / N/A	Non-Paved	7.10	\$1,886	\$167,111	1,008	259	1,267	123,379	1.488	94
5-MH0522	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1411 Earnest St	Brick / N/A	Paved	14.31	\$3,500	\$170,611	1,800	547	2,347	125,726	1.491	95
5-MH0874	Complete Manhole Rehab, Internal Chimney Seal, and New Cover	1631 Shady Ln	Rehab / N/A	Paved	7.99	\$2,428	\$173,039	1,368	259	1,627	127,354	1.492	96
4-MH2228	Complete Manhole Rehab w/ New Cover	1006 E Highland Ave	Brick / N/A	Paved	5.39	\$1,612	\$174,651	504	576	1,080	128,434	1.493	97
5A-MH0694	Complete Manhole Rehab w/ New Cover	301 E Highland St	Brick / N/A	Paved	7.85	\$2,006	\$176,657	792	547	1,339	129,773	1.498	98
5-MH2089B	Complete Manhole Rehab w/ New Cover	2528 Oakwood Dr	Block / N/A	Non-Paved	6.51	\$1,792	\$178,449	936	259	1,195	130,968	1.499	99
5A-MH0202	Cementitious Coating and Grout Pipe Seals	330 5th St	Brick / N/A	Paved	5.79	\$1,576	\$180,025	216	835	1,051	132,019	1.500	100
3A-MH0352	Complete Manhole Rehab w/ New Cover	631 Pine Bluff St	Brick / N/A	Paved	4.94	\$1,540	\$181,566	504	518	1,022	133,042	1.507	101
5-MH0488	Cementitious Coating and Grout Pipe Seals	717 W Highland Ave	Rehab / N/A	Non-Paved	5.45	\$1,522	\$183,088	1,008		1,008	134,050	1.510	102
4-MH0774	Complete Manhole Rehab w/ New Cover	1131 E Mill St	Brick / N/A	Paved	5.24	\$1,588	\$184,676	504	547	1,051	135,101	1.511	103
5-MH0510	Complete Manhole Rehab w/ New Cover	501 W Mill St	Brick / N/A	Non-Paved	9.10	\$2,206	\$186,882	936	518	1,454	136,555	1.517	104
5A-MH0617	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	211 E 2nd St	None / N/A	Paved	3.73	\$1,597	\$188,479	792	259	1,051	137,606	1.519	105
5A-MH0212A	Complete Manhole Rehab w/ New Cover	130 W 2nd St	Brick / N/A	Paved	8.04	\$2,036	\$190,515	792	547	1,339	138,946	1.521	106
5A-MH0182	Cementitious Coating and Grout Pipe Seals	419 W Sullenberger Ave	Rehab / N/A	Paved	5.98	\$1,607	\$192,122	216	835	1,051	139,997	1.529	107
5A-MH0199	Complete Manhole Rehab w/ New Cover	326 W Sullenberger Ave	Brick / N/A	Paved	5.10	\$1,566	\$193,688	504	518	1,022	141,019	1.532	108
5-MH0830A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1532 Oakwood Cir	Block / N/A	Non-Paved	5.30	\$3,100	\$196,788	1,368	648	2,016	143,035	1.538	109
3-MH1172	Replace Bench/Trough	629 Floyd St	Precast / N/A	Paved	5.11	\$1,000	\$197,788		648	648	143,683	1.543	110
5A-MH0728	Complete Manhole Rehab, Internal Chimney Seal w/o New Frame and Cover	504 E Highland Ave	Brick / N/A	Paved	10.18	\$2,529	\$200,317	1,080	547	1,627	145,310	1.554	111
3A-MH0850	Complete Manhole Rehab w/o New Frame and Cover	1904 Carolyn St	Precast / N/A	Non-Paved	8.17	\$1,907	\$202,224	288	936	1,224	146,534	1.558	112

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infiltr (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
3A-MH0430	Complete Manhole Rehab w/ New Cover	1664 Circle Dr	Rehab / N/A	Paved	5.28	\$1,595	\$203,819	504	518	1,022	147,557	1.560	113
5-MH2270	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	2103 Wilson St	Precast / N/A	Paved	9.34	\$1,800	\$205,619	864	288	1,152	148,709	1.562	114
5-MH3086A	Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	2104 S Main St	None / N/A	Paved	4.82	\$1,800	\$207,419	864	288	1,152	149,861	1.562	115
2-MH0041	Complete Manhole Rehab w/ New Cover	1119 W Berger St	Rehab / N/A	Paved	5.58	\$1,643	\$209,062	504	547	1,051	150,912	1.563	116
3-MH0298	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	403 Griggs St	Precast / N/A	Non-Paved	5.54	\$2,886	\$211,948	1,584	259	1,843	152,755	1.566	117
3A-MH0257A	Complete Manhole Rehab w/ New Cover	425 E First St	Rehab / N/A	Non-Paved	9.85	\$2,326	\$214,274	936	547	1,483	154,238	1.568	118
3-MH0425	Replace Cover/Frame/Frame Seal	430 Forrest St	Precast / N/A	Paved	6.04	\$1,450	\$215,724	288	634	922	155,160	1.573	119
3A-MH0314	Cementitious Coating and Grout Pipe Seals	541 McBee St	Brick / N/A	Paved	3.17	\$1,157	\$216,881	216	518	734	155,894	1.576	120
2-MH0582	Complete Manhole Rehab w/ New Cover	1235 Brownwood St	Brick / N/A	Non-Paved	3.30	\$1,278	\$218,159	288	518	806	156,701	1.585	121
5-MH0562A	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	139 W Donnelly St	Rehab / N/A	Non-Paved	8.00	\$3,100	\$221,259	1,008	936	1,944	158,645	1.595	122
4-MH1136	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1411 Mimosa St	Rehab / N/A	Non-Paved	5.07	\$3,100	\$224,359	1,008	936	1,944	160,589	1.595	123
3A-MH2079	Repair Corbel and Replace Bench/Trough	1616 E Page Ave	Rehab / N/A	Non-Paved	4.23	\$1,500	\$225,859	288	648	936	161,525	1.603	124
5-MH2615A	Complete Manhole Rehab w/ New Frame and Cover	1841 Harper St	Precast / N/A	Non-Paved	7.94	\$2,895	\$228,755	1,152	648	1,800	163,325	1.609	125
5-MH0554A	Cementitious Coating and Grout Pipe Seals	1421 Locust St	Not Visible / N/A	Paved	6.81	\$1,740	\$230,494	1,080		1,080	164,405	1.611	126
4-MH1084	Complete Manhole Rehab w/ New Cover	2122 E Sullenberger Ave	Rehab / N/A	Paved	5.91	\$1,696	\$232,190	504	547	1,051	165,456	1.613	127
3-MH0423	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	304 Woodland St	Precast / N/A	Paved	7.18	\$3,500	\$235,690	720	1,440	2,160	167,616	1.620	128
3-MH0658A	Complete Manhole Rehab w/ New Frame and Cover	1426 Sherwood Dr	Rehab / N/A	Non-Paved	6.80	\$2,713	\$238,403	1,152	504	1,656	169,272	1.638	129
5-MH0106	Complete Manhole Rehab and External Chimney Seal w/o New Frame and Cover	811 Marigold St	Rehab / N/A	Non-Paved	2.45	\$1,842	\$240,245	864	259	1,123	170,395	1.640	130
5-MH0786	Cementitious Coating and Grout Pipe Seals	2528 Briarwood Dr	Rehab / N/A	Non-Paved	5.55	\$1,538	\$241,783	288	648	936	171,331	1.643	131
3A-MH0374	Complete Manhole Rehab w/ New Frame and Cover	121 Sheppard St	Rehab / N/A	Non-Paved	3.91	\$2,251	\$244,034	1,008	360	1,368	172,699	1.645	132
3-MH0058	Complete Manhole Rehab w/ New Frame and Cover	107 Barnett St	Brick / N/A	Non-Paved	8.36	\$2,963	\$246,996	1,152	648	1,800	174,499	1.646	133
2-MH0616	Complete Manhole Rehab w/ New Cover	933 McKinney St	Brick / N/A	Paved	5.84	\$1,684	\$248,681	504	518	1,022	175,522	1.647	134
5A-MH0291	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	303 Pine Bluff St	None / N/A	Paved	4.58	\$1,733	\$250,413	504	547	1,051	176,573	1.648	135
5A-MH0313	Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	146 Pine Bluff St	None / N/A	Paved	4.60	\$1,736	\$252,149	504	547	1,051	177,624	1.651	136
4-MH2053	Grout Lower 18" of Manhole and Repair Bench/Trough	1515 Owen St	Precast / N/A	Non-Paved	7.41	\$1,000	\$253,149		605	605	178,229	1.653	137
3-MH0145	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	331 Laurel St	Brick / N/A	Paved	7.78	\$3,500	\$256,649	1,152	965	2,117	180,346	1.653	138
5-MH0759	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	17256 Evans St	Poured / N/A	Non-Paved	5.99	\$3,100	\$259,749	1,584	288	1,872	182,218	1.656	139
3-MH1150	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	403 Griggs St	Precast / N/A	Non-Paved	6.65	\$3,100	\$262,849	1,584	288	1,872	184,090	1.656	140
5-MH0546	Cementitious Coating and Grout Pipe Seals	303 Oaklawn St	Rehab / N/A	Paved	6.87	\$1,749	\$264,599	504	547	1,051	185,141	1.664	141
3A-MH0435	Complete Manhole Rehab w/ New Frame and Cover	1501 Dogwood Trl	Brick / N/A	Non-Paved	7.13	\$2,766	\$267,364	1,008	648	1,656	186,797	1.670	142
3-MH0954	Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	930 McAlister St	Precast / N/A	Non-Paved	6.80	\$3,088	\$270,452	1,584	259	1,843	188,640	1.675	143
3-MH0658	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1508 Sherwood Dr	Rehab / N/A	Paved	5.39	\$3,500	\$273,952	1,440	648	2,088	190,728	1.676	144
5-MH0700	Complete Manhole Rehab w/ New Frame and Cover	1734 Jester St	Rehab / N/A	Non-Paved	7.94	\$2,895	\$276,848	1,368	360	1,728	192,456	1.676	145
4-MH0755	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1703 Texas St	Brick / N/A	Paved	5.92	\$3,500	\$280,348	1,440	648	2,088	194,544	1.676	146
2-MH1154	Replace Cover/Frame/Frame Seal	1301 Collie Rd	Poured / N/A	Paved	6.72	\$1,450	\$281,798	864		864	195,408	1.678	147
5-MH1114A	Replace Cover/Frame/Frame Seal	1721 Royal Oaks Dr	Poured / N/A	Paved	6.52	\$1,450	\$283,248	864		864	196,272	1.678	148
5-MH0866	Replace Cover/Frame/Frame Seal	22 Pine Dr	Rehab / N/A	Paved	13.46	\$1,450	\$284,698	864		864	197,136	1.678	149
5-MH0562	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	221 W Donnelly St	Rehab / N/A	Non-Paved	4.60	\$3,100	\$287,798	1,008	835	1,843	198,979	1.682	150

Basin-Manhole	Repair Description	Street Address	Construction / MH Type	Surface	Depth	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infilt (GPD)	Total Inflow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
3-MH0139	Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	603 Baker St	Rehab / N/A	Non-Paved	9.50	\$3,100	\$290,898	720	1,123	1,843	200,822	1.682	151
3-MH1175	Complete Manhole Rehab w/ New Frame and Cover	412 W Young St	Brick / N/A	Non-Paved	9.58	\$3,158	\$294,056	936	936	1,872	202,694	1.687	152
3-MH1182	Complete Manhole Rehab w/o New Frame and Cover	803 Fairview St	Rehab / N/A	Paved	5.68	\$1,509	\$295,564		893	893	203,587	1.690	153
4-MH0879	Complete Manhole Rehab w/o New Frame and Cover	1735 E Sullenberger Ave	Rehab / N/A	Non-Paved	6.20	\$1,592	\$297,156		936	936	204,523	1.701	154
4-MH1098	Complete Manhole Rehab w/ New Cover	2204 McHenry Cir	Rehab / N/A	Non-Paved	3.43	\$1,299	\$298,455	504	259	763	205,286	1.702	155
4-MH0904	Complete Manhole Rehab w/ New Cover	1001 Owen St	Rehab / N/A	Paved	6.53	\$1,795	\$300,250	792	259	1,051	206,338	1.707	156
3-MH0237	Cementitious Coating and Grout Pipe Seals	303 Berger St	Rehab / N/A	Paved	5.97	\$1,605	\$301,855	936		936	207,274	1.715	157
5-MH2605	Cementitious Coating and Grout Pipe Seals	2706 Southgate Dr	Brick / N/A	Paved	4.13	\$1,311	\$303,166	216	547	763	208,037	1.718	158

Report Totals:	Tota Inflow:	140,760
Total Cost: \$303,166	Total Infiltration:	67,263
	Total Inflow:	208,037

APPENDIX G

LINES RECOMMENDED FOR POINT REPAIR

Appendix G
Lines Recommended for Point Repairs



Line Segment			Existing Diameter (IN)	Station	Repair Length (FT)	Direction ^{1/}	Infiltration Rate (GPD)	Construction Cost (\$)	Estimated Capital Cost ^{2/} (\$)
Basin	USMH	DSMH							
5	MH0071	MH2157	8	0+05.0	10	USMH	248	\$5,500	\$7,150
5	MH0075	MH0074	8	1+23.4, 2+22.6, 2+36.4, 2+45.5	40	USMH	994	\$22,000	\$28,600
5	MH0091	MH0089	12	2+05-2+15	10	USMH	166	\$5,500	\$7,150
5	MH0094	MH0093	12	1+62.1, 1+95.0, 2+32.8	30	USMH	745	\$16,500	\$21,450
5	MH0101	MH0100	12	0+12.0, 0+95- 1+05, 1+14.5, 1+47.1, 1+97.1, 2+68.8, 3+11.9	70	USMH	1,490	\$38,500	\$50,050
5	MH0173	MH2159	6	1+78.3	10	USMH	911	\$5,500	\$7,150
5	MH0175	MH0174	6	0+49.7	10	USMH	248	\$5,500	\$7,150
5A	MH0194A	MH0195	8	0+00-0+10, 0+90.4	20	USMH	414	\$11,000	\$14,300
5A	MH0204A	MH0204	8	0+20-0+30, 0+57.7	20	USMH	414	\$11,000	\$14,300
5A	MH0210	MH0209	6	1+90.7	10	USMH	248	\$5,500	\$7,150
5A	MH0211	MH0210	8	1+65-1+75	10	USMH	116	\$5,500	\$7,150
5A	MH0214	MH0212A	8	0+00-0+10, 0+.36, 0+76.7	30	USMH	944	\$16,500	\$21,450
5A	MH0269	MH0221	8	0+88.4, 2+40.6, 3+67-3+86	30	USMH	662	\$16,500	\$21,450
5	MH0279A	MH2157	6	0+10-0+20	10	USMH	1,242	\$5,500	\$7,150
3A	MH0283	MH0260	6	0+35-0+45	10	USMH	994	\$5,500	\$7,150
5A	MH0303	MH0291	8	0+12.2, 1+02.7, 1+14.4, 2+74.5, 3+11.4	50	USMH	1,242	\$27,500	\$35,750
5A	MH0305A	MH0290	8	1+04.6, 106.3, 2+37.2, 2+45.0, 2+70.9, 3+09.8, 3+65.1, 3+67.4, 3+88.0	90	DSMH	2,484	\$49,500	\$64,350
5A	MH0310A	MH0310	6	0+10.9	10	DSMH	116	\$5,500	\$7,150
5A	MH0317	MH0292	8	0+27.4	10	USMH	828	\$5,500	\$7,150
5	MH0482	MH0477	12	2+10.9, 2+98.3, 3+86.3, 4+01.6, 4+82.8	50	USMH	1,242	\$27,500	\$35,750
5	MH0487A	MH0487	6	0+60.4	10	USMH	248	\$5,500	\$7,150
5	MH0525	MH0526	6	1+15.4, 1+57.3	20	DSMH	1,408	\$11,000	\$14,300
5A	MH0723	MH0725A	8	0+85.3, 1+79.0, 2+44.1	30	DSMH	745	\$16,500	\$21,450
5A	MH0729	MH0727	6	1+56.9, 1+59.8, 1+95-2+05, 2+09.5	30	DSMH	1,408	\$16,500	\$21,450
5	MH0819	MH0820	6	0+22.1, 0+41.7, 0+43.9, 1+75.2, 1+93.7, 2+00.4	60	USMH	1,292	\$33,000	\$42,900
5	MH0822	MH0795	6	0+30-0+40, 0+37.5, 0+96.2, 2+39.5	40	USMH	1,656	\$22,000	\$28,600
5	MH0845	MH0837	6	0+90.2	10	DSMH	497	\$5,500	\$7,150
5	MH0869	MH0867	6	1+30-1+40	10	DSMH	911	\$5,500	\$7,150
3	MH0972	MH0973A	6	0+00.0-0+10.0, 0+30.0-0+40.0, 1+74.0, 2+67.8	40	DSMH	994	\$22,000	\$28,600
5	MH1041B	MH1041A	6	0+35-0+45	10	USMH	99	\$5,500	\$7,150
5	MH1109B	MH1109A	6	0+96-1+06	10	USMH	1,076	\$5,500	\$7,150
5	MH2605B	MH0831	8	0+00-0+05, 1+78- 0+83	10	USMH	66	\$5,500	\$7,150
5	MH2610	MH0792	6	0+70.0, 1+77.8 2+20-2+30.0, 2+60.6	50	USMH	1,076	\$27,500	\$35,750
GrandTotal					860		27,225	\$473,000	\$614,900

1/ 'USMH' = distance from the USMH, 'DSMH' = distance from DSMH

2/ Estimated construction cost plus a 30% engineering service and contingency fees

APPENDIX H

LINES RECOMMENDED FOR COMPLETE REHABILITATION

Appendix H
Lines Recommended for Complete Rehabilitation



		Existing Diameter	Recommended Diameter	Segment Length	Rehab Method	I/I Rate	Estimated Construction Cost	Estimated Capital Cost ^{1/}
USMH	DSMH	(IN)	(IN)	(LF)		(GPD)	(\$)	(\$)
MH0305	MH0305A	6	8	71	Pipe Burst	265	\$9,294	\$12,082
MH0304	MH0305	8	8	256	Open Cut	1,639	\$37,097	\$48,226
MH0307	MH2074	8	8	321	Pipe Burst	3,146	\$41,793	\$54,331
MH0311	MH0307	8	8	693	Open Cut	5,134	\$100,434	\$130,564
MH0726	MH0725	6	8	330	Pipe Burst	4,852	\$42,900	\$55,770
MH0730	MH0728	8	8	309	CIPP	4,090	\$23,165	\$30,114
MH0720	MH0718	10	10	448	CIPP	944	\$33,567	\$43,637
MH0700	MH0699	10	10	192	CIPP	166	\$14,364	\$18,674
MH0718	MH0700	10	10	447	CIPP	265	\$33,553	\$43,619
MH0792	MH0790	6	8	309	Open Cut	894	\$44,834	\$58,284
MH2610A	MH2610	6	8	175	Pipe Burst	464	\$22,793	\$29,631
MH1158	MH1121	6	8	183	Pipe Burst	2,948	\$23,752	\$30,877
MH2158	MH0086	12	12	477	CIPP	4,123	\$35,780	\$46,514
MH0178	MH0179	8	8	162	CIPP	1,706	\$12,170	\$15,821
MH0170	MH0169	8	8	233	CIPP	1,673	\$17,470	\$22,711
MH0183	MH0184	8	8	302	CIPP	2,898	\$22,630	\$29,420
MH0182	MH0183	8	8	564	Open Cut	5,167	\$81,720	\$106,236
MH0190	MH0186	8	8	249	Open Cut	4,372	\$36,076	\$46,898
MH0208	MH0209	8	8	315	Open Cut	3,196	\$45,681	\$59,385
MH0215	MH0216	8	8	237	Open Cut	3,478	\$34,365	\$44,675
MH0205	MH0204A	8	8	379	Open Cut	2,318	\$54,953	\$71,439
MH0219	MH0218	8	8	378	Open Cut	3,709	\$54,785	\$71,221
MH0199	MH0197	8	8	453	Open Cut	3,312	\$65,749	\$85,474
MH0482A	MH0482	6	8	173	Open Cut	1,987	\$25,032	\$32,542
MH0483	MH0482A	6	8	142	Pipe Burst	1,408	\$18,417	\$23,942
MH0503	MH0181	8	8	178	CIPP	828	\$13,375	\$17,387
MH0523A	MH0526	6	8	350	Pipe Burst	464	\$45,440	\$59,072
MH0505A	MH0523A	8	8	350	Pipe Burst	1,474	\$45,548	\$59,212
MH0486	MH0507	6	8	476	Pipe Burst	1,739	\$61,867	\$80,427
MH0507	MH0522	6	8	369	Pipe Burst	3,444	\$47,972	\$62,364
MH0522	MH0527	6	8	344	Pipe Burst	2,964	\$44,678	\$58,082
MH0527	MH0528	6	8	329	Pipe Burst	331	\$42,767	\$55,598
MH0547	MH0527	6	8	282	Pipe Burst	1,524	\$36,607	\$47,589
MH0554A	MH0547	8	8	375	Pipe Burst	2,534	\$48,743	\$63,366
MH0528	MH0521	6	8	185	Pipe Burst	1,424	\$24,068	\$31,289
MH0521	MH0518	6	8	175	Pipe Burst	2,484	\$22,792	\$29,630
MH0519	MH0520	6	8	173	Pipe Burst	480	\$22,438	\$29,169
MH0197	MH0194A	8	8	375	Pipe Burst	2,484	\$48,732	\$63,352

Appendix H
Lines Recommended for Complete Rehabilitation



		Existing Diameter	Recommended Diameter	Segment Length	Rehab Method	I/I Rate	Estimated Construction Cost	Estimated Capital Cost ^{1/}
USMH	DSMH	(IN)	(IN)	(LF)		(GPD)	(\$)	(\$)
MH0204	MH0194	8	8	179	Pipe Burst	1,722	\$23,248	\$30,222
MH1048	MH0204	8	8	83	CIPP	911	\$6,197	\$8,056
MH2510	MH0618	6	8	160	Pipe Burst	878	\$20,769	\$27,000
MH0007	MH0006	10	10	318	Open Cut	1,656	\$50,810	\$66,053
MH0034	MH0033	6	8	186	Pipe Burst	1,656	\$24,180	\$31,434
MH0230	MH0210	8	8	375	CIPP	2,401	\$28,138	\$36,580
MH0564	MH0565	10	10	30	Cleaning	0	\$152	\$197
Grand Total				13,088		95,551	\$1,590,896	\$2,068,164

1/ Includes estimated construction cost plus a thirty-percent (30%) engineering service and contingency fee.

APPENDIX I

RECOMMENDED SERVICE LINE INFLOW REMOVAL

Recommended Service Line Inflow Removal

Project Number

18-3337-00

Malvern SSES 2018

<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>
5A MH0209	5A MH0188	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	1,440	\$3,000
5 MH0106	5 MH0105A	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	2,880	\$6,000
5A MH0311	5A MH0307	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	4,320	\$9,000
5 MH2178	5 MH2177	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	6,013	\$9,375
5A MH0307	5A MH2074	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	7,453	\$12,375
5 MH0832	5 MH2605	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	9,146	\$12,750
5A MH0729	5A MH0727	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	10,586	\$15,750
5 MH0522	5 MH0527	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	12,278	\$16,125
5A MH0617	5A MH0231	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	12,289	\$16,500
5 MH1109A	5 MH1109	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	13,729	\$19,500
2 MH0040	2 MH0038	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	15,421	\$19,875
5 MH0575	5 MH0574	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	17,114	\$20,250
5 MH0482	5 MH0477	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	18,807	\$20,625
5 MH0867A	5 MH1106	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	20,247	\$23,625
5A MH0199	5A MH0197	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	21,687	\$26,625
5A MH0216	5A MH0217	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	23,127	\$29,625
5 MH0521	5 MH0518	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	24,820	\$30,000
5A MH0182A	5A MH0182	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	26,260	\$33,000
5A MH0224	5A MH0217	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	26,270	\$33,375
5A MH0729	5A MH0727	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	27,710	\$36,375
5 MH0505A	5 MH0523A	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	29,150	\$39,375
5A MH0191A	5A MH0191	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	29,160	\$39,750
5 MH0507	5 MH0522	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	30,600	\$42,750
5A MH0552	5A MH0551	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	32,293	\$42,850
5 MH0554A	5 MH0547	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	33,733	\$45,850
5 MH0545	5 MH0529	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	35,426	\$46,225
5 MH0521	5 MH0518	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	35,436	\$46,325
5A MH1179	5A MH0554	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	37,129	\$46,700
5A MH0209	5A MH0188	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	38,569	\$49,700

<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>	
5A MH0180	5A MH0179	313 Walnut St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	40,261	\$50,075
2 MH0026	2 MH0027	417 Church St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	41,701	\$53,075
2 MH0026	2 MH0027	417 Church St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	41,712	\$53,450
5A MH0310	5A MH2074	522 E Sullenberger St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	43,404	\$53,825
5A MH0202	5A MH0204A	408 Vine St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	43,414	\$54,200
5A MH0184	5A MH0185	606 W 3rd St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	45,107	\$54,575
5 MH0477	5 MH0478	1314 Sptuce St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	46,800	\$54,950
5A MH0184	5A MH0185	209 Oak St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	48,240	\$57,950
5A MH0182	5A MH0183	503 S Oak St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	49,680	\$60,950
5 MH0577	5 MH0576	2425 Dyer St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	51,373	\$61,325
5A MH0197	5A MH0194A	409 Pecan St	Inflow	Sewer Service Defects	Replace Service Line	1,693	\$3,000	1.772	53,066	\$64,325
5 MH0482A	5 MH0482	717 Highland Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	54,506	\$67,325
5A MH2074	5A MH0288	324 W Sullenberger St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	55,946	\$70,325
5 MH3090	5 MH3091	2027 S Main St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	57,639	\$70,425
5 MH0274	5 MH0074	1523 Clark St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	59,331	\$70,800
5 MH0554A	5 MH0547	1421 Locust St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	60,771	\$73,800
5A MH0216	5A MH0217	128 5th St	Inflow	Cleanout	Repair Broken Cleanout	4,353	\$375	0.086	65,124	\$74,175
5 MH2178	5 MH2177	825 Sulphur Springs Rd	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	66,817	\$74,275
5 MH0505A	5 MH0523A	427 W Highland Ave	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	68,510	\$74,650
5A MH1152	5A MH0200	232 W Sullenberger Ave	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	70,203	\$74,750
5 MH0483	5 MH0482A	1406 Stanley St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	71,643	\$77,750
5 MH0818	5 MH0801	1510 Park Ave	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	73,336	\$78,125
5A MH0216	5A MH0217	128 5th St	Inflow	Cleanout	Repair Broken Cleanout	4,353	\$375	0.086	77,689	\$78,500
5 MH0522	5 MH0527	1411 Earnest St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	77,699	\$78,875
5A MH0202	5A MH0204A	408 Vine St	Inflow	Cleanout	Repair Broken Cleanout	4,353	\$375	0.086	82,052	\$79,250
5A MH0730	5A MH0728	514 E Highland Ave	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	83,745	\$79,350
5 MH3150A	5 MH3150	2819 Dyer St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	85,437	\$79,450
5A MH0194A	5A MH0195	421 W Page Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	86,877	\$82,450
5 MH1117	5 MH0814	1611 Pleasant St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	88,570	\$82,825
5 MH2075	5 MH1148	224 E Donnelly St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	90,263	\$82,925
5A MH0197	5A MH0194A	513 W Page Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	91,703	\$85,925

<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>	
2 MH2109	2 MH0581	1207 Mcmillian	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	93,396	\$86,025
5A MH0187	5A MH0169	106 Pecan St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	95,089	\$86,400
2 MH0034	2 MH0033	1119 Faith St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	95,099	\$86,775
5 MH0692	5 MH0691	212 E Mill St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	96,539	\$89,775
5A MH6004	5A MH0214	212 Main St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	97,979	\$92,775
5 MH0554A	5 MH0547	1413 Locust St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	97,989	\$93,150
5A MH0182	5A MH0183	412 S Oak St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	99,429	\$96,150
5A MH0177	5A MH0178	320 Stanley St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	100,869	\$99,150
5A MH0305A	5A MH0290	307 Clardy St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	102,309	\$102,150
5 MH0718A	5 MH0718	339 E Donnelly St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	104,002	\$102,525
5A MH0188	5A MH0187	419 1st St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	104,012	\$102,900
5 MH0757	5 MH0758	1706 Harper St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	105,705	\$103,275
2 MH0040	2 MH0038	228 Barnett St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	107,397	\$103,650
5A MH0188A	5A MH0188	117 Vine St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	108,837	\$106,650
5 MH0491A	5 MH0508	506 W Mill St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	108,848	\$106,750
5A MH0220	5A MH0219	603 Olive St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	110,540	\$107,125
5A MH0188A	5A MH0188	116 Vine St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	112,233	\$107,500
5A EOL	5A MH0554B	573 W Sullenberger Ave	Inflow	Cleanout	Replace Cleanout Cap	846	\$100	0.118	113,080	\$107,600
5A MH0228	5A MH0230	133 Main St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	113,090	\$107,975
5 MH6002A	5 MH6002	1716 Jester St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	114,530	\$110,975
5 MH2616	5 MH2615	1224 Park Ave	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	116,223	\$111,075
5A MH0220	5A MH0219	603 Olive St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	117,663	\$114,075
5A MH1196	5A MH0303	406 Pine Bluff St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	119,103	\$117,075
5 MH0692	5 MH0691	203 E Mill St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	120,795	\$117,450
5A MH0180	5A MH0179	313 Walnut St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	122,235	\$120,450
5 MH0073B	5 MH0073	1414 Bryant St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	123,675	\$123,450
5 MH0507	5 MH0522	420 Oaklawn St	Inflow	Sewer Service Defects	Replace Service Line	4,320	\$3,000	0.694	127,995	\$126,450
5A MH1047	5A MH1048	322 Vine St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	129,688	\$126,550
5A MH0729B	5A MH0729A	704 McHenry St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	131,128	\$129,550
5A MH0177	5A MH0178	320 Stanley St	Inflow	Cleanout	Replace/Install Cap	10	\$150	14.881	131,138	\$129,700
5 MH3090	5 MH3091	2027 S Main St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	132,831	\$130,075

<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>	
5A MH0199	5A MH0197	333 W Sullenberger Ave	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	134,524	\$130,175
5 MH0870	5 MH0874	1637 Reed St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	135,964	\$133,175
5 MH0791	5 MH0787	1314 Glenmere Cir	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	137,657	\$133,275
5 MH0491A	5 MH0508	506 W Mill St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	139,097	\$136,275
5 MH0488	5 MH0489	712 Oaklawn St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	140,537	\$139,275
5A MH0306	5A #N/A	339 Clem St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	141,977	\$142,275
5A MH0199	5A MH0197	423 5th St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	143,417	\$145,275
5 MH0545	5 MH0529	1620 Rock St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	145,110	\$145,650
5A MH0188A	5A MH0188	405 1st St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	146,802	\$146,025
5 MH0107	5 MH0103	805 Burriss Rd	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	146,813	\$146,400
5 MH2273	5 MH0785	2114 Taylor St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	148,505	\$146,500
2 MH0618	2 MH0616	936 Mckinney St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	149,945	\$149,500
5 MH3090	5 MH3091	2027 S Main St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	151,638	\$149,600
5 MH0483	5 MH0482A	1406 Stanley St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	151,648	\$149,975
5A MH0551	5A MH0269	1304 Dyer St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	153,341	\$150,350
5 MH3090	5 MH3091	2027 S Main St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	154,781	\$153,350
5A MH0199	5A MH0197	423 5th St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	154,791	\$153,450
5 MH3150	5 MH3153	2820 Dyer St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	156,484	\$153,825
5 MH0867A	5 MH1106	1821 Royal Oaks Dr	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	158,177	\$154,200
5 MH0273	5 MH0274	1612 Sullenberger St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	158,187	\$154,575
5A MH0181	5A MH0180	537 W Sullenberger Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	159,627	\$157,575
5A MH6004	5A MH0214	230 Main St	Inflow	Cleanout	Repair Broken Cleanout	4,353	\$375	0.086	163,980	\$157,950
2 MH0013	2 MH0014	420 Happy St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	165,673	\$158,325
5 MH0096A	5 MH1140	932 S Park Dr	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	167,113	\$161,325
5 MH0507	5 MH0522	427 W Highland Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	168,553	\$164,325
5 MH2077A	5 MH0578	829 Cloud Rd	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	170,246	\$164,700
5A MH0189	5A MH0190	406 2nd St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	171,686	\$167,700
5 MH0523A	5 MH0526	1319 Earnest St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	173,126	\$170,700
5 MH0803	5 MH0784	1500 Glover St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	174,818	\$170,800
5 MH0819	5 MH0820	1704 Reed St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	176,511	\$171,175
5A MH0197	5A MH0194A	430 Pecan St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	178,204	\$171,550

<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>	
5A MH0216	5A MH0217	418 Locust St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	178,214	\$171,650
5 MH6002	5 MH0700	1734 Jester St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	178,224	\$172,025
5 MH0075A	5 MH0075	1418 W Sullenberger Rd	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	179,664	\$175,025
5 MH0505A	5 MH0523A	416 W Highland Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	181,104	\$178,025
5 MH2157	5 MH0071	903 S walco St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	182,797	\$178,400
2 MH0030	2 MH0031	224 Church St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	184,237	\$181,400
5A MH0729	5A MH0727	620 McHenry St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	185,677	\$184,400
5A MH0199	5A MH0197	423 5th St	Inflow	Sewer Service Defects	Replace Service Line	4,320	\$3,000	0.694	189,997	\$187,400
5A MH0211	5A MH0210	123 Locust St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	191,437	\$190,400
2 MH0040	2 MH0038	228 Barnett St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	191,447	\$190,775
2 MH0007	2 MH0006	120 S Walco Rd	Inflow	Cleanout	Repair Broken Cleanout	846	\$375	0.443	192,294	\$191,150
5A MH0188	5A MH0187	419 1st St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	192,304	\$191,525
5 MH2614	5 MH2612	1800 Cherry Ln	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	193,744	\$194,525
5A MH0310	5A MH2074	424 E Sullenberger St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	193,754	\$194,900
2 MH0017	2 MH0024	1324 Hope St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	195,194	\$197,900
5 MH0089	5 MH0090	1139 Clark St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	196,887	\$198,275
5 MH0577	5 MH0576	2425 Dyer St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	198,579	\$198,375
5 MH0576	5 MH0575	2416 Dyer St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	200,272	\$198,750
5A MH0317	5A MH0292	437 Page St	Inflow	Cleanout	Replace Cleanout Cap	4,353	\$100	0.023	204,625	\$198,850
5A MH0188	5A MH0187	419 1st St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	206,318	\$199,225
2 MH0981	2 MH0013	716 Martin Luther King Blvd	Inflow	Cleanout	Replace Cleanout Cap	4,353	\$100	0.023	210,671	\$199,325
5 MH0545	5 MH0529	1620 Rock St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	210,681	\$199,700
2 MH0010	2 MH0009	234 N Walco Rd	Inflow	Cleanout	Repair Broken Cleanout	1,270	\$375	0.295	211,951	\$200,075
5A MH0199	5A MH0197	339 W Sullenberger Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	213,391	\$203,075
2 MH0597	2 MH0599	611 Halbert Ave	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	215,083	\$203,450
2 MH0606	2 MH0605	1407 Martin Luther King Blvd	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	216,523	\$206,450
2 MH0010	2 MH0009	234 N Walco Rd	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	217,963	\$209,450
2 MH0597	2 MH0599	652 Halbert Ave	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	217,974	\$209,550
5 MH0107	5 MH0103	805 Burriss Rd	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	219,666	\$209,925
5A MH0728	5A MH0725	1421 S Main St	Inflow	Cleanout	Replace Cleanout Cap	4,353	\$100	0.023	224,019	\$210,025
2 MH0606	2 MH0605	1407 Martin Luther King Blvd	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	225,459	\$213,025

Segment Name	Street Address	Type	Source	Rehabilitation Work	Repair			Cumulative	Cumulative
					Flow (GPD)	Cost (\$)	Ratio (\$/GPD)	Flow (GPD)	Cost (\$)
5A EOL	5A MH0222	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	226,899	\$216,025
5A MH0689	5A MH0552	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	228,592	\$216,125
5A MH0231	5A MH0229	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	230,032	\$219,125
5 MH2077A	5 MH0578	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	231,725	\$219,500
5 MH0557	5 MH0559	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	233,418	\$219,875
5A MH0306	5A #N/A	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	234,858	\$222,875
5 MH0874	5 MH0863	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	236,298	\$225,875
5A EOL	5A MIDLINE	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	237,991	\$225,975
5A MH1179	5A MH0554	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	239,431	\$228,975
5A MH0305A	5A MH0290	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	240,871	\$231,975
5A MH0199	5A MH0197	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	242,311	\$234,975
5 MH0545	5 MH0529	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	244,004	\$235,350
5A MH0181	5A MH0180	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	245,696	\$235,450
5 MH2273	5 MH0785	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	247,389	\$235,550
5 MH3144	5 MH3145	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	249,082	\$235,925
5A MH0183	5A MH0184	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	250,775	\$236,025
5A MH0179	5A MH0171	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	250,785	\$236,400
2 MH0606	2 MH0605	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	252,225	\$239,400
5 MH1140A	5 MH0087	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	253,665	\$242,400
5 MH0554A	5 MH0547	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	255,358	\$242,775
5A MH0722	5A MH0697	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	256,798	\$245,775
5A MH0199	5A MH0197	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	258,238	\$248,775
5A MH0179A	5A MH0179	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	258,248	\$249,150
5A EOL	5A MH0218	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	259,688	\$252,150
5 MH2616	5 MH2615	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	259,698	\$252,525
5 MH0799A	5 MH0799	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	261,391	\$252,900
5 MH0761	5 MH0764	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	261,401	\$253,000
5 MH0522	5 MH0527	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	261,411	\$253,375
5 MH2077A	5 MH0578	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	263,104	\$253,750
2 MH0017	2 MH0024	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	264,797	\$254,125
5 MH0817	5 MH0082	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	266,489	\$254,225

<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>	
5 MH0077	5 MH0074	1425 Clark St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	268,182	\$254,600
5 MH0487A	5 MH0487	1409 Stanley St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	268,192	\$254,700
2 MH0015	2 MH0010	405 N Walco Rd	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	269,885	\$255,075
5 MH0534	5 MH3108	2410 S Main St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	271,578	\$255,450
5 MH2184A	5 MH2182	825 Sulphur Springs Rd	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	273,271	\$255,825
5 MH2177	5 MH0764	816 Sulphur Springs Rd	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	274,711	\$258,825
5 MH0273	5 MH0274	1612 Sullenberger St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	276,151	\$261,825
2 MH0031	2 MH0017	1219 Hope St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	276,161	\$262,200
5A EOL	5A MH0218	308 5th St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	277,601	\$265,200
5A MH0617	5A MH0231	126 2nd St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	279,294	\$265,575
5 MH0491	5 MH0491A	1511 Carmicheal St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	280,987	\$265,950
2 MH0981	2 MH0013	1206 W Young St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	280,997	\$266,050
5 MH1116A	5 MH1116	1729 E Mill St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	282,689	\$266,425
5A MH0317	5A MH0292	437 Page St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	282,700	\$266,525
5 MH0073B	5 MH0073	1413 Bryant St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	284,392	\$266,900
5A MH0729	5A MH0727	614 McHenry St	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	284,402	\$267,000
5A MH2068	5A MH0312	702 Wall St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	285,842	\$270,000
5A MH0216	5A MH0217	128 5th St	Inflow	Cleanout	Repair Broken Cleanout	4,353	\$375	0.086	290,195	\$270,375
5A MH0181	5A MH0180	537 W Sullenberger Ave	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	291,888	\$270,475
5 MH2250	5 MH0773	1618 Cherry Ln	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	291,898	\$270,575
5 MH0085	5 MH0087	1228 Bryant St	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	293,591	\$270,675
2 MH0030	2 MH0031	224 Church St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	295,284	\$271,050
5 MH0477	5 MH0478	1314 Spruce St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	296,724	\$274,050
5A MH0183	5A MH0184	314 Oak St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	298,417	\$274,425
5 MH0172	5 MH0173	925 Spruce St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	299,857	\$277,425
5A MH1179	5A MH0554	133 W Highland Ave	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	301,297	\$280,425
5A MH0188	5A MH0187	419 1st St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	301,307	\$280,800
2 MH0615	2 MH0046	608 N Park Dr	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	303,000	\$281,175
5 MH1114	5 MH1115	1726 Regal Dr	Inflow	Cleanout	Replace Cleanout Cap	1,693	\$100	0.059	304,693	\$281,275
2 MH0595	2 MH0595A	711 N Walco Rd	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	304,703	\$281,650
5 MH0084	5 MH0090	1212 Clark St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	306,143	\$284,650

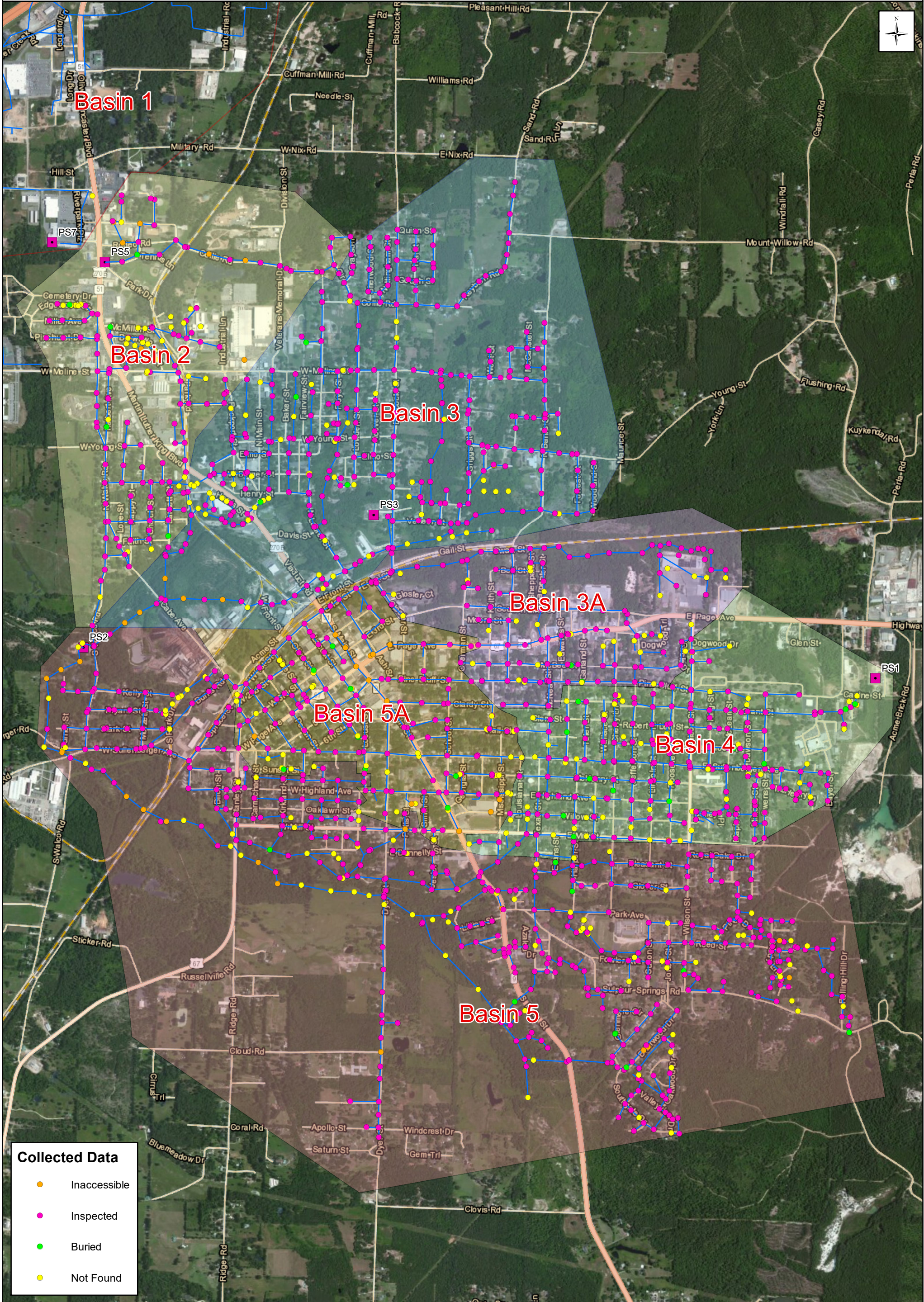
<i>Segment Name</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (GPD)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumulative Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>	
5 MH3147	5 MH3147A	2011 Reed St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	307,835	\$285,025
2 MH0973A	2 MH0973	1230 Grayson Cir	Inflow	Sewer Service Defects	Replace Service Line	1,693	\$3,000	1.772	309,528	\$288,025
5A EOL	5A MH0269	1018 Dyer St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	310,968	\$291,025
5A MH0303	5A MH0291	306 Pine Bluff St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	312,408	\$294,025
5 MH2182	5 MH2185	825 Sulphur Springs Rd	Inflow	Cleanout	Replace Cleanout Cap	10	\$100	9.921	312,418	\$294,125
5A MH0218	5A MH0205	228 5th St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	313,858	\$297,125
5 MH0800	5 MH0799A	1405 Reed St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	315,551	\$297,500
5 MH0172	5 MH0173	925 Spruce St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	316,991	\$300,500
5A MH0587	5A MH0552	1404 Dyer St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	318,431	\$303,500
5A MH0187	5A MH0169	106 Pecon St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	319,871	\$306,500
2 MH2125	2 MH0633	1242 Divison St	Inflow	Cleanout	Repair Broken Cleanout	10	\$375	37.202	319,881	\$306,875
5 MH4017	5 MH0576	2415 Dyer St	Inflow	Sewer Service Defects	Replace Service Line	1,440	\$3,000	2.083	321,321	\$309,875
5 MH0089	5 MH0090	1203 Clark St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	323,014	\$310,250
5A MH0304	5A MH0305	824 School St	Inflow	Sewer Service Defects	Replace Service Line	18,518	\$3,000	0.162	341,533	\$313,250
5A MH0216	5A MH0217	128 5th St	Inflow	Cleanout	Repair Broken Cleanout	4,353	\$375	0.086	345,886	\$313,625
5 MH1148	5 MH0691	203 E Mill St	Inflow	Cleanout	Repair Broken Cleanout	1,693	\$375	0.222	347,578	\$314,000

Total Flow (gpd): 347,578

Total Cost: \$314,000

Total Sources: 231

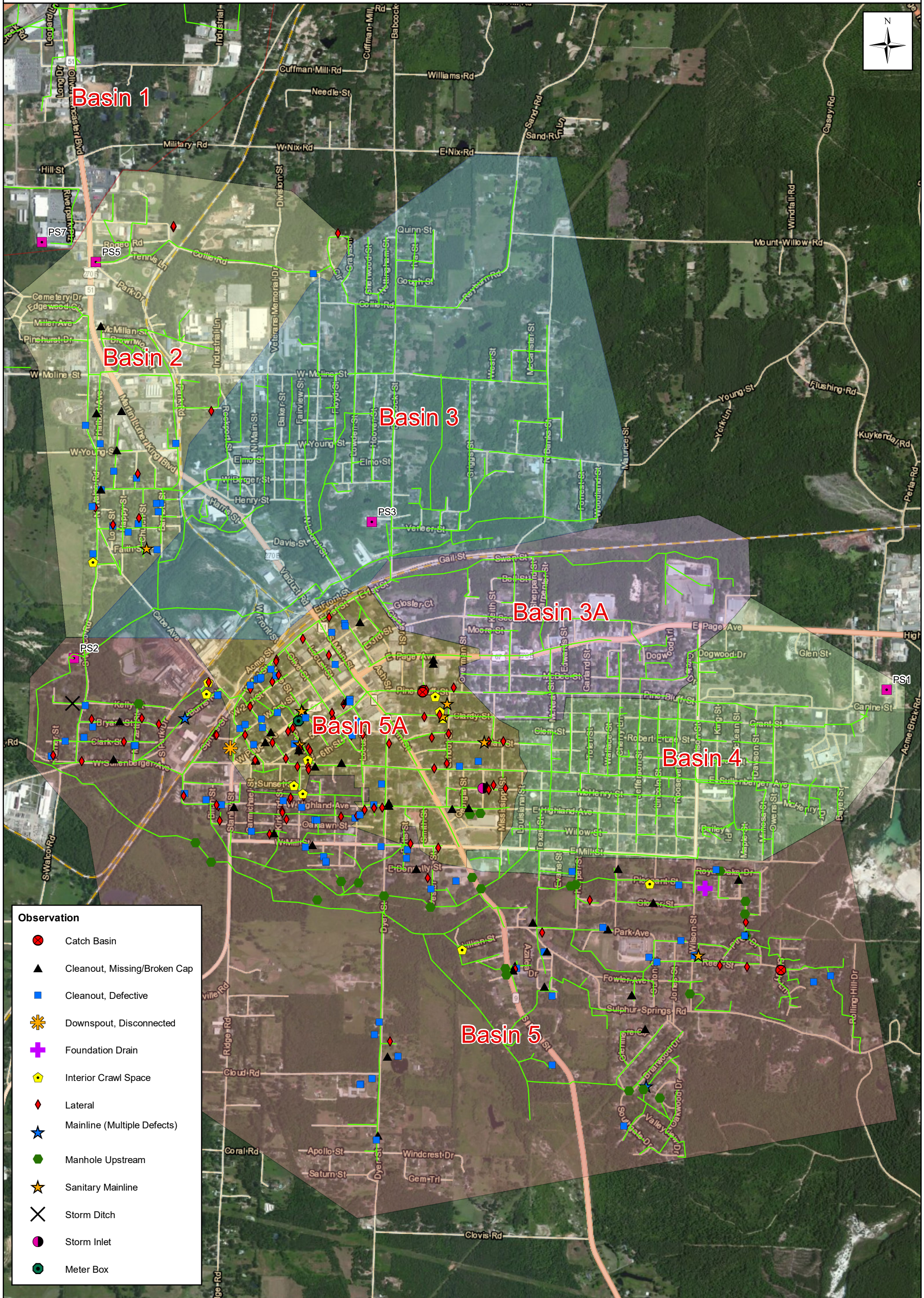
Malvern, AR



- Collected Data**
- Inaccessible
 - Inspected
 - Buried
 - Not Found

— Gravity Main ■ Pump Station

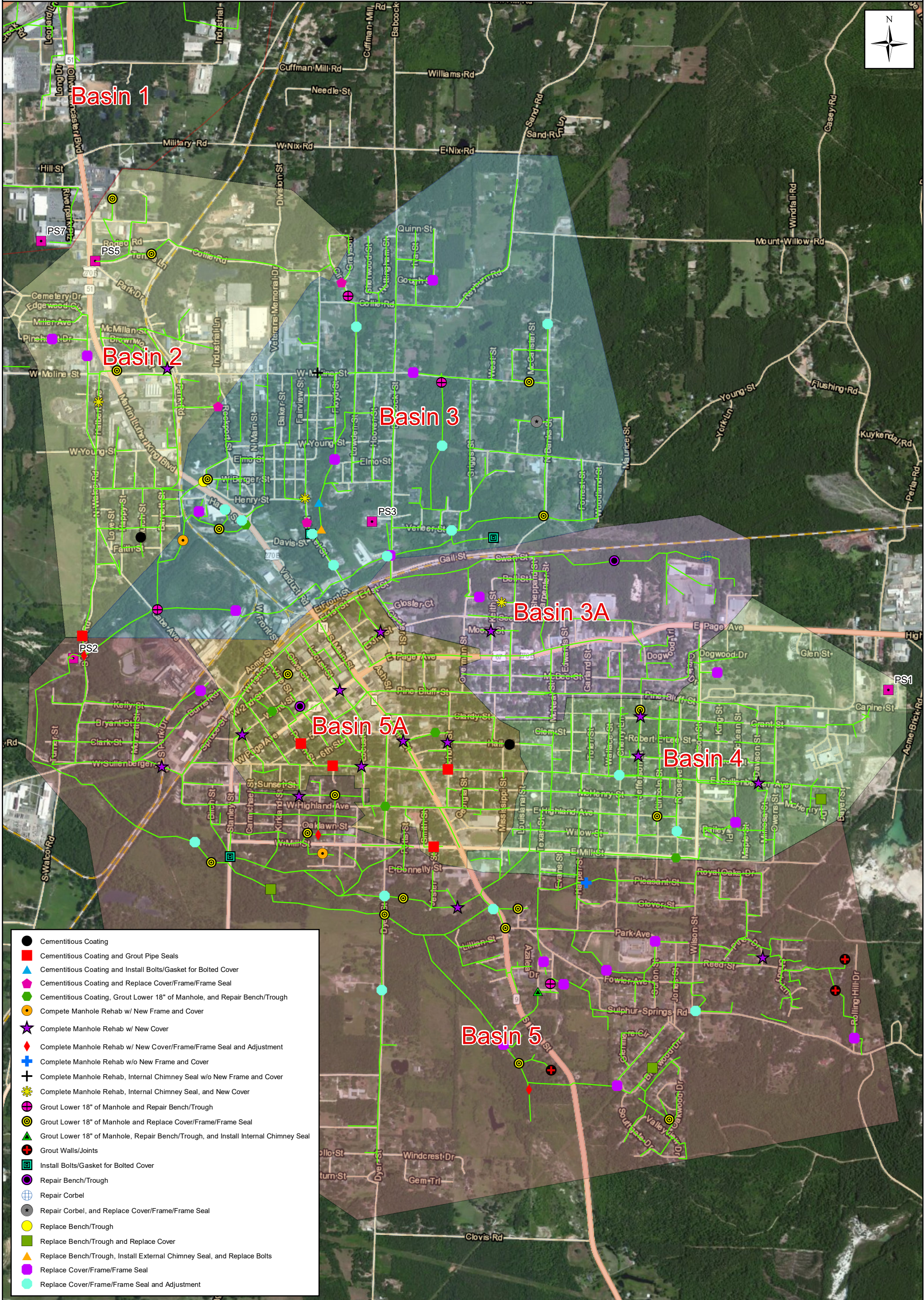
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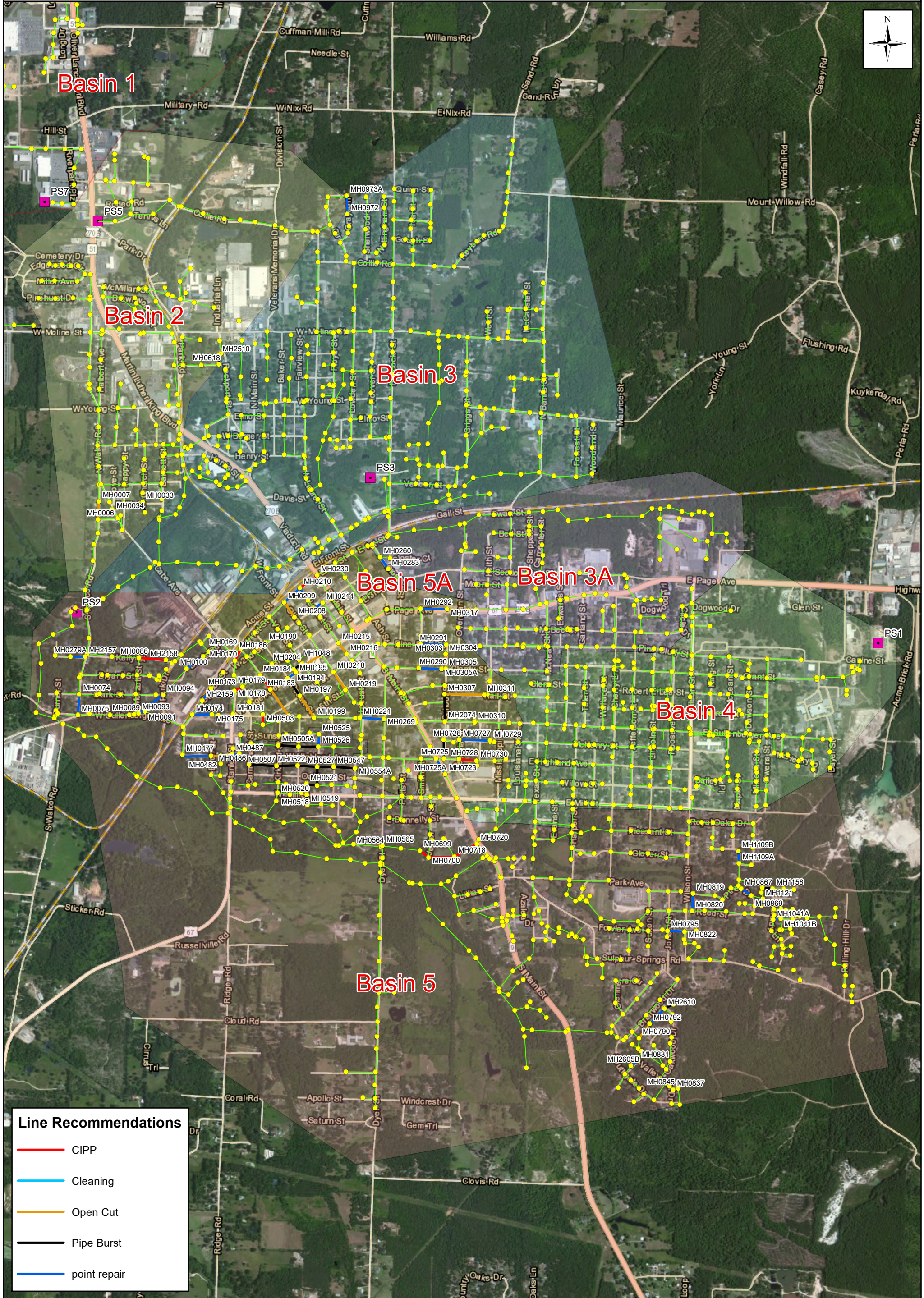
Observation

- Catch Basin
- ▲ Cleanout, Missing/Broken Cap
- Cleanout, Defective
- ✱ Downspout, Disconnected
- + Foundation Drain
- ◊ Interior Crawl Space
- ◆ Lateral
- ★ Mainline (Multiple Defects)
- Manhole Upstream
- ★ Sanitary Mainline
- ✕ Storm Ditch
- Storm Inlet
- Meter Box

Malvern, AR



Malvern, AR



Line Recommendations

- CIPP
- Cleaning
- Open Cut
- Pipe Burst
- point repair

● Manhole — Gravity Main ■ Pump Station



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