



**2020 SSES PROGRAM CITY
OF BLOOMINGTON, IL
FINAL REPORT**

MAY 2021

PROJECT NO: 11-3577-01

INTRODUCTION

RJN Group, Inc. (RJN) is pleased to submit this summary report on the services completed for the City of Bloomington (City) as part of their 2020 Sanitary Sewer Evaluation Survey (SSES) Program. RJN completed investigations consisting of smoke testing and manhole inspections for the Miller St. Basin. See Exhibit 1-1 in Appendix A for an overall map.

FIELD INVESTIGATIONS AND FINDINGS

SMOKE TESTING

Smoke testing is a cost-effective method of detecting I/I sources (defects) in the sanitary sewer system. Exhibit 2-1 in Appendix A highlights the sewer segments smoke tested in the study area. Smoke testing consists of placing blowers on the upstream and downstream manholes of a sewer segment and blowing non-toxic smoke into the sewer. The smoke used for testing was Superior® Smoke Generator candles. In total, 13,295 feet of sanitary sewer was smoked from October 28, 2020 through October 30, 2020.

Public Relations

Because of the conspicuous nature of smoke testing and the possibility of test smoke entering homes and businesses, public notification is very important. Prior to smoke testing, notification letters were sent to residents and businesses. These letters explained the purpose of the smoke testing, ways to avoid smoke entering homes, and what to do if smoke enters a building. In addition, RJN field crews distributed door hangers one to four days prior to smoke testing to each property in the study area. The fire and police department were informed daily of where and when the crew would be smoke testing. A copy of the door hanger and a sample of the letters to residents are shown in Appendix B.

Field Data Collection

The presence of smoke was recorded if it was observed at any public or private locations. Private sector smoke defects can include downspouts (underground or disconnected), area drains, foundation drains, window well drains, cleanouts (cap or riser), or sump pumps. Public sector defects can include manholes, sewer mainlines, service laterals, or possible cross-connection with the stormwater conveyance system (such as storm inlets, catch basins, storm manholes, storm mainline sewer, or laterals). Smoke defects were documented on a mobile data collection device with mapping grade GPS. Field crews recorded the type of defect, intensity, and location. A photograph of each defect was taken, containing a description of the defect and a link to the segment being smoke tested. The digital photos of each defect are included in the electronic deliverable provided with this report.

It is important to note that varying soil and groundwater conditions can affect the results of smoke testing. Testing was conducted during dry weather to allow for a higher probability of finding defects. Positive findings during the testing clearly indicate the presence of I/I sources. Negative findings, however, may not mean that I/I sources do not exist.

Smoke Testing Results

Smoke testing identified 156 smoke observation in the Smoke Test Area. The most significant defects were storm inlets, laterals, manhole (pick holes), downspouts (disconnected), and sanitary manholes. Table 1 summarizes the smoke testing findings and the estimated flow contribution to the sanitary system during a standard 1-year, 1-hour rain event. Each infiltration source is assigned a statistically derived flow value to quantify the flow. The flow rates shown are peak flow rates for the given storm event. Locations of defects found during smoke testing are displayed in Exhibits 2-2 through 2-4 in Appendix A. The detailed list of defects identified during smoke testing is listed in Appendix C.

Table 1 - Smoke Testing Defect Summary

	Smoke Source	Quantity	Avg. Est. Unit Flow (gpm)	Est. Total Flow (gpd)
Public	Manhole (Pick Holes)*	18	1.00	25,920
	Manhole(Storm Cover)*	2	5.00	14,400
	Sanitary Manhole (Frame Seal)*	13	0.50	9,360
	Sanitary Mainline	5	1.50	10,800
	Storm Inlet	31	5.00	223,200
	TOTAL:	69		234,000
Private	Cleanout (Missing/Broken Cap)	11	0.10	1,584
	Cleanout Defective	1	0.10	144
	Downspout(s) Underground	3	3.00	12,960
	Downspout Disconnected	24	0.20	6,912
	Foundation Drain	1	4.00	5,760
	Lateral	44	5.00	316,800
	Area Drain	1	1.50	2,160
	Private Sanitary Manhole	1	0.50	720
	Window Well Drain	1	0.20	288
	TOTAL:	87		347,328
TOTAL (PUBLIC + PRIVATE):		156		581,328

* Manhole defects are quantified as part of the manhole inspection results. They are not included in these total flows.

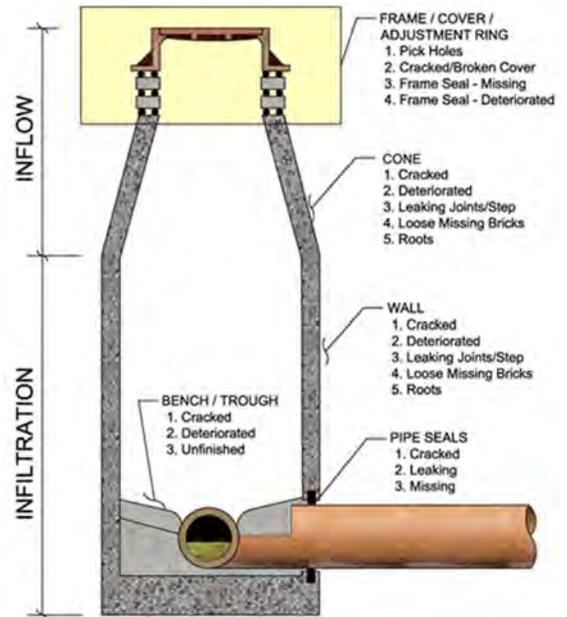
MANHOLE INSPECTIONS

Field Data Collection

Manhole inspections are a method of determining potential sources of I/I by assessing the condition of manholes in a system. Surface inspections involve assessing all the parts of the structure visible from the surface, as shown in Figure 1. Remote inspections involve assessing all the parts of the structure, including the up-pipes, with the use of a pole camera.

Data was recorded on a mobile data collection unit with mapping grade GPS. Manholes were inspected on October 27 and November 4, 2020. There were fifty (50) manholes inspected. One (1) manhole needs to be sonde located. One (1) manhole was inaccessible, and one (1) manhole was not found and most likely does not exist. These manholes require map updates. The manhole inspection locations and inspection statuses are displayed in Exhibits 3-1 through 3-3 in Appendix A.

Figure 1 - Manhole Diagram with Related Defects



Manhole Inspection Results

The surface manhole inspections revealed several manhole defects, the most prevalent of which were frame-seal defects. The total estimated flow I/I contributes to the system is about 70,272 gallons per day. Other defects identified include cone defects, wall and wall joint defects, open pick hole covers, defective benches and troughs, as well as wall/bench joint defects. A summary of the manhole inspection results is shown in Table 2, with estimated I/I flows associated with the defects found. All flow values are estimated for a standard 1-year, 1-hour rain event.

Table 2 – Manhole Inspection Defect Summary

Manhole Defects	Quantity (MH)	Est. Unit Flow (gpm)	Est. Total Flow (gpd)
Pickhole/Storm Cover Defects	27	1.0	38,880
Frame Seal/Adjustments Defects	18	0.5	12,960
Corbel/Cone Defects	17.5	0.5	12,600
Wall/Wall Joint Defects	21.5	0.5	15,480
Bench and Trough Defects	8	0.3	3,456
TOTAL:	92		83,376

QUANTIFICATION

Quantification is the process of estimating excess wet-weather flow identified in field investigations. The process evaluates the relative contribution of various I/I sources of wet-weather flows in the sanitary sewer.

DEFECT FLOW RATES

Defects identified during field investigations were assigned a standard array of flow values, based on observed or statistically derived values for a 1-year, 60-minute rain event. These flows were used to quantify the amount of flow that would be contributed by each type of defect to the entire study area during the standard rain event.

Defects from field investigations can be divided into two categories – public sector defects and private sector defects. Public defects consist of any defect along the main sewer line, including manhole defects, and storm sewer cross-connections. Private defects include laterals, cleanout, private sanitary manholes, downspouts, and area drains that contribute storm water into the sanitary system. Public sector sources were identified during smoke testing and manhole inspections. Private sector sources were identified during smoke testing.

For the 2020 SSES investigation, smoke testing and manhole inspections were completed for the study area. Table 3 summarizes the defect source, the number of defects identified, the average unit flow per defect, the total flow per defect, and the respective percentage of the total identified I/I for the study area. Forty-eight (48%) is attributed to public sources of I/I while fifty-two (52%) is attributed to private sources.

Table 3 – Quantification Table for Each Type of Defect

Defect ID Source	Source Description	Number of Defects	Avg Flow per Defect (GPM)	Flow (gpd)	% of Total I/I
Public Sources					
Manhole Inspection	Manhole Defects	92	0.6	83,232	12.5%
Smoke Testing	Mainline Defects	5	1.5	10,800	1.6%
Smoke Testing	Storm Inlet	31	5.0	223,200	33.6%
Public Sector Total:		128		317,232	48%
Private Sources					
Smoke Testing	Cleanout (Missing/Broken Cap)	11	0.1	1,584	0.2%
Smoke Testing	Cleanout Defective	1	0.1	144	0.0%
Smoke Testing	Downspout(s) Underground	3	3.0	12,960	2.0%
Smoke Testing	Downspout Disconnected	24	0.2	6,912	1.0%
Smoke Testing	Foundation Drain	1	4.0	5,760	0.9%
Smoke Testing	Lateral	44	5.0	316,800	47.7%
Smoke Testing	Area Drain	1	1.5	2,160	0.3%
Smoke Testing	Private Sanitary Manhole	1	0.5	720	0.1%
Smoke Testing	Window Well Drain	1	1.0	288	0.0%
Private Sector Total:		87		347,328	52%
Total Identified I/I				664,560	

FLOW BALANCE

The purpose of a flow balance is to gain an understanding of the excess flow that has been identified by SSES investigations against a total excess flow predicted by flow monitoring. A flow balance also helps determine what types of defects are contributing to the majority of excess flow, as well as providing valuable information when weighing the costs and benefits of various investigation and rehabilitation options.

Performing a flow balance for a basin consists of summarizing the peak excess flow obtained from flow metering and determining the percentage contribution to the peak flow for each type of defect. Flow balancing requires a defined duration and recurrence, which for this study is a 1-year, 60-minute storm. Unit flow rates for each defect are also assumed to be generated by a 1-year, 60-minute storm.

The City along with RJN Group is currently conducting a flow-metering analysis for the Miller Street Basin. A detailed account of the excess flow and a flow balance will be presented in the flow monitoring report, following the defined flow monitoring period.

RECOMMENDATIONS

RJN reviewed the field data and made recommendations for system rehabilitation. The rehabilitation recommendations were based on the results of smoke testing and manhole inspections results. The recommendations are separated into public and private sectors, then placed into one of two categories; either additional investigation is needed to further define a defect source, or rehabilitation is recommended to repair the system. Furthermore, the recommendations are separated into the categories of the Quick Fix Program or the Long-Term Program. Quick Fix Program refers to recommendations that are considered easy to implement. The Long-Term Program includes recommendations that either may not be very cost effective or require more time to implement compared to the easy fixes. The detailed list of defects is presented in Appendix C. Photos of all the smoke defects is catalogued in Appendix D.

PUBLIC SECTOR RECOMMENDATIONS – SMOKE TESTING AND MANHOLE INSPECTIONS

Public Sector Additional Investigation

The most significant public sector defect observed during smoke testing, that needs additional investigation, were twenty-two (22) storm inlets and nine (9) storm manholes identified exhibiting smoke. Smoking inlets and manholes indicate the possibility of cross-connections between the storm and sanitary sewer systems. Storm inlets and manholes have the potential to collect a significant amount of surface water runoff from large drainage areas and thus can contribute considerable inflow into the sanitary sewer system.

Figure 2 –Smoking Manhole



Heavy smoke from a storm inlet or manhole can indicate a severely leaking cross-connection, a sanitary sewer overflow, or a direct connection to the sanitary sewer. A direct connection is when the storm sewer or storm structure is directly piped into the sanitary sewer. See Figure 2.

Light smoke arising from a storm inlet or ditch often indicates an indirect cross-connection. Indirect cross-connections typically allow the migration of storm water from a leaky storm water collection system to a nearby leaky sanitary sewer system.

While cross-connections can contribute large amounts of inflow, their magnitude and repair location are not known from smoke testing alone. Therefore, RJN Group followed up with dye flooding inspections at these locations to pinpoint and quantify the amount of water that is leaking from each cross-connection. The nature of each cross-connection defect is best evaluated when dyed water flooding is performed in conjunction with Closed Captioned Televising (CCTV). The results of the dye flood inspections and recommendations will be documented in a separate report.

Public Sector Defects

The second most significant public defect observed through field investigations were five (5) sanitary mainline smoke defects. The smoke can be a sign of a structural defect, such as a pipe fracture or collapse. These pipes are recommended to be televised. See Figure 3.

The manhole inspections revealed several manhole defects, the most prevalent of which were pick-hole covers and frame-seal defects. Twenty-seven (27) of them were manhole covers with open pick holes or storm covers. Eighteen (18) of them were sanitary manholes with frame-seal defects. Typically, a frame-seal defect will generally leak where the manhole frame meets the manhole adjustment. Leaky manhole frame seals have the potential to be large sources of I/I.

The detailed list of recommendations for each sanitary manhole is presented in Appendix E, and are displayed in Exhibits 3-3 through 3-6 in Appendix A. These recommendations include replace cover, seal and adjust frame, replace frame and cover, replace manholes, cementitious manhole sealing, and replace bench and trough. The composite recommendations for a given structure can include one or more of these individual recommendations.

The most prevalent defects identified during manhole inspections were manholes exhibiting defects in the wall resulting in cementitious lining or grout wall joint recommendations.

Pick hole covers are a significant source of I/I and are relatively cost-effective to fix. Therefore, it is recommended that all pick hole covers be replaced with concealed covers to prevent any rainwater from entering into the sanitary system.

Additionally, manholes exhibiting active I/I are recommended for grouting at the location of the leak. However, the recommended rehabilitation for these manholes depends on where the leak is located.

Figure 3 – Sanitary Mainline



The summary and cost estimate of all recommended public sector rehabilitation is displayed in Table 4. The rehabilitation is categorized by construction method (i.e. excavate and trenchless). Cost presented should be used for planning and budgetary purposes only.

Table 4 - Public Sector Recommendations

Work Type	Recommended Rehabilitation	Unit	Quantity	Unit Rehab Cost	Total Rehab Cost
Manhole Rehabilitation:					
-	Replace Cover	Each	2	\$350	\$700
Excavate	Seal & Adjust Frame	Each	18	\$1,900	\$34,200
Excavate	Replace Frame & Cover	Each	23	\$2,100	\$48,300
Trenchless	Cementitious Manhole Sealing	Vert. Ft	286	\$250	\$71,500
Trenchless	Grout Wall Joints	Each Joint	4	\$450	\$1,800
Trenchless	Full Curtain Grout	Each	7	\$1,500	\$10,500
Trenchless	Replace Bench & Trough	Each	8	\$2,000	\$16,000
Excavate	Replace Manhole	Each	1	\$10,000	\$10,000
MANHOLE CONSTRUCTION COST SUB-TOTAL:					\$183,000
Smoke Testing					
Trenchless	Sanitary Mainline CCTV Inspection	LF	2,000	\$5	\$10,000
-	Storm Inlet	Included in Dye Flood Report			
MAINLINE CONSTRUCTION COST TOTAL:					\$10,000
PUBLIC SECTOR CONSTRUCTION COST TOTAL:					\$193,000

PRIVATE SECTOR RECOMMENDATIONS – SMOKE TESTING

Private Sector Additional Investigations

The largest contributor of I/I in the private sector, that needs additional investigation, were laterals. The forty-four (44) lateral defects identified during smoke testing are recommended for repair under the category of Long-Term Program. The laterals are recommended for televising, and as follow-up, potentially T-lining. Televising of laterals should be completed prior to rehabilitation of any laterals. This will lead to a more comprehensive approach to a long-term private sector rehabilitation program. See Figure 4.

Figure 4 –Lateral



Private Sector Defects

Three (3) underground downspouts were identified during smoke testing. The City should require disconnection of the underground downspout and ensure that the old connection to the sanitary sewer is plugged. The downspout should discharge overland at least five feet from the foundation.

During smoke testing, eleven (11) cleanouts with missing or broken caps were identified in the study area. While the estimated volume of flow contributed by these defects is relatively low, the rehabilitation cost for these defects is also low. They are recommended for repair under a Quick Fix program. The City may require property owners to replace the missing or broken cap, but in some cases, it may be more cost-effective for the City to replace the cap. Additionally, one (1) defective cleanout was identified. Defective cleanouts, where the smoke indicates a problem with the cleanout riser or connection to the lateral, are not considered cost-effective to repair and are not recommended for rehabilitation at this point.

One (1) private sanitary manhole was identified during smoke testing. No follow-up is recommended at this time for private sanitary manholes. The manholes would need additional inspection to confirm the defects within the manholes and to recommend the best rehabilitation method for repair.

Twenty-four (24) disconnected downspouts were identified. It is recommended that the disconnected downspouts be dye traced and plugged to avoid reconnection.

Area drains are costly to rehabilitate and should not be considered for rehabilitation at this moment. When the cost-effective defects have been addressed, the Village may evaluate the need for a private sector rehabilitation program.

One (1) foundation drain was identified during smoke testing. Typically, only a small portion of foundation drain connections are identified during smoke testing. This study does not prove the absence or presence of foundation drains at those locations where no smoking foundation drain was identified. Foundation drains are costly to rehabilitate and should only be addressed after the cost-effective rehabilitation items have been addressed if more flow reduction is needed.

Suspect defects were also identified during smoke testing. Smoking building interiors could indicate a defect, such as a sump pump or could more typically be a dried-up drain trap (not a defect). The properties with smoking building interiors may be recommended for future follow-up building inspection.

The detailed list of defects is presented in Appendix C. Photos of all the defects is catalogued in Appendix D. The cost estimate of private sector rehabilitation is displayed in Table 5. Costs presented should be used for planning and budgetary purposes only.

Table 5 – Private Sector Recommendations

Recommended Rehabilitation	Unit	Quantity	Unit Rehab Cost	Total Rehab Cost
Quick Fix Program:				
Disconnect, and Reroute Downspout, Underground	Each	3	\$150	\$450
Replace Missing/Broken Cleanout Cap	Each	11	\$50	\$550
Disconnected Downspots	Each	24	\$50	\$1,200
			SUB-TOTAL:	\$2,200
Long-Term Program:				
Lateral Televising & T-Lining	Each	44	\$8,000	\$352,000
			SUB-TOTAL:	\$352,000
PRIVATE SECTOR CONSTRUCTION COST TOTAL:				\$354,200

RECOMMENDATION SUMMARY

Phase 1 of private sector disconnection of “Quick Fix” defects is recommended and depending on the overall approach the City chooses to take on private sector defects, a building inspection program and pilot lateral televising program may be considered for this area. The City has already performed dyed water flooding in conjunction with sewer televising on the section where the cross-connection defects were observed. Those results and recommendations will be presented in a separate report. An outlined approach for the next steps to be taken by the City is as follows:

Public Sector Recommendations

- Follow up with dye-flooding** on the segment UNKNOWN:44270 to check for any cross connections to the storm manhole that smoked during the smoke testing.
- Approve Contract for Manhole Rehabilitation Design.** RJN can prepare a complete bid package, including specifications, plan sheets and bid advertisement with data already collected during this study. The City is then recommended to bid out the manhole work which will include frame and cover repairs/replacements, wall rehabilitation, coatings and sealing, chemical grouting and fixing or replacing leaking/deteriorated bench & troughs. A revised budget for 2021 put the estimate for manhole work closer to \$183,000.

Private Sector Recommendations

- Consider enforcement of Private Sector “Quick Fix” defects.** These defects include downspout disconnections and replacing broken cleanout caps. A Phase 1 disconnection program, which includes draft letters, a mail merge, and disconnection details can be prepared and sent to these residents.
- Consider Building Inspections and Pilot Lateral televising.** If large amounts of unquantified I/I are indicated from future flow monitoring results, building inspections and pilot lateral televising can provide a way to identify and quantify these additional sources.

RJN recommends beginning with items 1, 2 and 3 as they are the most cost-effective measures in the process of reducing I/I in the system. Depending on the level of flow reduction required step 4 may also be considered.

LIST OF APPENDICES

Appendix A – Exhibits

- Exhibit 1-1: Overall Study Area
- Exhibit 2-1: Smoke Tested Sewers
- Exhibit 2-2: Smoke Observations – West
- Exhibit 2-3: Smoke Observations – Northeast
- Exhibit 2-4: Smoke Observations – Southeast
- Exhibit 3-1: Manhole Inspection Status - West
- Exhibit 3-2: Manhole Inspection Status – Northeast
- Exhibit 3-3: Manhole Inspection Status - Southeast
- Exhibit 3-4: Manhole Rehab Recommendations - West
- Exhibit 3-5: Manhole Rehab Recommendations - Northeast
- Exhibit 3-6: Manhole Rehab Recommendations - Southeast

Appendix B – Public Relations

Appendix C – Smoke Defect Summary

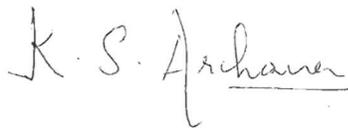
Appendix D – Smoke Photo Report

Appendix E – Manhole Rehabilitation Schedule

It has been a pleasure working with the City of Bloomington on this project. We look forward to continuing to support the City with underground infrastructure solutions. Please contact us if you have any questions or require further clarification.

Sincerely,

RJN Group, Inc.

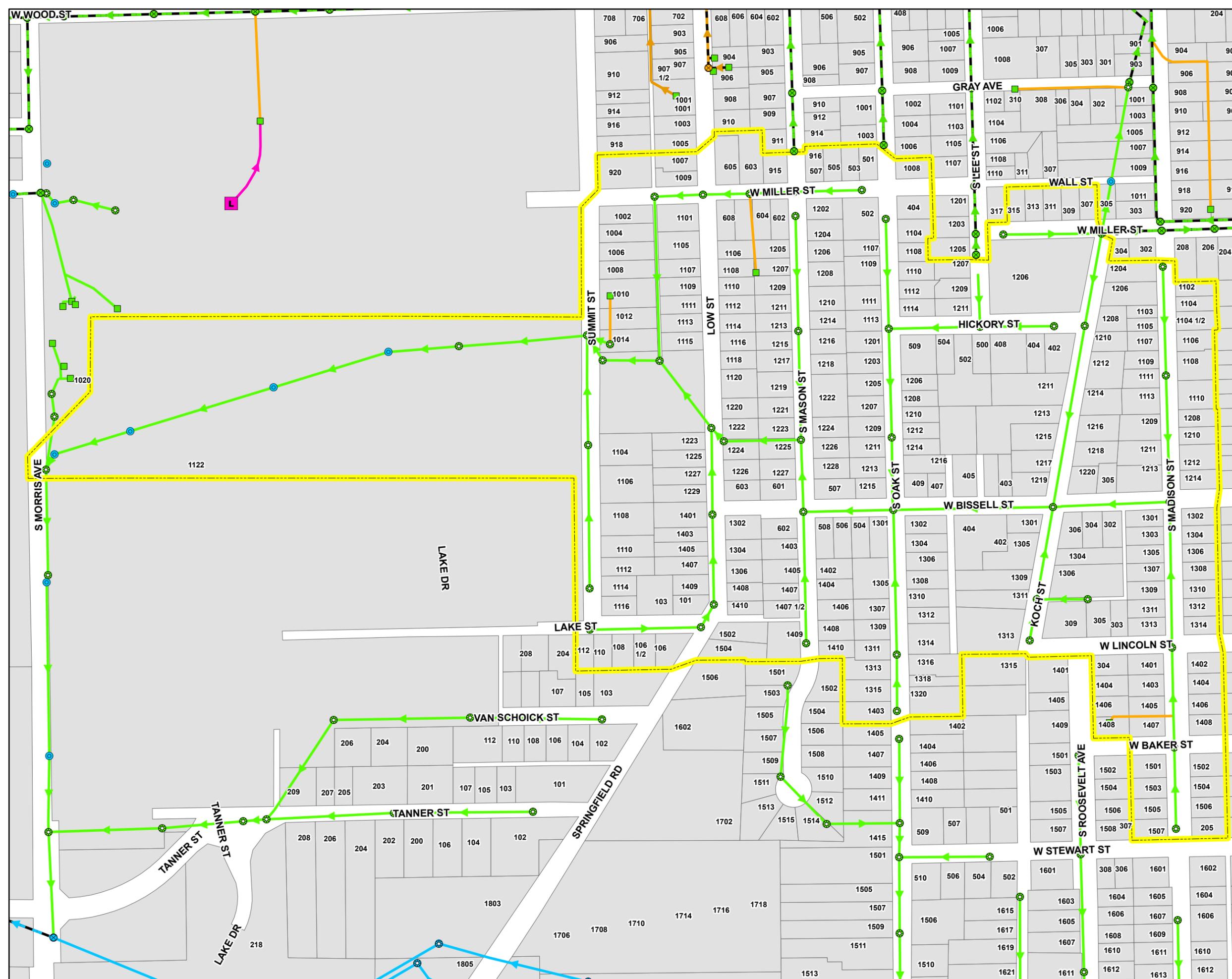


Archana Kuchimanchi, P.E.
Project Manager

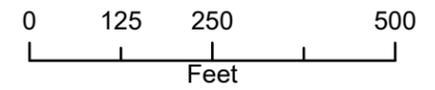


Joe Sullivan
Senior Project Manager

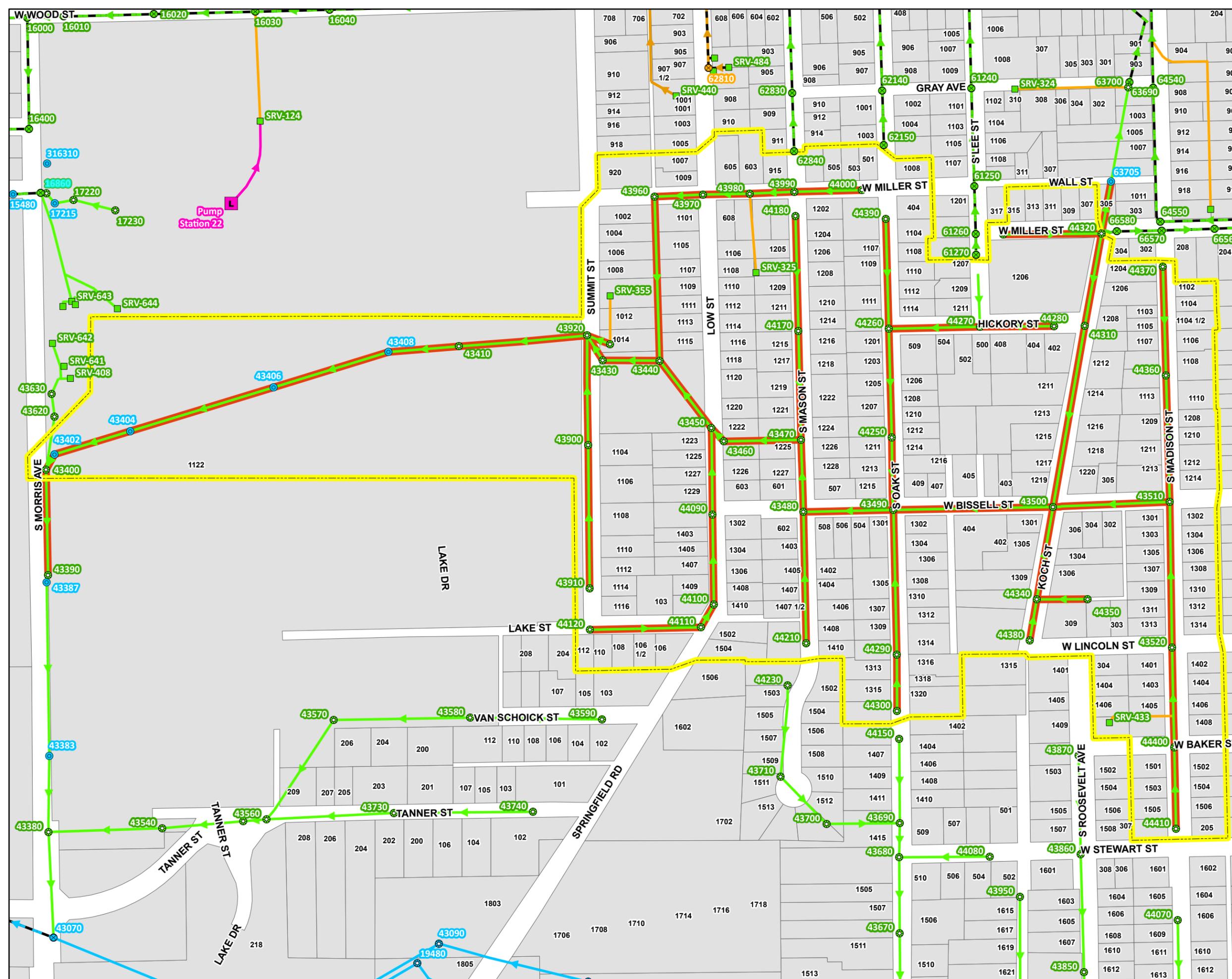
APPENDIX A
EXHIBITS



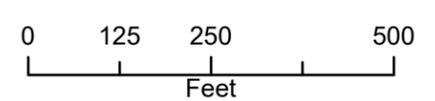
- Miller Street Basin Boundary
- Sanitary Manhole - COB
- Combination Manhole - COB
- Combination Manhole - Private
- Sanitary Manhole - BNWRD
- Combination Manhole - BNWRD
- No Type Given - BNWRD
- Lift Station
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Combination Sewer - COB
- Sanitary Sewer - Private
- Combination Sewer - Private
- Sanitary Sewer - BNWRD
- Combination Sewer - BNWRD
- Force Main - COB
- Sanitary Lateral - COB
- Sanitary Lateral - Private



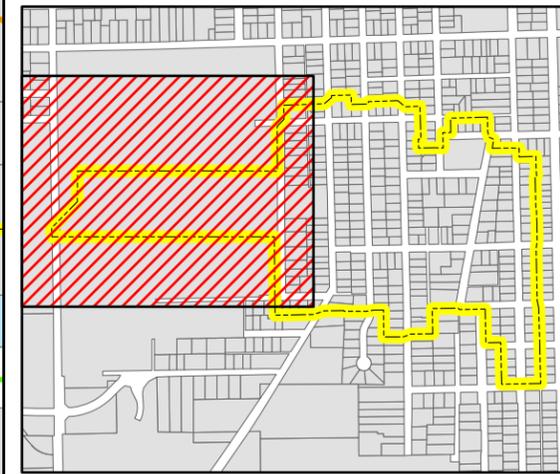
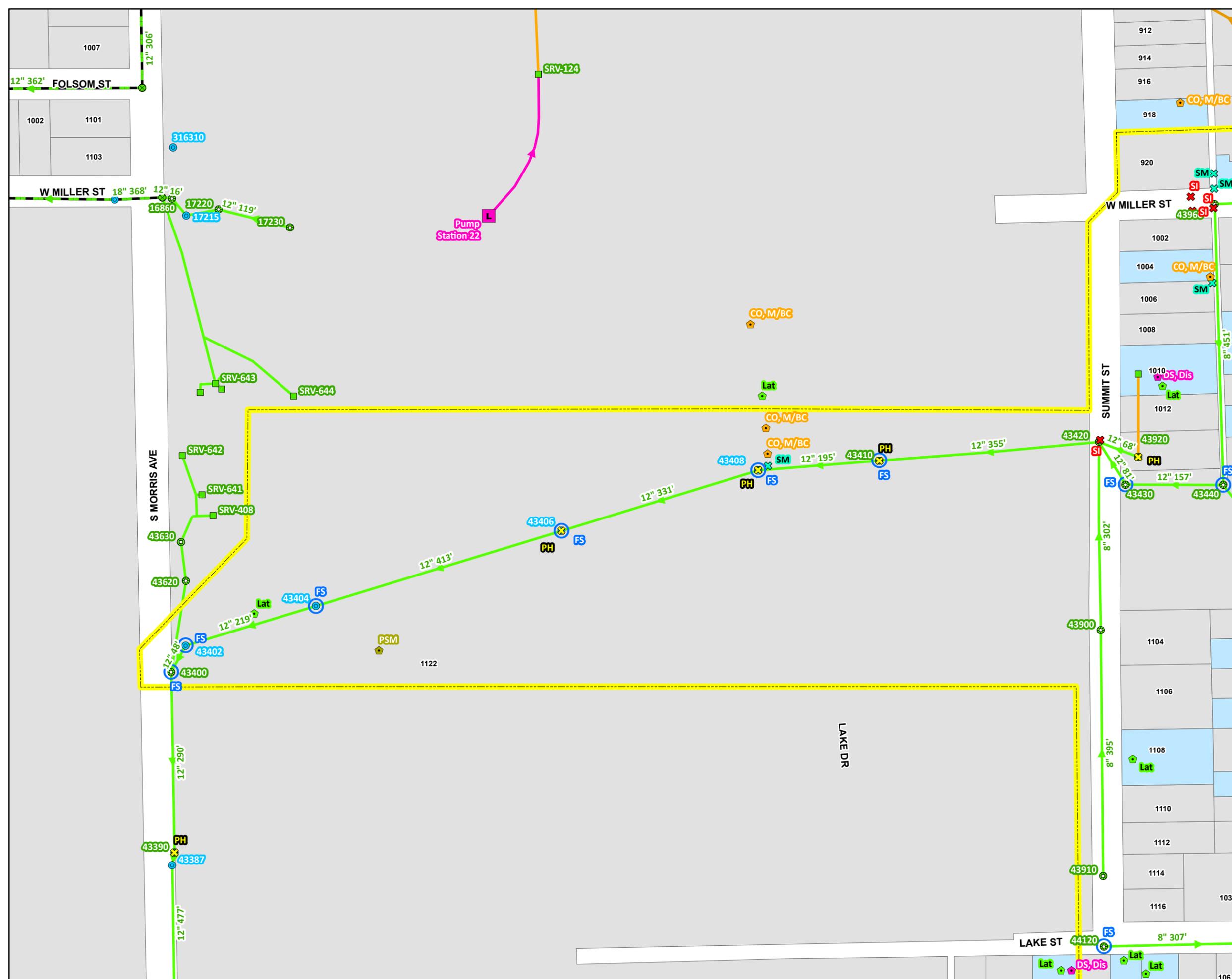
City of Bloomington, IL
 2020 SSES
 Exhibit 1-1 - Overall Study Area
 January 2021



- Miller Street Basin Boundary
- Smoke Tested Segments
- Sanitary Manhole - COB
- Combination Manhole - COB
- Combination Manhole - Private
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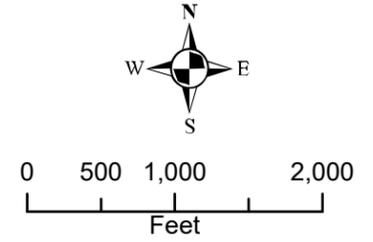
City of Bloomington, IL
 2020 SSES
 Ex 2-1 - Smoke Tested Segments
 January 2021



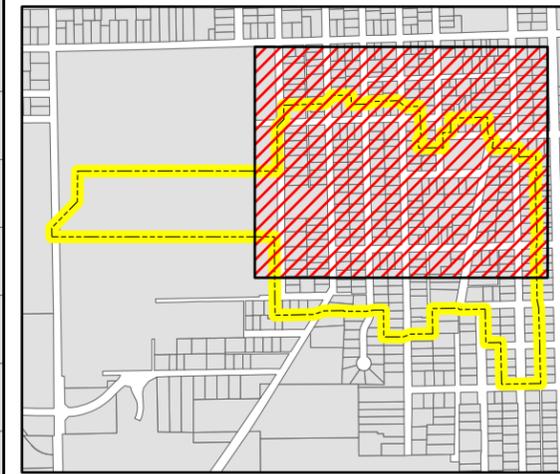
Smoke Observations

- Frame Seal (FS)
- ✕ Pick Hole (PH)
- ◊ Cleanout, Missing/Broken Cap (CO, M/BC)
- ✕ Downspout, Disconnected (DS, Dis)
- ◊ Lateral (Lat)
- ◊ Private Sanitary Manhole (PSM)
- ✕ Sanitary Mainline (SM)
- ✕ Storm Inlet (SI)

- Miller Street Basin Boundary
- Private Parcel Defects
- ⊕ Sanitary Manhole - COB
- ⊙ Combination Manhole - COB
- ⊙ No Type Given - BNWRD
- L Lift Station
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Combination Sewer - COB
- Sanitary Sewer - Private
- Force Main - COB
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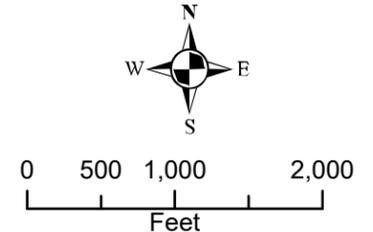


City of Bloomington, IL
 2020 SSES
 Ex 2-2 - Smoke Observations - West
 January 2021

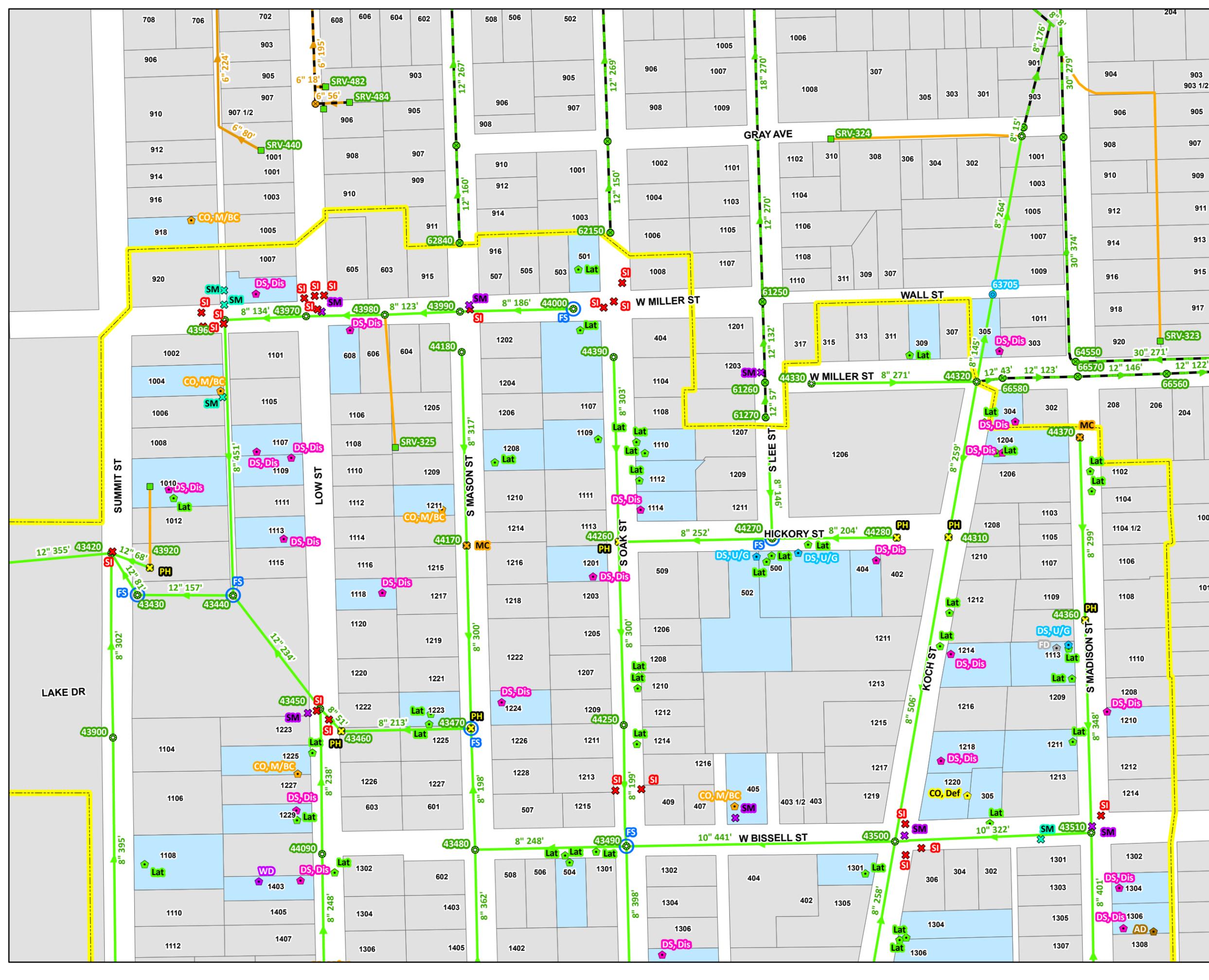


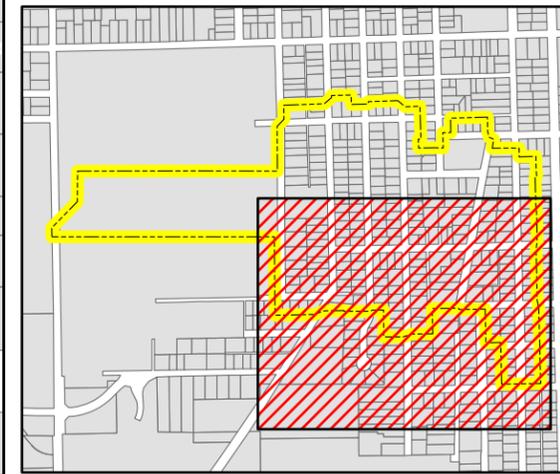
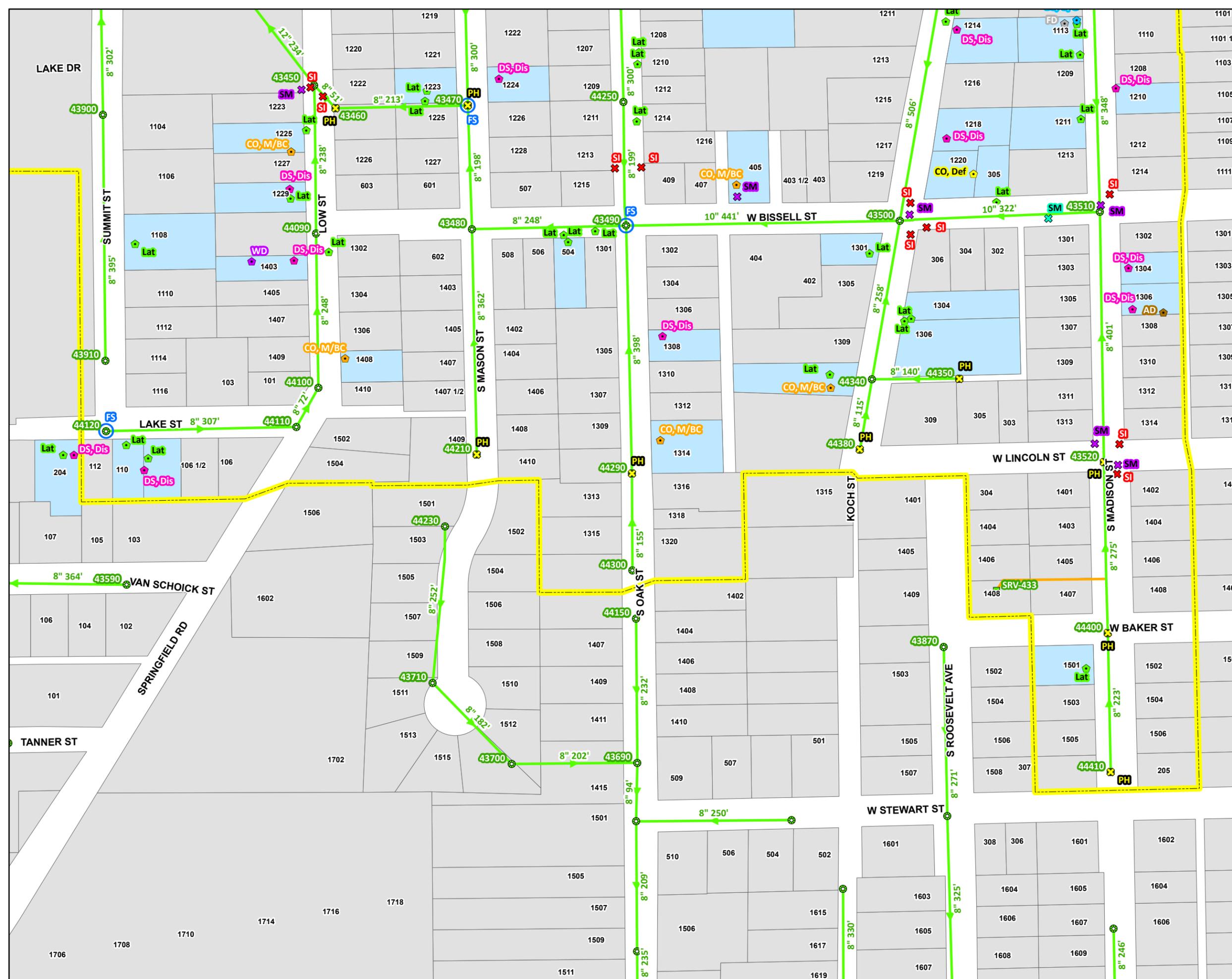
- ### Smoke Observations
- Frame Seal (FS)
 - Pick Hole (PH)
 - Area Drain (AD)
 - Cleanout, Defective (CO, Def)
 - Cleanout, Missing/Broken Cap (CO, M/BC)
 - Downspout U G (Multi Defects) (DS, U/G)
 - Downspout, Disconnected (DS, Dis)
 - Foundation Drain (FD)
 - Lateral (Lat)
 - Manhole Cover (MC)
 - Sanitary Mainline (SM)
 - Storm Inlet (SI)
 - Storm Manhole (SM)
 - Window Well Drain (WD)

- Miller Street Basin Boundary
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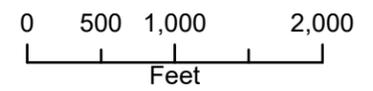
City of Bloomington, IL
 2020 SSES
 Ex 3-2 - Manhole Inspection Status -Northeast
 January 2021



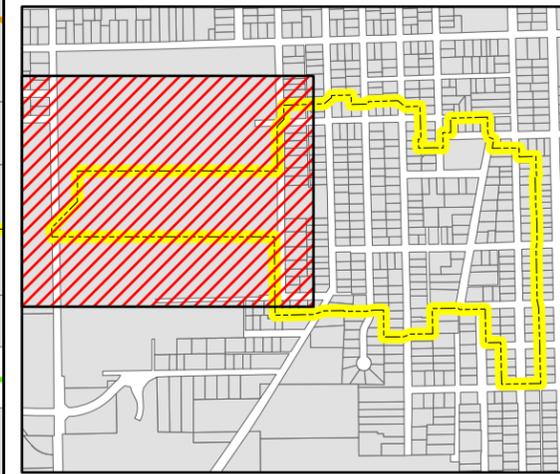
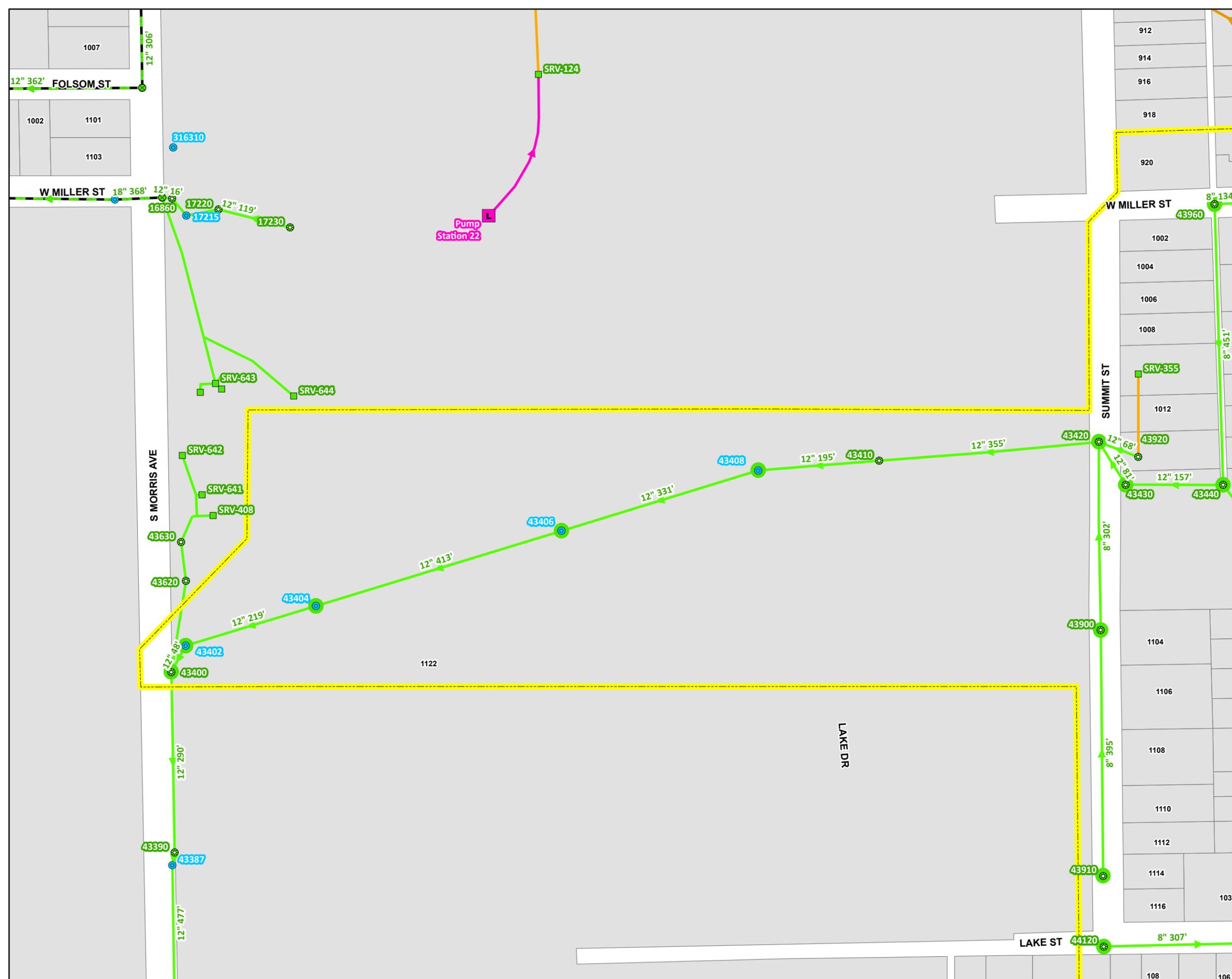


- ### Smoke Observations
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 - Foundation Drain (FD)
 - Lateral (Lat)
 - Sanitary Mainline (SM)
 - Storm Inlet (SI)
 - Storm Manhole (SM)
 - Window Well Drain (WD)

- Miller Street Basin Boundary
- Private Parcel Defects
- Sanitary Manhole - COB
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Sanitary Lateral - Private



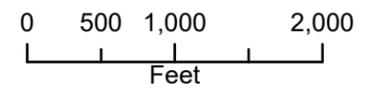
City of Bloomington, IL
 2020 SSES
 Ex 3-3 - Manhole Inspection Status -Southeast
 January 2021



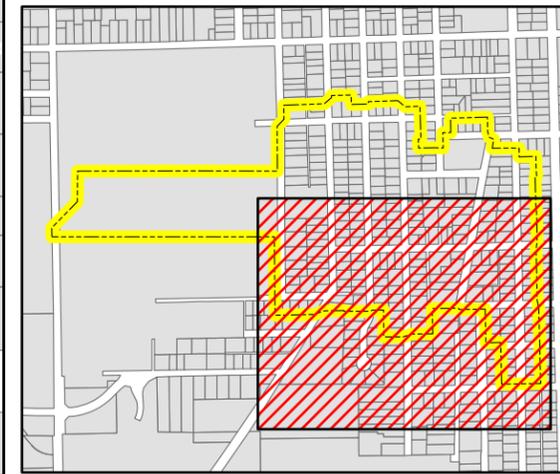
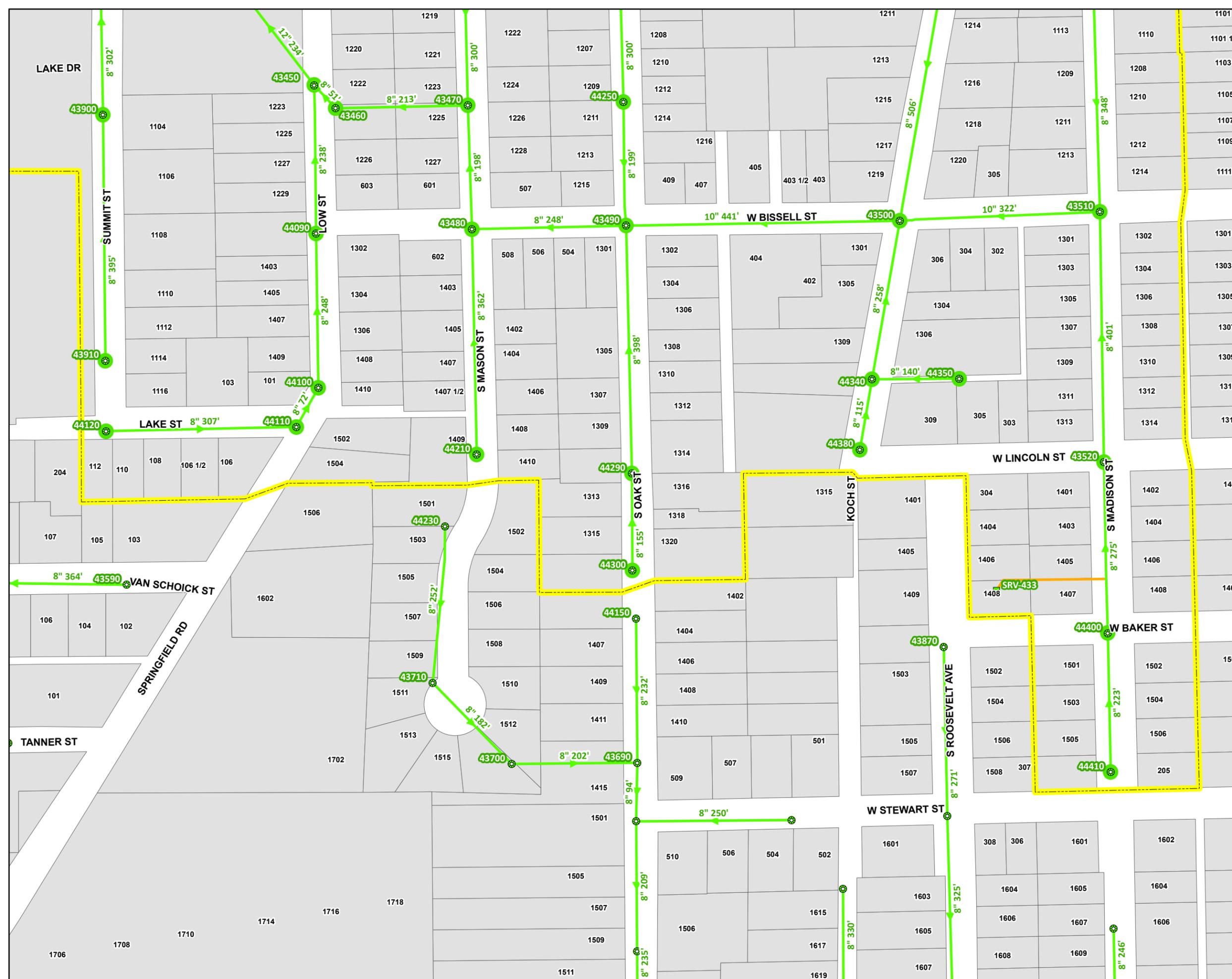
Manhole Inspection Status

- Surface Inspection
- Buried or Marked

- Miller Street Basin Boundary
- Sanitary Manhole - COB
- Combination Manhole - COB
- No Type Given - BNWRD
- Lift Station
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Combination Sewer - COB
- Sanitary Sewer - Private
- Force Main - COB
- Sanitary Lateral - COB
- Sanitary Lateral - Private



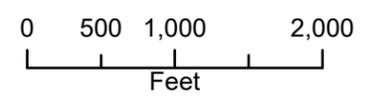
City of Bloomington, IL
 2020 SSES
 Ex 3-1 - Manhole Inspection Status - West
 January 2021



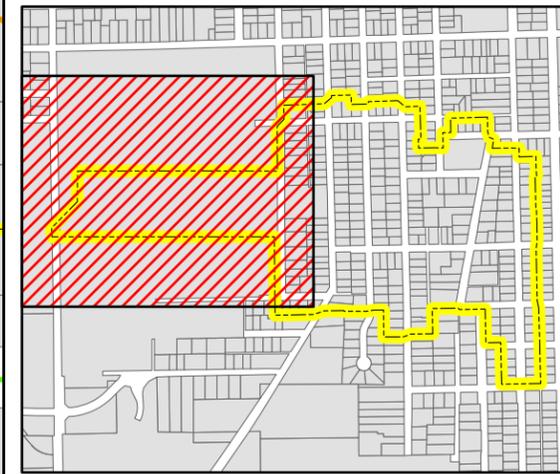
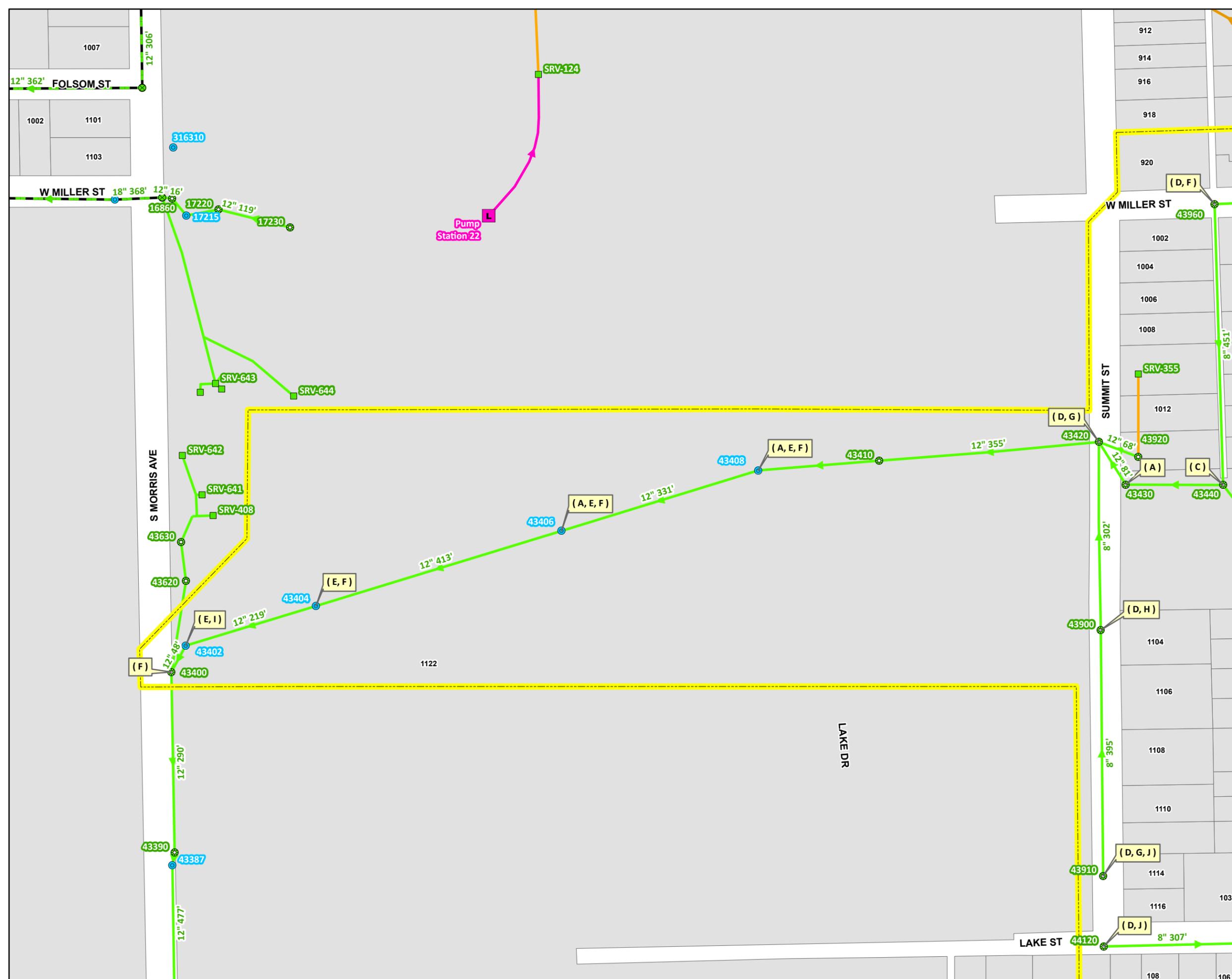
Manhole Inspection Status

- Surface Inspection
- Buried or Marked

- Miller Street Basin Boundary
- Sanitary Manhole - COB
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Sanitary Lateral - Private

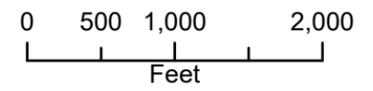


City of Bloomington, IL
 2020 SSES
 Ex 3-3 - Manhole Inspection Status - Southeast
 January 2021

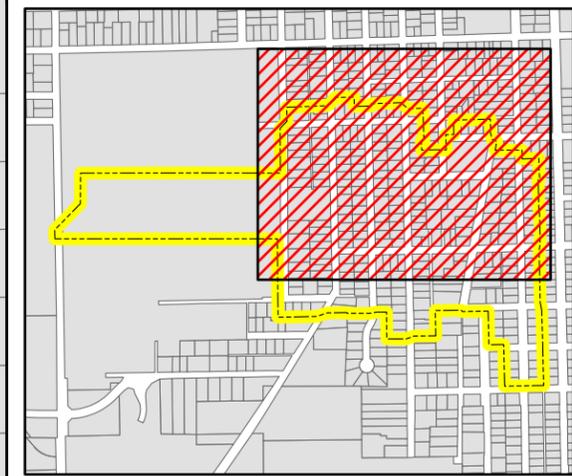


- ### Rehabilitation Codes
- A - Replace Cover
 - B - Replace Frame & Cover (Paved)
 - C - Replace Frame & Cover (Non Paved)
 - D - Seal & Adjust Frame (Paved)
 - E - Seal & Adjust Frame (Non Paved)
 - F - Cementitious Manhole Sealing
 - G - Grout Wall Joints
 - H - Full Curtain Grout
 - I - Repair Bench & Trough
 - J - Replace Bench & Trough
 - K - Replace Manhole

- ⊕ Sanitary Manhole - COB
- ⊙ Combination Manhole - COB
- ⊙ No Type Given - BNWRD
- ▭ Miller Street Basin Boundary
- L Lift Station
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Combination Sewer - COB
- Sanitary Sewer - Private
- Force Main - COB
- Sanitary Lateral - COB
- Sanitary Lateral - Private

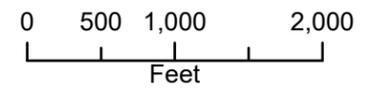


City of Bloomington, IL
 2020 SSES
 Ex 3-4 - Manhole Rehab Recommendations - West
 January 2021

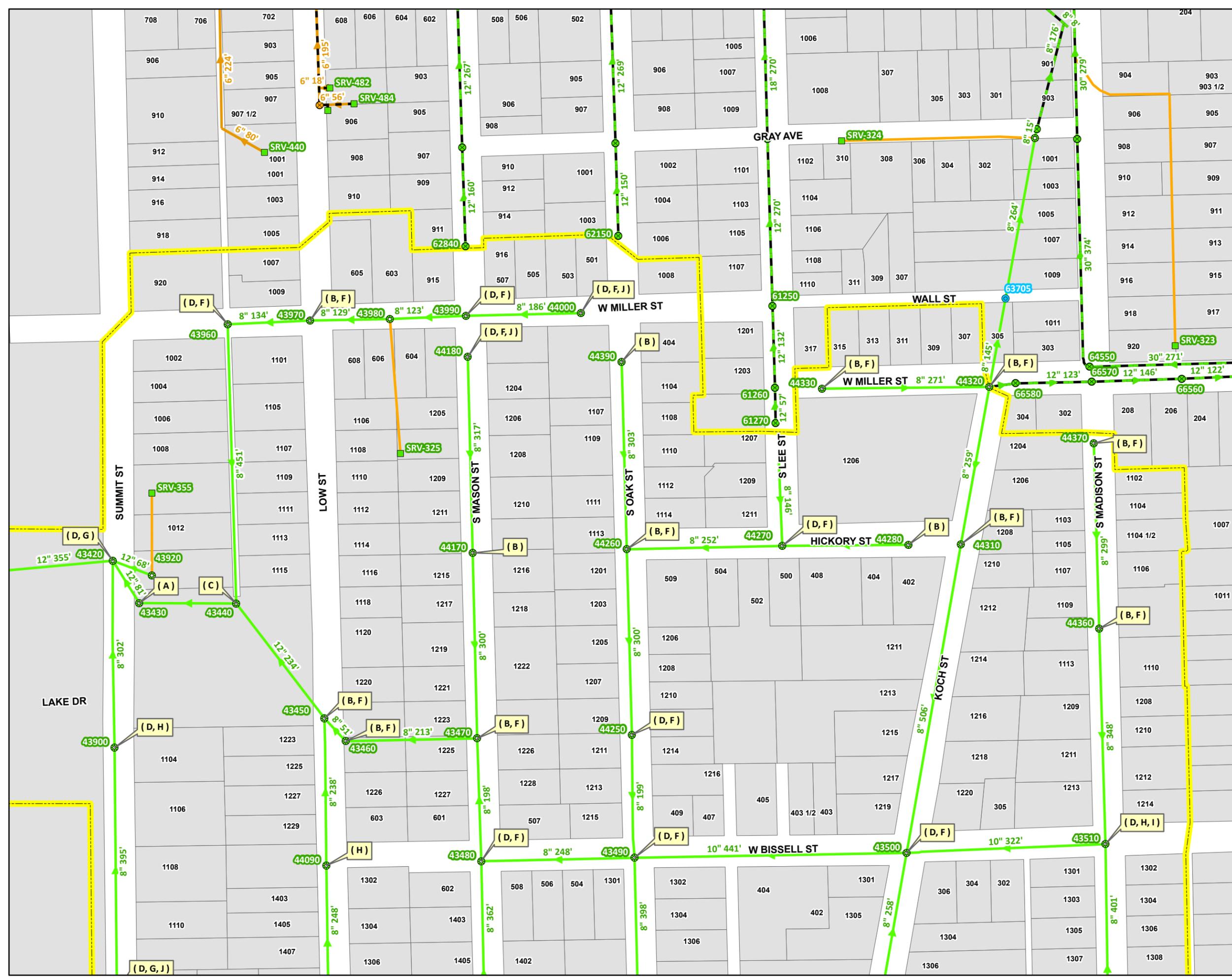


- ### Rehabilitation Codes
- A - Replace Cover
 - B - Replace Frame & Cover (Paved)
 - C - Replace Frame & Cover (Non Paved)
 - D - Seal & Adjust Frame (Paved)
 - E - Seal & Adjust Frame (Non Paved)
 - F - Cementitious Manhole Sealing
 - G - Grout Wall Joints
 - H - Full Curtain Grout
 - I - Repair Bench & Trough
 - J - Replace Bench & Trough
 - K - Replace Manhole

- Sanitary Manhole - COB
- Combination Manhole - COB
- Combination Manhole - Private
- No Type Given - BNWRD
- Miller Street Basin Boundary
- Sanitary Sewer Service Connections
- Sanitary Sewer - COB
- Combination Sewer - COB
- Sanitary Sewer - Private
- Combination Sewer - Private
- Sanitary Lateral - Private



City of Bloomington, IL
 2020 SSES
 Ex 3-5 - Manhole Rehab Recommendations - Northeast
 January 2021

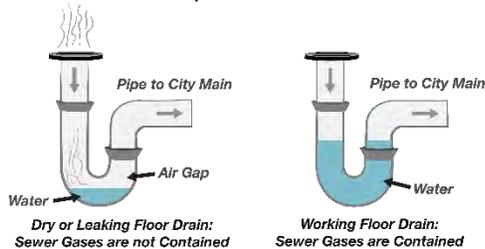


APPENDIX B
PUBLIC RELATIONS & SAFETY

NOTICE

Inspection crews will be conducting a physical survey of the **City of Bloomington** sanitary sewer system in your area. Workers will be accessing manholes to "SMOKE TEST" sewers and locate defects in the system. The smoke is NON-TOXIC, HARMLESS AND CREATES NO FIRE HAZARD.

The smoke should not enter your home unless you have defective plumbing or dried up drain traps. Pour 1 gallon of water down all floor drains and any rarely used sinks/ tubs/ toilets to ensure a water barrier is maintained in the drain traps. The drain trap water barrier is there to prevent sewer gases or odors from entering the building. If the drain trap water barrier is present and smoke does enter your home, the potential exists for sewer gases to also enter your home and you should consult a licensed plumber to fix the problem.



Some sewer lines and manholes may be located in backyards. Whenever these lines require investigation, members of the inspection crews will need access to the sewer lines and manholes. These crews are RJN Group personnel and will be identified with uniforms and badges. Homeowners do not need to be home and **FIELD CREWS ARE NOT REQUIRED TO ENTER YOUR BUSINESS OR RESIDENCE.**

If smoke enters your home, and the field crew is still on your street, please contact a member of the crew or the RJN Field Crew Leader at (630) 272-5461.

We anticipate the smoke testing will require a few days in your area. Your cooperation is appreciated. The information gained from this study will be used to improve the sewer system in keeping with state and federal regulations. **Please call if you have any questions about respiratory concerns or the smoke testing process, RJN staff will be happy to help you.**

For additional information:
Visit the RJN Group website -
www.rjn.com/SmokeTesting

Call -
City of Bloomington –(309) 434-2225
RJN Project Manager, Joe Sullivan –
(630) 682-4700, ext. 1392



PM Name: _____

SMOKE TEST INFORMATIONAL FORM

INSTRUCTIONS

Please complete and submit to Donna Sitts, Administrative Assistant, about 2 weeks prior to your smoke test start date.

PROJECT INFORMATION

General Information

Name of Client/City/Village: _____

Estimated Start Date of smoke testing: _____

of feet being smoke tested: _____

On-line Presence

Is Client posting on their website? Yes _____ No _____

If Yes, what is the website address information: _____

Will RJN be posting information on our site: Yes _____ No _____

If Yes, what date does it need to be on our website: _____

Door Tag Information

RJN Field Crew Leader Contact Info: (if you have this information, otherwise, it will be coordinated with Lewis Chellberg)

RJN Project Manager contact phone number: _____

Is Client contact info to be on door tag? Yes _____ No _____

If yes, give Client Contact Name/Title and Phone Number: _____

Are 2-sided English/Spanish tags required: Yes _____ No _____

QUANTITY NEEDED: _____

DOOR TAG PURCHASE INFORMATION

What is Project/Phase/Task: _____

Door tag color (color options: fluorescent orange, green/yellow, pink, blue). If no color is chosen, Donna will pick based on quantity required: _____

October 22, 2020

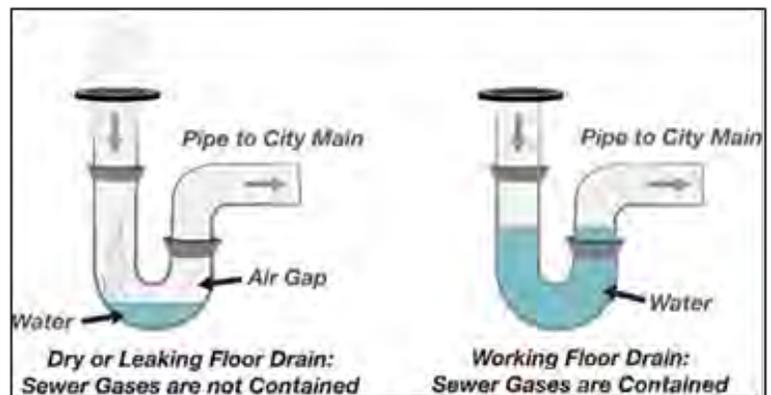
Subject: 2020 Sanitary Sewer Smoke Testing Program

Dear Resident,

The City will be conducting the Sanitary Sewer Smoke Testing Program in your area to identify locations where storm water is entering the sanitary sewer system. This letter is to inform you of the upcoming work and provide additional information about the smoke testing, which will be performed by RJN Group, Inc. The work is scheduled to begin October 28, 2020, and is expected to be completed by October 29, 2020, weather permitting. A map showing the project limits is attached. Additional notification will be provided with door hangers prior to the start of smoke testing, and signs will be posted when crews are testing in your area.

Smoke testing is a simple means of locating openings in the sewer system that allow surface rainwater runoff to enter the sanitary sewers. Air, combined with non-toxic smoke, is forced into the sewer at manholes, often located in the street, filling the system. Smoke will appear where there are defects in the main sewer line (usually located under the road) or laterals (connection between the main sewer line and a building) or where other connections to the sewer system exist, such as roof drains, patio drains, and footing drains.

Smoke should not enter buildings, unless there is defective plumbing or dried-up drain traps. To create a drain trap water barrier that further prevents sewer gases or odors from entering the building: Pour 1 gallon of water down all floor drains and any rarely used sinks/tubs/toilets to ensure that a water barrier is maintained in the drain traps. If the drain trap water barrier is present, and smoke still enters the building, the potential exists for sewer gases to also enter the building. In this case, Public Works suggests that you contact a licensed plumber first to inspect your plumbing and determine the extent of the damage or failure. Public Works cannot recommend a specific licensed plumber to contact.



Some sewer lines and manholes may be located in backyards. Whenever these lines require investigation, members of the inspection crews will need access to the sewer lines and manholes. These crews are RJN Group personnel and will be identified with uniforms and badges. Homeowners do not need to be home and field crews are not required to enter your business or residence. If smoke is entering your home during the smoke testing, contact the RJN Field Crew Leader by calling 630-272-5461 if they are still on your street. If the RJN crew is no longer in the area, call the RJN Group office at 630-682-4700.

The smoke is non-toxic, low odor, creates no fire hazard, leaves no residue, dissipates quickly, and is harmless. However, if someone in your home has respiratory concerns, they may wish to leave smoke-filled areas until smoke testing is completed. Additional information on smoke testing can be found on the RJN Group website: www.rjn.com/SmokeTesting or use the QR code below to get to the site. RJN Group staff will be happy to speak with you if you have any further questions about the smoke testing process or respiratory concerns. Please contact the RJN project manager at the number listed below.

For your consideration and potential coverage of future events, you may be eligible to enroll in residential sewer lateral protection through the City of Bloomington's ServLine program or through another provider that offers sewer lateral protection. Though program coverages vary, sewer lateral protection typically covers the repair or replacement of cracked or broken sewer laterals up to a certain dollar amount. For more information on these programs and provider options, visit www.cityblm.org/servline to download the Program Detail Document. To contact ServLine directly, call 309-585-3671.

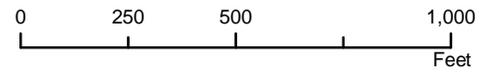
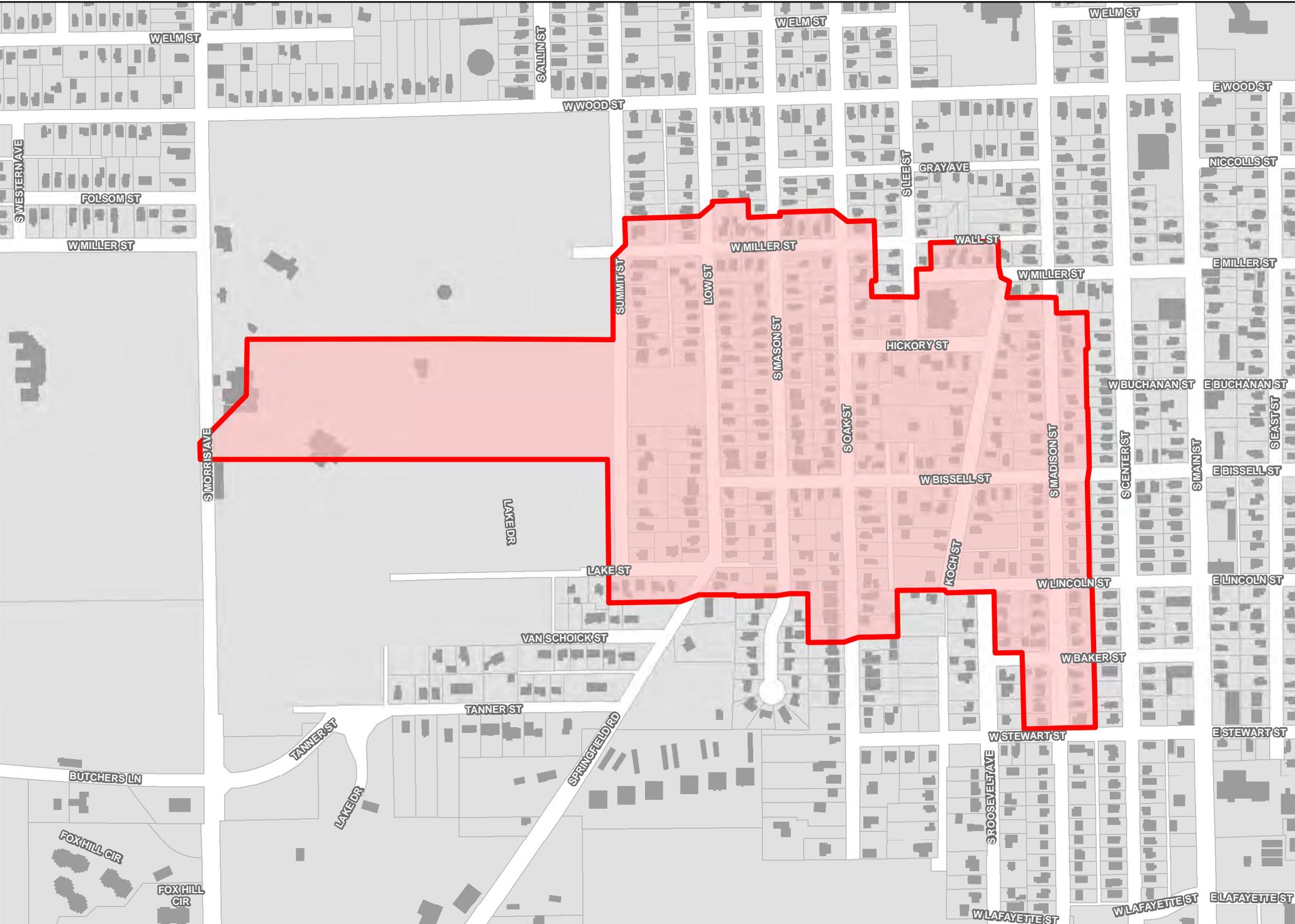
If you have any questions about the Sanitary Sewer Smoke Testing Program, you can call Joe Sullivan, Project Manager, RJN Group, at 630-346-2877 or at 630-682-4700, ext. 1392. You can also contact me by calling 309-434-2225 or emailing wsnarr@cityblm.org. Thank you for your cooperation.

Sincerely,


Ward Snarr, P.E.
Civil Engineer II



Enclosure:
2020 Smoke Test Area Map



APPENDIX C

SMOKE DEFECT SUMMARY

Defect Name	USMH: DSMH	Address	Qty	Smoke Intensity	Surface Type	Sector	Est. Total Flow (gpd)
Area Drain	43520:43510	1308 S Madison St	1	High	Paved	Private	2,160
Total: 1			Qty: 1	Total: 2,160			
Cleanout, Defective	43510:43500	1220 Koch St	1	Low	Unpaved	Private	144
Total: 1			Qty: 1	Total: 144			
Cleanout, Missing/Broken Ca	44090:43450	1227 Low St	1	High	Unpaved	Private	144
Cleanout, Missing/Broken Ca	UNKNOWN:43960	918 Summit St	1	High	Unpaved	Private	144
Cleanout, Missing/Broken Ca	43410:43408	1122 Morris	1	High	Unpaved	Private	144
Cleanout, Missing/Broken Ca	44100:44090	1408 Low St	1	High	Unpaved	Private	144
Cleanout, Missing/Broken Ca	44180:44170	1211 S mason st	1	Low	Unpaved	Private	144
Cleanout, Missing/Broken Ca	43410:43408	1122 Morris	1	Medium	Unpaved	Private	144
Cleanout, Missing/Broken Ca	44340:43500	1311 Koch st	1	Medium	Unpaved	Private	144
Cleanout, Missing/Broken Ca	43960:43440	1105 Low St	1	Medium	Unpaved	Private	144
Cleanout, Missing/Broken Ca	44290:43490	1314 S oak st	1	Medium	Unpaved	Private	144
Cleanout, Missing/Broken Ca	43500:43490	405 W Bissell St	1	Medium	Unpaved	Private	144
Total: 10			Qty: 10	Total: 1,440			
Downspout(s) Disconnected	44360:44510	1210 S madison st	2	High	Unpaved	Private	576
Downspout(s) Disconnected	44290:43490	1308 S Oak St	2	High	Paved	Private	576
Downspout(s) Disconnected	44090:43450	1229 Low St	1	High	Paved	Private	288
Downspout(s) Disconnected	43960:43440	1115 Low St	1	High	Unpaved	Private	288
Downspout(s) Disconnected	44100:44090	1403 Low St	1	High	Unpaved	Private	288
Downspout(s) Disconnected	44310:43500	1214 Koch st	1	High	Unpaved	Private	288
Downspout(s) Disconnected	44260:44250	1203 S oak st	1	Low	Unpaved	Private	288
Downspout(s) Disconnected	44310:43500	1218 Koch St	1	Low	Paved	Private	288
Downspout(s) Disconnected	43960:43440	1109 Low St	1	Low	Unpaved	Private	288
Downspout(s) Disconnected	43980:43970	608 W miller st	1	Low	Unpaved	Private	288
Downspout(s) Disconnected	44280:44270	402 Hickory St	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44170:43470	1224 S mason st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44120:44110	204 Lake st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44120:44110	108 Lake st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44320:63705	305 W miller st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44320:44310	304 W Miller St	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44320:44310	1204 Koch St	2	Medium	Paved	Private	576
Downspout(s) Disconnected	43520:43510	1308 S Madison St	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	43970:43960	1009 W miller st	3	Medium	Paved	Private	864
Downspout(s) Disconnected	43960:43440	1107 Low St	2	Medium	Paved	Private	576
Downspout(s) Disconnected	UNKNOWN:43460	1118 Low st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	43900:43420	1010 Summit st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	44390:44260	1114 S oak st	1	Medium	Unpaved	Private	288
Downspout(s) Disconnected	43510 :43520	1304 S madison st	1	Medium	Unpaved	Private	288
Total: 24			Qty: 30	Total: 8,640			
Downspout(s) Underground	44270:44260	500 Hickory st	3	High	Unpaved	Private	12,960
Downspout(s) Underground	44280:44270	408 Hickory St	1	Low	Unpaved	Private	4,320
Downspout(s) Underground	44360:43510	1113 S Madison St	1	Medium	Unpaved	Private	4,320
Total: 3			Qty: 5	Total: 21,600			
Foundation Drain	44360:44510	1209 S madison st	1	Medium	Paved	Private	5,760
Total: 1			Qty: 1	Total: 5,760			
Lateral	44090:43450	1229 Low St	1	High	Unpaved	Private	7,200
Lateral	43490:43480	1301 S Oak St	1	High	Paved	Private	7,200
Lateral	44310:43500	1212 Koch st	1	High	Unpaved	Private	7,200
Lateral	44250:43490	1214 S Oak St	1	High	Unpaved	Private	7,200

Defect Name	USMH: DSMH	Address	Qty	Smoke Intensity	Surface Type	Sector	Est. Total Flow (gpd)
Lateral	44340:43500	1301 Koch St	1	High	Paved	Private	7,200
Lateral	44390:44260	1109 S Oak St	1	Low	Unpaved	Private	7,200
Lateral	44170:43470	1223 S mason st	1	Low	Paved	Private	7,200
Lateral	44120:44110	108 Lake st	1	Low	Unpaved	Private	7,200
Lateral	44360:44510	1113 S madison st	1	Low	Unpaved	Private	7,200
Lateral	44360:44510	1211 S madison st	1	Low	Paved	Private	7,200
Lateral	43490:43480	504 W bissell st	1	Low	Unpaved	Private	7,200
Lateral	43490:43480	504 W bissell st	1	Low	Paved	Private	7,200
Lateral	43470:43460	1223 S Mason St	1	Low	Paved	Private	7,200
Lateral	44410:44400	1501 S madison st	1	Low	Unpaved	Private	7,200
Lateral	44270:44260	500 Hickory st	1	Low	Unpaved	Private	7,200
Lateral	44270:44260	500 Hickory st	1	Low	Paved	Private	7,200
Lateral	43510:43500	305 W Bissell St	1	Low	Unpaved	Private	7,200
Lateral	44330:44320	311 W miller st	1	Low	Paved	Private	7,200
Lateral	43410:43408	1122 Morris	1	Low	Unpaved	Private	7,200
Lateral	44340:43500	1304 Koch st	1	Low	Unpaved	Private	7,200
Lateral	44340:43500	1311 Koch st	1	Low	Unpaved	Private	7,200
Lateral	44100:44090	1302 Low St	1	Low	Unpaved	Private	7,200
Lateral	44250:43490	1208 S Oak St	1	Low	Unpaved	Private	7,200
Lateral	44250:43490	1210 S Oak St	1	Low	Unpaved	Private	7,200
Lateral	44370:44360	1102 S madison st	1	Low	Unpaved	Private	7,200
Lateral	44320:44310	1206 Koch st	1	Low	Unpaved	Private	7,200
Lateral	44390:44260	1112 S oak st	1	Low	Unpaved	Private	7,200
Lateral	44390:44260	1110 S oak st	1	Low	Unpaved	Private	7,200
Lateral	44000:43990	501 W miller st	1	Low	Unpaved	Private	7,200
Lateral	44280:44270	408 Hickory St	1	Medium	Paved	Private	7,200
Lateral	44120:44110	204 Lake st	1	Medium	Unpaved	Private	7,200
Lateral	44120:44110	110 Lake st	1	Medium	Unpaved	Private	7,200
Lateral	44320:44310	1204 W Miller St	1	Medium	Unpaved	Private	7,200
Lateral	44090:43450	1225 Low St	1	Medium	Unpaved	Private	7,200
Lateral	43910:43900	1108 Summit st	1	Medium	Unpaved	Private	7,200
Lateral	43404:43402	1105 Morris	1	Medium	Unpaved	Private	7,200
Lateral	44310:43500	1214 Koch st	1	Medium	Unpaved	Private	7,200
Lateral	44340:43500	1306 Koch St	1	Medium	Unpaved	Private	7,200
Lateral	44370:44360	1104 S madison st	1	Medium	Paved	Private	7,200
Lateral	44390:44260	1110 S oak st	1	Medium	Unpaved	Private	7,200
Lateral	44180:44170	1208 S Mason St	1	Medium	Unpaved	Private	7,200
Lateral	44000:43990	502 W miller st	1	Medium	Unpaved	Private	7,200
Lateral	44360:43510	1113 S Madison St	1	Medium	Unpaved	Private	7,200
Total: 43			Qty: 43				Total: 309,60
Private Sanitary Manhole	43406:43404	1122 Morris	1	High	Unpaved	Private	720
Total: 1			Qty: 1				Total: 720
Window Well Drain	44100:44090	1403 Low St	2	High	Unpaved	Private	576
Total: 1			Qty: 2				Total: 576
Manhole Cover, Pick Hole	43408:43406	1122 Morris	1	High	Unpaved	Public	1,440
Manhole Cover, Pick Hole	44210:43480	1409 S Mason St	1	High	Paved	Public	1,440
Manhole Cover, Pick Hole	43406:43404	1122 Morris	1	High	Unpaved	Public	1,440
Manhole Cover, Pick Hole	43410:43408	1122 Morris	1	High	Unpaved	Public	1,440
Manhole Cover, Pick Hole	43400:43390	1020 Bloomington	1	High	Unpaved	Public	1,440
Manhole Cover, Pick Hole	44260:44250	1113 S oak st	1	Low	Paved	Public	1,440
Manhole Cover, Pick Hole	43520:44400	1501 S madison st	1	Low	Paved	Public	1,440
Manhole Cover, Pick Hole	44290:43490	1311 S oak st	1	Low	Paved	Public	1,440
Manhole Cover, Pick Hole	44280:44270	402 Hickory St	1	Medium	Paved	Public	1,440
Manhole Cover, Pick Hole	44380:44340	1315 Koch st	1	Medium	Paved	Public	1,440
Manhole Cover, Pick Hole	44410:44400	1507 S Madison St	1	Medium	Paved	Public	1,440
Manhole Cover, Pick Hole	43520:43510	1401 S Madison St	1	Medium	Paved	Public	1,440

Defect Name	USMH: DSMH	Address	Qty	Smoke Intensity	Surface Type	Sector	Est. Total Flow (gpd)
Manhole Cover, Pick Hole	43470:43460	1223 S Mason St	1	Medium	Paved	Public	1,440
Manhole Cover, Pick Hole	43430:43420	1014 Summit st	1	Medium	Unpaved	Public	1,440
Manhole Cover, Pick Hole	44350:44340	1312 Koch st	1	Medium	Unpaved	Public	1,440
Manhole Cover, Pick Hole	43460:43450	1222 Low St	1	Medium	Unpaved	Public	1,440
Manhole Cover, Pick Hole	44310:43500	1208 Koch st	1	Medium	Paved	Public	1,440
Manhole Cover, Pick Hole	44360:43510	1111 S Madison St	1	Medium	Paved	Public	1,440
Total: 18			Qty: 18		Total: 25,920		
Sanitary Mainline	43510:43500	300 W bissell st	1	High	Paved	Public	8,640
Sanitary Mainline	UNKNOWN:43960	1101 Low st	1	Low	Unpaved	Public	8,640
Sanitary Mainline	43960:43440	1105 Low St	1	Low	Unpaved	Public	8,640
Sanitary Mainline	UNKNOWN:43960	920 Summit St	1	Medium	Unpaved	Public	8,640
Sanitary Mainline	43410:43408	1122 Morris	1	Medium	Unpaved	Public	8,640
Total: 5			Qty: 5		Total: 43,200		
Sanitary Manhole, Frame Sea	43402:43400	1105 Morris	1	Medium	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43440:43430	1115 Low St	1	High	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43430:43420	1014 Summit st	1	High	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43408:43406	1122 Morris	1	Low	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43406:43404	1122 Morris	1	Low	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43470:43460	1223 S Mason St	1	Low	Paved	Public	720
Sanitary Manhole, Frame Sea	44270:44260	500 S Lee St	1	Low	Paved	Public	720
Sanitary Manhole, Frame Sea	43490:43480	1301 S Oak St	1	Low	Paved	Public	720
Sanitary Manhole, Frame Sea	43410:43408	1122 Morris	1	Low	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43404:43402	1105 Morris	1	Low	Unpaved	Public	720
Sanitary Manhole, Frame Sea	43402:43400	1105 Morris	1	Medium	Unpaved	Public	720
Sanitary Manhole, Frame Sea	44120:44110	110 Lake st	1	Medium	Paved	Public	720
Sanitary Manhole, Frame Sea	44000:43990	501 W Miller St	1	Medium	Paved	Public	720
Total: 13			Qty: 13		Total: 9,360		
Storm Inlet	43960:43440	1002 Summit	1	High	Paved	Public	7,200
Storm Inlet	43980:43970	605 W miller st	1	High	Paved	Public	7,200
Storm Inlet	43980:43970	610 W miller st	1	High	Paved	Public	7,200
Storm Inlet	43980:43970	1009 Low st	1	High	Paved	Public	7,200
Storm Inlet	44000:43990	502 W miller st	1	High	Paved	Public	7,200
Storm Inlet	44000:43990	1008 Oak st	1	High	Paved	Public	7,200
Storm Inlet	44000:43990	502 W miller st	1	High	Paved	Public	7,200
Storm Inlet	44090:43450	1223 Low St	1	Low	Paved	Public	7,200
Storm Inlet	43960:43440	1002 Summit	1	Low	Paved	Public	7,200
Storm Inlet	UNKNOWN:43460	1222 S Low St	1	Low	Unpaved	Public	7,200
Storm Inlet	43510:43500	306 W bissell st	1	Low	Paved	Public	7,200
Storm Inlet	43510:43500	306 W bissell st	1	Low	Paved	Public	7,200
Storm Inlet	43510:43500	1220 Koch st	1	Low	Paved	Public	7,200
Storm Inlet	43510 :43520	1214 S madison st	1	Low	Paved	Public	7,200
Storm Inlet	43420:43410	1014 Summit st	1	Medium	Paved	Public	7,200
Storm Inlet	43520:43510	1402 S Madison St	1	Medium	Unpaved	Public	7,200
Storm Inlet	43520:43510	1314 S Madison St	1	Medium	Paved	Public	7,200
Storm Inlet	43970:43960	505 W miller st	1	Medium	Paved	Public	7,200
Storm Inlet	43960:43440	920 Summit	1	Medium	Unpaved	Public	7,200
Storm Inlet	44250:43490	409 S oak st	1	Medium	Paved	Public	7,200
Storm Inlet	43990:43980	1202 W Miller St	1	Medium	Unpaved	Public	7,200
Storm Inlet	44250:43490	1213 S Oak St	1	Medium	Paved	Public	7,200
Total: 22			Qty: 22		Total: 158,40		
Storm Manhole	43500:43490	405 W bissell st	1	High	Paved	Public	7,200
Storm Manhole	44090:43450	1223 Low St	1	High	Unpaved	Public	7,200
Storm Manhole	43990:43980	1202 W Miller St	1	High	Paved	Public	7,200
Storm Manhole	43510:43500	1220 Koch st	1	Low	Paved	Public	7,200
Storm Manhole	43510 :43520	1301 S madiso st	1	Low	Paved	Public	7,200

Defect Name	USMH: DSMH	Address	Qty	Smoke Intensity	Surface Type	Sector	Est. Total Flow (gpd)
Storm Manhole	43520:43510	1402 S Madison St	1	Medium	Paved	Public	7,200
Storm Manhole	43520:43510	1401 S Madison St	1	Medium	Paved	Public	7,200
Storm Manhole	43970:43960	608 W miller st	1	Medium	Paved	Public	7,200
Storm Manhole	UNKNOWN:44270	1203 S Lee St	1	Medium	Paved	Public	7,200
Total: 9			Qty: 9				Total: 64,800

Report Summary

Total Number of Defects: 161

Total Flow: 652,320 gpd

APPENDIX D

PHOTO SUMMARY REPORT

11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Area Drain

Address: 1308 S Madison St

Basin:
Segment (US : DS): **43520:43510**
Intensity: **High**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



Cleanout, Defective

Address: 1220 Koch St

Basin:
Segment (US : DS): **43510:43500**
Intensity: **Low**
Drainage Area (SF): **50**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 1311 Koch st

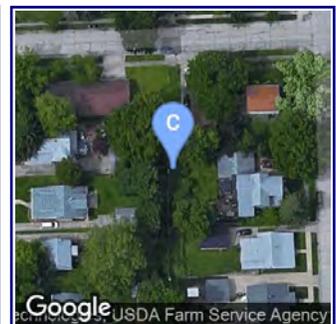
Basin:
Segment (US : DS): **44340:43500**
Intensity: **Medium**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 1105 Low St

Basin:
Segment (US : DS): **43960:43440**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments: *Defect is located under deck in enclosed yard.*



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Cleanout, Missing/Broken Cap

Address: 1227 Low St

Basin:
Segment (US : DS): **44090:43450**
Intensity: **High**
Drainage Area (SF): **120**
Surface: **Unpaved**
Comments: *This defect is located near a gutter*



Cleanout, Missing/Broken Cap

Address: 1408 Low St

Basin:
Segment (US : DS): **44100:44090**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 1122 Morris

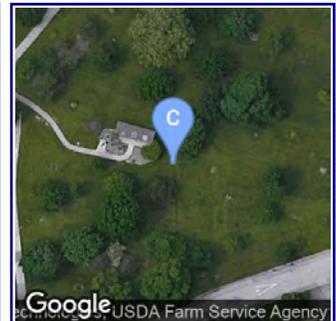
Basin:
Segment (US : DS): **43410:43408**
Intensity: **Low**
Drainage Area (SF): **10**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 1122 Morris

Basin:
Segment (US : DS): **43410:43408**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Cleanout, Missing/Broken Cap

Address: 1122 Morris

Basin:
Segment (US : DS): **43410:43408**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 1211 S mason st

Basin:
Segment (US : DS): **44180:44170**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 1314 S oak st

Basin:
Segment (US : DS): **44290:43490**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Cleanout, Missing/Broken Cap

Address: 918 Summit St

Basin:
Segment (US : DS): **UNKNOWN:43960**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Cleanout, Missing/Broken Cap

Basin:
Segment (US : DS): **43500:43490**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:

Address: 405 W Bissell St



Downspout U G (Multi Defects)

Basin:
Segment (US : DS): **44280:44270**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:

Address: 408 Hickory St



Downspout U G (Multi Defects)

Basin:
Segment (US : DS): **44270:44260**
Intensity: **High**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:

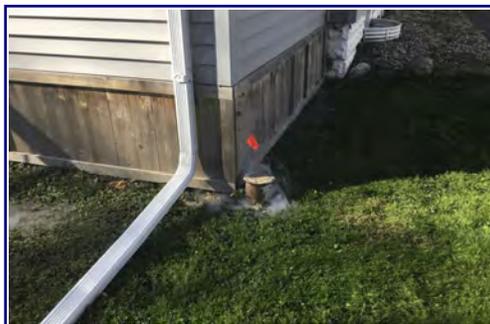
Address: 500 Hickory st



Downspout U G (Multi Defects)

Basin:
Segment (US : DS): **44360:43510**
Intensity: **Medium**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:

Address: 1113 S Madison St



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Downspout, Disconnected

Address: 402 Hickory St

Basin:
Segment (US : DS): **44280:44270**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1204 Koch St

Basin:
Segment (US : DS): **44320:44310**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Downspout, Disconnected

Address: 1214 Koch st

Basin:
Segment (US : DS): **44310:43500**
Intensity: **High**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1218 Koch St

Basin:
Segment (US : DS): **44310:43500**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Downspout, Disconnected

Address: 108 Lake st

Basin:
Segment (US : DS): **44120:44110**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 204 Lake st

Basin:
Segment (US : DS): **44120:44110**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1107 Low St

Basin:
Segment (US : DS): **43960:43440**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Downspout, Disconnected

Address: 1109 Low St

Basin:
Segment (US : DS): **43960:43440**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Downspout, Disconnected

Address: 1115 Low St

Basin:
Segment (US : DS): **43960:43440**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1118 Low st

Basin:
Segment (US : DS): **UNKNOWN:43460**
Intensity: **Medium**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1229 Low St

Basin:
Segment (US : DS): **44090:43450**
Intensity: **High**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



Downspout, Disconnected

Address: 1403 Low St

Basin:
Segment (US : DS): **44100:44090**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Downspout, Disconnected

Basin:
Segment (US : DS): **44360:44510**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:

Address: 1210 S madison st



Downspout, Disconnected

Basin:
Segment (US : DS): **43510 :43520**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:

Address: 1304 S madison st



Downspout, Disconnected

Basin:
Segment (US : DS): **43520:43510**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:

Address: 1308 S Madison St



Downspout, Disconnected

Basin:
Segment (US : DS): **44170:43470**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:

Address: 1224 S mason st



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Downspout, Disconnected

Address: 1114 S oak st

Basin:
Segment (US : DS): **44390:44260**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1203 S oak st

Basin:
Segment (US : DS): **44260:44250**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 1308 S Oak St

Basin:
Segment (US : DS): **44290:43490**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Downspout, Disconnected

Address: 1010 Summit st

Basin:
Segment (US : DS): **43900:43420**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Downspout, Disconnected

Address: 1009 W miller st

Basin:
Segment (US : DS): **43970:43960**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Downspout, Disconnected

Address: 304 W Miller St

Basin:
Segment (US : DS): **44320:44310**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Downspout, Disconnected

Address: 305 W miller st

Basin:
Segment (US : DS): **44320:63705**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments: *Downspout is covered with a ceramic flower pot bottom.*



Downspout, Disconnected

Address: 608 W miller st

Basin:
Segment (US : DS): **43980:43970**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Foundation Drain

Address: 1209 S madison st

Basin:
Segment (US : DS): **44360:44510**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Lateral

Address: 408 Hickory St

Basin:
Segment (US : DS): **44280:44270**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Lateral

Address: 500 Hickory st

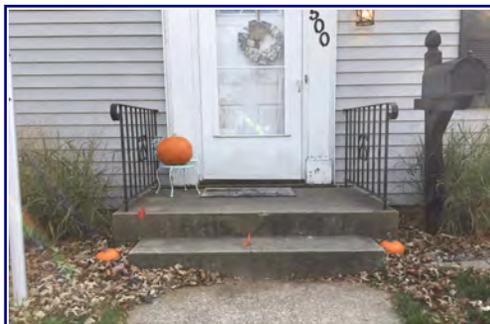
Basin:
Segment (US : DS): **44270:44260**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 500 Hickory st

Basin:
Segment (US : DS): **44270:44260**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1206 Koch st

Basin:
Segment (US : DS): **44320:44310**
Intensity: **Low**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 1212 Koch st

Basin:
Segment (US : DS): **44310:43500**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1214 Koch st

Basin:
Segment (US : DS): **44310:43500**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1301 Koch St

Basin:
Segment (US : DS): **44340:43500**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1304 Koch st

Basin:
Segment (US : DS): **44340:43500**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1306 Koch St

Basin:
Segment (US : DS): **44340:43500**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1311 Koch st

Basin:
Segment (US : DS): **44340:43500**
Intensity: **Low**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 108 Lake st

Basin:
Segment (US : DS): **44120:44110**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 110 Lake st

Basin:
Segment (US : DS): **44120:44110**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 204 Lake st

Basin:
Segment (US : DS): **44120:44110**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1225 Low St

Basin:
Segment (US : DS): **44090:43450**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1229 Low St

Basin:
Segment (US : DS): **44090:43450**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1302 Low St

Basin:
Segment (US : DS): **44100:44090**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1105 Morris

Basin:
Segment (US : DS): **43404:43402**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1122 Morris

Basin:
Segment (US : DS): **43410:43408**
Intensity: **Low**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 1102 S madison st

Basin:
Segment (US : DS): **44370:44360**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1104 S madison st

Basin:
Segment (US : DS): **44370:44360**
Intensity: **Medium**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



Lateral

Address: 1113 S madison st

Basin:
Segment (US : DS): **44360:44510**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1113 S Madison St

Basin:
Segment (US : DS): **44360:43510**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 1211 S madison st

Basin:
Segment (US : DS): **44360:44510**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Paved**
Comments: *Resident claimed lateral had recently been fixed. Very low smoke.*



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1501 S madison st

Basin:
Segment (US : DS): **44410:44400**
Intensity: **Low**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 1208 S Mason St

Basin:
Segment (US : DS): **44180:44170**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1223 S mason st

Basin:
Segment (US : DS): **44170:43470**
Intensity: **Low**
Drainage Area (SF): **500**
Surface: **Paved**
Comments:



Lateral

Address: 1223 S Mason St

Basin:
Segment (US : DS): **43470:43460**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1109 S Oak St

Basin:
Segment (US : DS): **44390:44260**
Intensity: **Low**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Lateral

Address: 1110 S oak st

Basin:
Segment (US : DS): **44390:44260**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Unpaved**
Comments:



Lateral

Address: 1110 S oak st

Basin:
Segment (US : DS): **44390:44260**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1112 S oak st

Basin:
Segment (US : DS): **44390:44260**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1208 S Oak St

Basin:
Segment (US : DS): **44250:43490**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1210 S Oak St

Basin:
Segment (US : DS): **44250:43490**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1214 S Oak St

Basin:
Segment (US : DS): **44250:43490**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Lateral

Address: 1301 S Oak St

Basin:
Segment (US : DS): **43490:43480**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 1010 Summit st

Basin:
Segment (US : DS): **43900:43420**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 1108 Summit st

Basin:
Segment (US : DS): **43910:43900**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Unpaved**
Comments:



Lateral

Address: 305 W Bissell St

Basin:
Segment (US : DS): **43510:43500**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 504 W bissell st

Basin:
Segment (US : DS): **43490:43480**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 504 W Bissell St

Basin:
Segment (US : DS): **43490:43480**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Lateral

Address: 1204 W Miller St

Basin:
Segment (US : DS): **44320:44310**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Lateral

Address: 311 W Miller St

Basin:
Segment (US : DS): **44330:44320**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Lateral

Address: 501 W Miller St

Basin:
Segment (US : DS): **44000:43990**
Intensity: **Low**
Drainage Area (SF): **100**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Lateral

Address: 502 W miller st

Basin:
Segment (US : DS): **44000:43990**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Manhole (Pick Holes)

Address: 1020 Bloomington

Basin:
Segment (US : DS): **43400:43390**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Manhole (Pick Holes)

Address: 402 Hickory St

Basin:
Segment (US : DS): **44280:44270**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Manhole (Pick Holes)

Address: 1208 Koch st

Basin:
Segment (US : DS): **44310:43500**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Paved**
Comments: *No smoke. Blower is set on respective manhole. ID 44310*



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Manhole (Pick Holes)

Address: 1312 Koch st

Basin:
Segment (US : DS): **44350:44340**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Manhole (Pick Holes)

Address: 1315 Koch st

Basin:
Segment (US : DS): **44380:44340**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Manhole (Pick Holes)

Address: 1222 Low St

Basin:
Segment (US : DS): **43460:43450**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Manhole (Pick Holes)

Address: 1122 Morris

Basin:
Segment (US : DS): **43410:43408**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Manhole (Pick Holes)

Address: 1122 Morris

Basin:
Segment (US : DS): **43408:43406**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Manhole (Pick Holes)

Address: 1122 Morris

Basin:
Segment (US : DS): **43406:43404**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Manhole (Pick Holes)

Address: 1111 S Madison St

Basin:
Segment (US : DS): **44360:43510**
Intensity: **Medium**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



Manhole (Pick Holes)

Address: 1401 S Madison St

Basin:
Segment (US : DS): **43520:43510**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Manhole (Pick Holes)

Address: 1501 S madison st

Basin:
Segment (US : DS): **43520:44400**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Manhole (Pick Holes)

Address: 1507 S Madison St

Basin:
Segment (US : DS): **44410:44400**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Manhole (Pick Holes)

Address: 1223 S Mason St

Basin:
Segment (US : DS): **43470:43460**
Intensity: **Medium**
Drainage Area (SF): **200**
Surface: **Paved**
Comments:



Manhole (Pick Holes)

Address: 1409 S Mason St

Basin:
Segment (US : DS): **44210:43480**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments: *Vented lid on sanitary*



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Smoke Observation Summary

Manhole (Pick Holes)

Address: 1113 S oak st

Basin:
Segment (US : DS): **44260:44250**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Paved**
Comments: *No smoke. Blower set up on respective manhole.*
MH ID 44260



Manhole (Pick Holes)

Address: 1311 S oak st

Basin:
Segment (US : DS): **44290:43490**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments: *MH ID 44290*



Manhole (Pick Holes)

Address: 1014 Summit st

Basin:
Segment (US : DS): **43430:43420**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Manhole Cover

Address: 1102 S madison st

Basin:
Segment (US : DS): **44370:44360**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Manhole Cover

Address: 1213 S mason st

Basin:

Segment (US : DS): **44170:43470**

Intensity: **High**

Drainage Area (SF): **1,000**

Surface: **Paved**

Comments: *No smoke, blower is set up on respective manhole.*



Manhole Downstream

Address: 1105 Morris

Basin:

Segment (US : DS): **43402:43400**

Intensity: **Medium**

Drainage Area (SF): **200**

Surface: **Unpaved**

Comments:



Manhole Upstream

Address: 110 Lake st

Basin:

Segment (US : DS): **44120:44110**

Intensity: **Medium**

Drainage Area (SF): **200**

Surface: **Paved**

Comments:



Manhole Upstream

Address: 1115 Low St

Basin:

Segment (US : DS): **43440:43430**

Intensity: **High**

Drainage Area (SF): **300**

Surface: **Unpaved**

Comments:



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Smoke Observation Summary

Manhole Upstream

Address: 1105 Morris

Basin:
Segment (US : DS): **43402:43400**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Manhole Upstream

Address: 1105 Morris

Basin:
Segment (US : DS): **43404:43402**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Manhole Upstream

Address: 1122 Morris

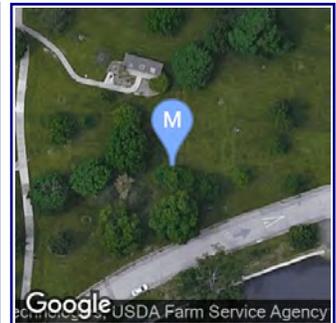
Basin:
Segment (US : DS): **43410:43408**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Manhole Upstream

Address: 1122 Morris

Basin:
Segment (US : DS): **43408:43406**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



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Smoke Observation Summary

Manhole Upstream

Address: 1122 Morris

Basin:
Segment (US : DS): **43406:43404**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Manhole Upstream

Address: 500 S Lee St

Basin:
Segment (US : DS): **44270:44260**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Manhole Upstream

Address: 1223 S Mason St

Basin:
Segment (US : DS): **43470:43460**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Manhole Upstream

Address: 1301 S Oak St

Basin:
Segment (US : DS): **43490:43480**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Manhole Upstream

Address: 1014 Summit st

Basin:
Segment (US : DS): **43430:43420**
Intensity: **High**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Manhole Upstream

Address: 501 W Miller St

Basin:
Segment (US : DS): **44000:43990**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Paved**
Comments:



Private Sanitary Manhole

Address: 1122 Morris

Basin:
Segment (US : DS): **43406:43404**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Sanitary Mainline

Address: 1101 Low st

Basin:
Segment (US : DS): **UNKNOWN:43960**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Sanitary Mainline

Address: 1105 Low St

Basin:
Segment (US : DS): **43960:43440**
Intensity: **Low**
Drainage Area (SF): **200**
Surface: **Unpaved**
Comments:



Sanitary Mainline

Address: 1122 Morris

Basin:
Segment (US : DS): **43410:43408**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Sanitary Mainline

Address: 920 Summit St

Basin:
Segment (US : DS): **UNKNOWN:43960**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Sanitary Mainline

Address: 300 W bissell st

Basin:
Segment (US : DS): **43510:43500**
Intensity: **High**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



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Smoke Observation Summary

Storm Inlet

Address: 1220 Koch st

Basin:
Segment (US : DS): **43510:43500**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1009 Low st

Basin:
Segment (US : DS): **43980:43970**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1223 Low St

Basin:
Segment (US : DS): **44090:43450**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1008 Oak st

Basin:
Segment (US : DS): **44000:43990**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Storm Inlet

Address: 1222 S Low St

Basin:
Segment (US : DS): **UNKNOWN:43460**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments: *Possible Residual smoke from nearby inlets*



Storm Inlet

Address: 1214 S madison st

Basin:
Segment (US : DS): **43510 :43520**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1314 S Madison St

Basin:
Segment (US : DS): **43520:43510**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1402 S Madison St

Basin:
Segment (US : DS): **43520:43510**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Storm Inlet

Address: 1213 S Oak St

Basin:
Segment (US : DS): **44250:43490**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Paved**
Comments:



Storm Inlet

Address: 409 S oak st

Basin:
Segment (US : DS): **44250:43490**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1002 Summit

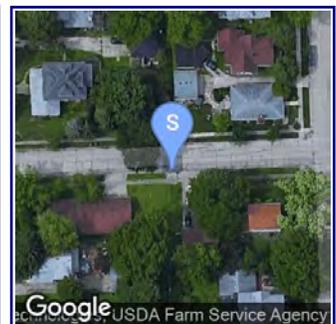
Basin:
Segment (US : DS): **43960:43440**
Intensity: **Low**
Drainage Area (SF): **300**
Surface: **Paved**
Comments:



Storm Inlet

Address: 1002 Summit

Basin:
Segment (US : DS): **43960:43440**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Storm Inlet

Address: 920 Summit

Basin:
Segment (US : DS): **43960:43440**
Intensity: **Medium**
Drainage Area (SF): **300**
Surface: **Unpaved**
Comments:



Storm Inlet

Address: 1014 Summit st

Basin:
Segment (US : DS): **43420:43410**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 306 W bissell st

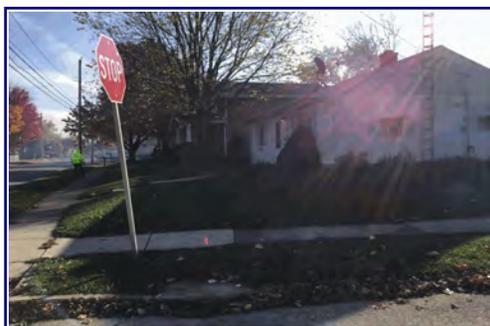
Basin:
Segment (US : DS): **43510:43500**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 306 W bissell st

Basin:
Segment (US : DS): **43510:43500**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Storm Inlet

Address: 1202 W Miller St

Basin:
Segment (US : DS): **43990:43980**
Intensity: **Medium**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



Storm Inlet

Address: 502 W miller st

Basin:
Segment (US : DS): **44000:43990**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 502 W miller st

Basin:
Segment (US : DS): **44000:43990**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments: *Middle of intersection. Oak st and miller st.*



Storm Inlet

Address: 505 W miller st

Basin:
Segment (US : DS): **43970:43960**
Intensity: **Medium**
Drainage Area (SF): **100**
Surface: **Paved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Storm Inlet

Address: 605 W miller st

Basin:
Segment (US : DS): **43980:43970**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Inlet

Address: 610 W miller st

Basin:
Segment (US : DS): **43980:43970**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Manhole

Address: 1220 Koch st

Basin:
Segment (US : DS): **43510:43500**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Manhole

Address: 1223 Low St

Basin:
Segment (US : DS): **44090:43450**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Unpaved**
Comments:



11-3577-01: Bloomington, Illinois 2020 CCTV & SSES

Smoke Observation Summary

Storm Manhole

Address: 1203 S Lee St

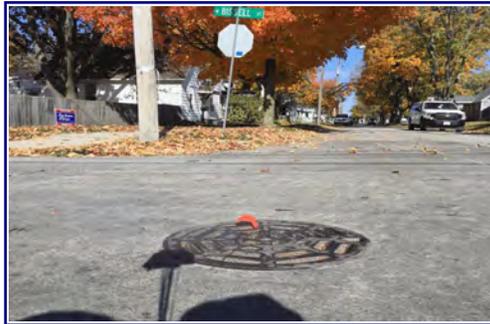
Basin:
Segment (US : DS): **UNKNOWN:44270**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Manhole

Address: 1301 S madiso st

Basin:
Segment (US : DS): **43510 :43520**
Intensity: **Low**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Manhole

Address: 1401 S Madison St

Basin:
Segment (US : DS): **43520:43510**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Manhole

Address: 1402 S Madison St

Basin:
Segment (US : DS): **43520:43510**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



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Smoke Observation Summary

Storm Manhole

Address: 405 W Bissell St

Basin:
Segment (US : DS): **43500:43490**
Intensity: **High**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Storm Manhole

Address: 1202 W Miller St

Basin:
Segment (US : DS): **43990:43980**
Intensity: **High**
Drainage Area (SF): **500**
Surface: **Paved**
Comments:



Storm Manhole

Address: 608 W Miller St

Basin:
Segment (US : DS): **43970:43960**
Intensity: **Medium**
Drainage Area (SF): **1,000**
Surface: **Paved**
Comments:



Window Well Drain

Address: 1403 Low St

Basin:
Segment (US : DS): **44100:44090**
Intensity: **High**
Drainage Area (SF): **500**
Surface: **Unpaved**
Comments:



APPENDIX E

MANHOLE REHABILITATION SCHEDULE

CITY OF BLOOMINGTON
APPENDIX E- MANHOLE REHABILITATION SCHEDULE

Manhole No.	Address		Surface Type	MH Location	Structure Depth (ft)	Structure Diameter (in)	Chimney Height (in)	Wall Material	Cover Type	Replace Cover	Replace Frame & Cover (Paved)	Replace Frame & Cover (Non)	Seal & Adjust Frame (Paved)	Seal & Adjust Frame (Non)	Cementitious Manhole Sealing	Grout Wall Joints	# Wall Joints	Full Curtain Grout	Repair Bench & Trough	Replace Bench & Trough	Replace Manhole	Comments	
44290	1311	S Oak St	Asphalt	Light Highway	8.78	48"	8	Concrete (reinforced)	Vented (slots)		X							X					
44300	1403	S Oak St	Asphalt	Light Highway	8.21	48"		Brick	Solid				X		X								
44310	402	Koch St	Asphalt	Light Highway	8.71	48"		Brick	Vented (slots)		X				X								
44320	1206	W Miller St	Asphalt	Light Highway	8.83	48"	4	Brick	Vented (slots)		X				X								
44330	1206	W Miller St	Asphalt	Light Highway	8.81	48"		Brick	Vented (slots)		X				X								
44340	1311	Koch St	Concrete/Pavement	Light Highway	10.3	48"	4	Concrete (non-reinforced)	Solid				X		X								
44350	305	Koch St	Grass/Dirt	Alley	7.12	48"	4	Concrete (non-reinforced)	Vented (slots)			X									X		
44360	1111	S Madison St	Asphalt	Light Highway	8.3	48"		Brick	Vented (slots)		X				X								
44370	302	W Miller St	Asphalt	Light Highway	8.4	48"	2	Brick	Vented (slots)		X				X								
44380	1313	Koch St	Concrete/Pavement	Light Highway	11.12	48"	4	Concrete (reinforced)	Vented (slots)	X						X	2						
44390	502	S Oak St	Asphalt	Light Highway	9.28	48"		Brick	Vented (slots)		X												
44400	1501	S Madison St	Asphalt	Light Highway	9.2	48"		Brick	Vented (slots)		X				X								
44410	1507	S Madison St	Asphalt	Light Highway	9	48"		Brick	Vented (slots)		X				X								
TOTAL										2	19	5	16	2	28	4	4	7	2	6	1		