2016 ANNUAL REPORT

March 2017

CITY OF FORT SMITH, ARKANSAS

Consent Decree Compliance Program and Infrastructure Improvements, 2016 Annual Report

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

3/13/17

Date

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DOL	Date of Lodging
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System

MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, or expressly stated in the City of Fort Smith Sewer Use Ordinance, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251-1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b) (20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 US § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A "Recurring SSO" shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Section 1
Summary Report

In accordance with Section II of the Consent Decree (CD), between the United States Environmental Protection Agency (EPA), the Arkansas Department of Environmental Quality (ADEQ) and the City of Fort Smith, Arkansas (City), the City is implementing a CD compliance program (Program). This Program consists of the review of its wastewater treatment plants, improvements and/or modifications to its wastewater collection and transmission systems (WCTS), and improved/modified operations and maintenance and the goal of abatement of sanitary sewer overflows (SSO). The Program features sewer system assessments, conditions rating and capacity remedial measures plans, design and construction projects. At the same time, Fort Smith also must implement an aggressive asset management program every year regardless of the demands of the Program.

In order to balance these needs, the City has engaged a Program Management Consultant (PMC), CDM Smith Inc., to assist the City staff in executing the Program.

Pursuant to requirements of Section X, Reporting, the City has prepared the following Annual Report for the period from the January 1, 2016 to December 31, 2016. This Annual Report contains all applicable information required, which includes all activities, planned deliverables, accomplishments and completed improvements performed before or during 2016. The City has successfully met each of the stipulated requirements for the Year 2016. Below is a list of CD Sections, with their associated document reference, for which detailed information, data tabulations, exhibits, plans and/or reports have been compiled in order to achieve compliance for the 2016 Annual Report. As the list indicates, this is an extraordinary scope and extent of work which is mandated by the Consent Decree.

- Sewer System Assessments (SSAs), Section V, Article One; Section X, Paragraph 91;
- Condition Remedial Measures, Section V, Article Two; Section X, Paragraph 92;
- Capacity Remedial Measures, Section V, Article Five and Section X, Paragraph 93, Appendixes E1 and E2;
- Capacity Assessment and Hydraulic Modeling, Section V, Article Four;
- Capacity, Management, Operations, and Maintenance (CMOM) Activities, Section V, Article Seven; Section X, Paragraph 94;
    - Fats, Oil and Grease (FOG) Control Program Section V, Article Seven, Paragraph 37; Section X, Paragraph 94, a;
    - Root Control Program Section V, Article Seven, Paragraph 39; Section X, Paragraph 94, b;

- Gravity Sewer Line Cleaning Program Section V, Article Seven, Paragraph 41; Section X, Paragraph 94, c;
- Continuing Sewer System Assessment (CSSA) Program Section V, Article Seven, Paragraph 43; Section X, Paragraph 94, d;
- Continuing Pump Station and Force Main Evaluation and Preventive Maintenance Program Section V, Article Seven, Paragraph 45; Section X, Paragraph 94, e;
- Continuing Capacity Assurance Program Section V, Article Seven, Paragraph 46; Section X, Paragraph 94, f;
- SSO Reporting Section V, Article Seven, Paragraph 47; Section X, Paragraph 94, g;
- Information Management System (IMS) Update Section V, Article Seven, Paragraph 50; Section X, Paragraph 94, h;
- SSO Emergency Response Program (OERP) Section V, Article Seven, Paragraph 48; Section X, Paragraph 94, i;
- Standard Operating Procedures (SOP component) Section V, Article Seven, Paragraph 53; Section X, Paragraph 94, j;
- Private Line Defect Remedial Program Section V, Article Seven, Paragraph 54; Section X, Paragraph 94, k;
- Employee Training Program Section V, Article Seven, Paragraph 55; Section X, Paragraph 94, l;
- Inventory Management System Section V, Article Seven, Paragraph 56; Section X, Paragraph 94, m;

- Supplemental Environmental Project (SEP) Status, Appendix F, Subsection D; Section X, Paragraph 95;
- Mitigation Program Requirement, Section VI, Paragraph 70.a.

This Annual Report provides pertinent data and information as required in Section IX, Deliverables and Review Process, Paragraphs 80 and 81. It should be noted that specific plans for system hydraulic modeling and CMOM efforts are ongoing with scheduled completion for their respective reports that will be included with the 2017Annual Report Year or later. Statements regarding progress and general status for development of those ongoing components will be provided in each of their respective sections and sub-sections. These reports will be included in the appropriate Annual Report Year as required by the CD.

Table 1-1 below provides a list of completed milestone activities required for the 2016 CD Annual Reporting period.

Table 1-1 CD Milestones

CD Reference	CD Activity	CD Date	Status	Date Submitted
	Date of Lodging	02 Jan '15	Complete	02 Jan '15
Section V, Article One	Complete SSAs on 40 miles of Gravity Sewer Lines Annually	31 Dec '16	Exceeded requirement: 51.6 miles in 2016	Mar '17
Section V, Article One	Complete SSAs on 150 miles of Gravity Sewer Lines in 3-years - 56.9 miles in 2015 and 51.6 miles in 2016	31 Dec '18	Completed 108.5-miles total	Expect to complete 150-miles by Dec '18
Section V, Article One	2015 Condition Assessment Report Submitted	31 Mar '16	Complete	Mar '16
Section V, Article One	2016 Condition Assessment Report Submitted	31 Mar '17	Complete	Mar '17
Section V, Article Two	Remedial Measure Plan for Basin 12 Submitted for Approval - Approved	31 Mar '16 5 July '16	Complete	Mar '16
Section V, Article Two	Remedial Measure Plan for 2015 SSA Area for Approval	31 Mar '17	Complete	Mar '17
Section V, Article Four	Hydraulic Model Update Report for Approval	31 Mar '17	Complete	Mar '17
Section V, Article Seven	Root Control Program Plan Submitted for Approval - Approved	31 Dec '15 5 July '16	Complete	Dec '15
Section V, Article Seven	Gravity Sewer Line Cleaning Program Plan Submitted for Approval - Approved	31 Dec '15 5 July '16	Complete	Dec '15
Section V, Article Seven	Completed a minimum of 10% of Small-Diameter Gravity Lines Cleaning per year	31 Dec '16	Exceeded requirement: 11.4 % in 2016	Mar '17
Section V, Article Seven	Complete a minimum of 8 miles of Large-Diameter Gravity Sewer Line cleaning in 3-years - 0.91 miles in 2015 and 3.76 miles in 2016	31 Dec '18	Completed 4.67-miles total	Expect to complete 8-miles by Dec '18
Section V, Article Seven	SSO Documentation and Reporting Program Plan Submitted for Approval - Approved	31 Dec '15 5 July '16	Complete	Dec '15
Section V, Article Seven	SSO Emergency Response Program Plan Submitted for Approval - Approved	31 Dec '15 5 July '16	Complete	Dec '15
Section V, Article Seven	FOG Control Program Plan Submitted for Approval	31 Dec '16	Complete	Dec '16
Section V, Article Seven	Continuing Sewer System Assessment Program Plan for Approval	31 Dec '16	Complete	Dec '16
Section V, Article Seven	Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan for Approval	31 Dec '16	Complete	Dec '16
Section V, Article Seven	Continuing Capacity Assurance Program Plan for Approval	31 Dec '16	Complete	Dec '16

Table 1-1 CD Milestones

CD Reference	CD Activity	CD Date	Status	Date Submitted
Section V, Article Seven	Information Management System Plan for Approval	31 Dec ‘16	Complete	Dec ‘16
Section V, Article Seven	SOP Plan for Approval - Approved	30 June ‘16 3 Jan ’17	Complete	June ‘16
Section V, Article Seven	Private Line Defect Remedial Program Plan for Approval	31 Dec ‘16	Complete	Dec ‘16
Section V, Article Seven	Comprehensive Training Program Plan for Approval - Approved	30 June ‘16 6 Dec ‘16	Complete	June ‘16
Section V, Article Seven	Inventory Management System Demonstration for Approval	31 Dec ‘16	Complete	Dec ‘16
Section VI	Mitigation Program Quality Assurance Project Plan Submitted - Comments Received - Response to Comments Submitted	31 Dec '15 29 June ‘16 8 August ’16	Complete	Dec ‘15
Section VIII	Supplemental Environmental Project Escrow Agreement	30 June ‘15	Complete	June ‘15
Section VIII	Executed Escrow Agreement Submitted	31 Dec '15	Complete	Dec '15

Section 2

Consent Decree Activities

2.1 Sewer System Condition Assessments Activities

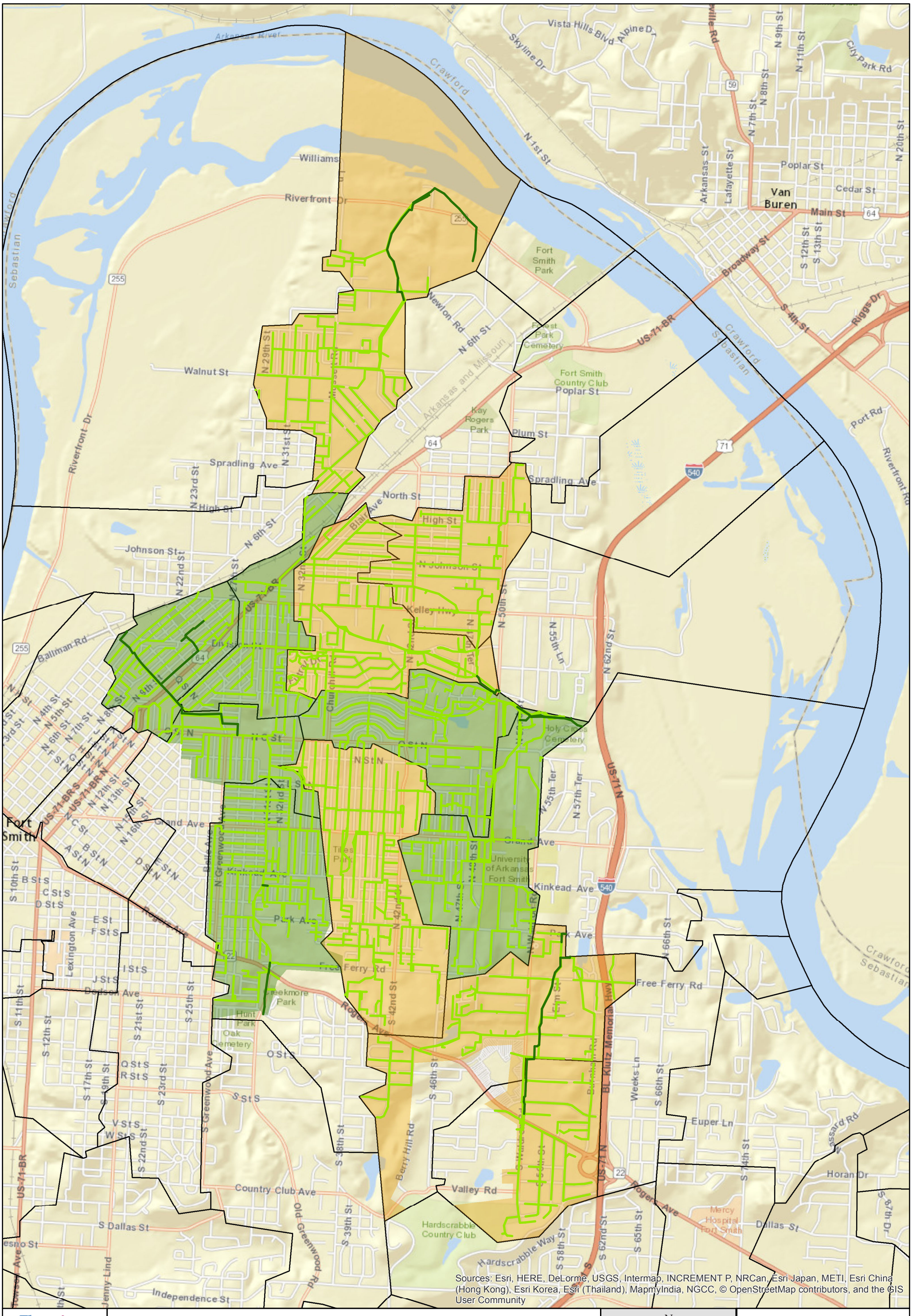
Pursuant to the requirements of Section V, Article One: Sewer System Condition Assessments and Section X, Paragraph 91 and Section V, Article Two: Condition Remedial Measures and Section X, Paragraph 92 this section documents the City's progress towards completing the Sewer System Condition Assessment Activities.

2.1.1 Sewer System Assessments (SSAs)

Pursuant to the requirements of Section V, Article One: Sewer System Condition Assessments and Section X, Paragraph 91 this section documents the City's progress toward completing SSA activities. The City contracted RJN Group, Inc. (RJN) to conduct SSA activities in 2016. Figure 2-1 and Table 2-1 outline the SSA Areas. The Addendum to Sanitary Sewer Assessment 2015 Condition Assessment Report (2015 SSA Addendum) which included CCTV and manhole inspections is included in Attachment 1. The 2016 SSA Condition Assessment Report (2016 SSA) which included smoke testing, dye testing, CCTV, and manhole inspections is included in Attachment 2.

Table 2-1 SSA Area Summary

Sub-Basin	Number of Manholes	Length of Sewer Pipe	
		Linear Feet	Miles
2015 SSA	1,363	301,124	56.9
2016 SSA	1,188	272,626	51.6
Total	**2,551**	**537,750**	**108.5**



The City of Fort Smith ARKANSAS

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Sewer Lines >= 24"

Sewer Lines < 24"

SSA Completed in Previous Year

SSA In Progress

Subbasin Service Areas

N

1 inch = 2,500 feet

0 6501,300 2,600 Feet

2016 SSA Condition Assessment Areas

City of Fort Smith Annual Report (2016), Figure 2-1

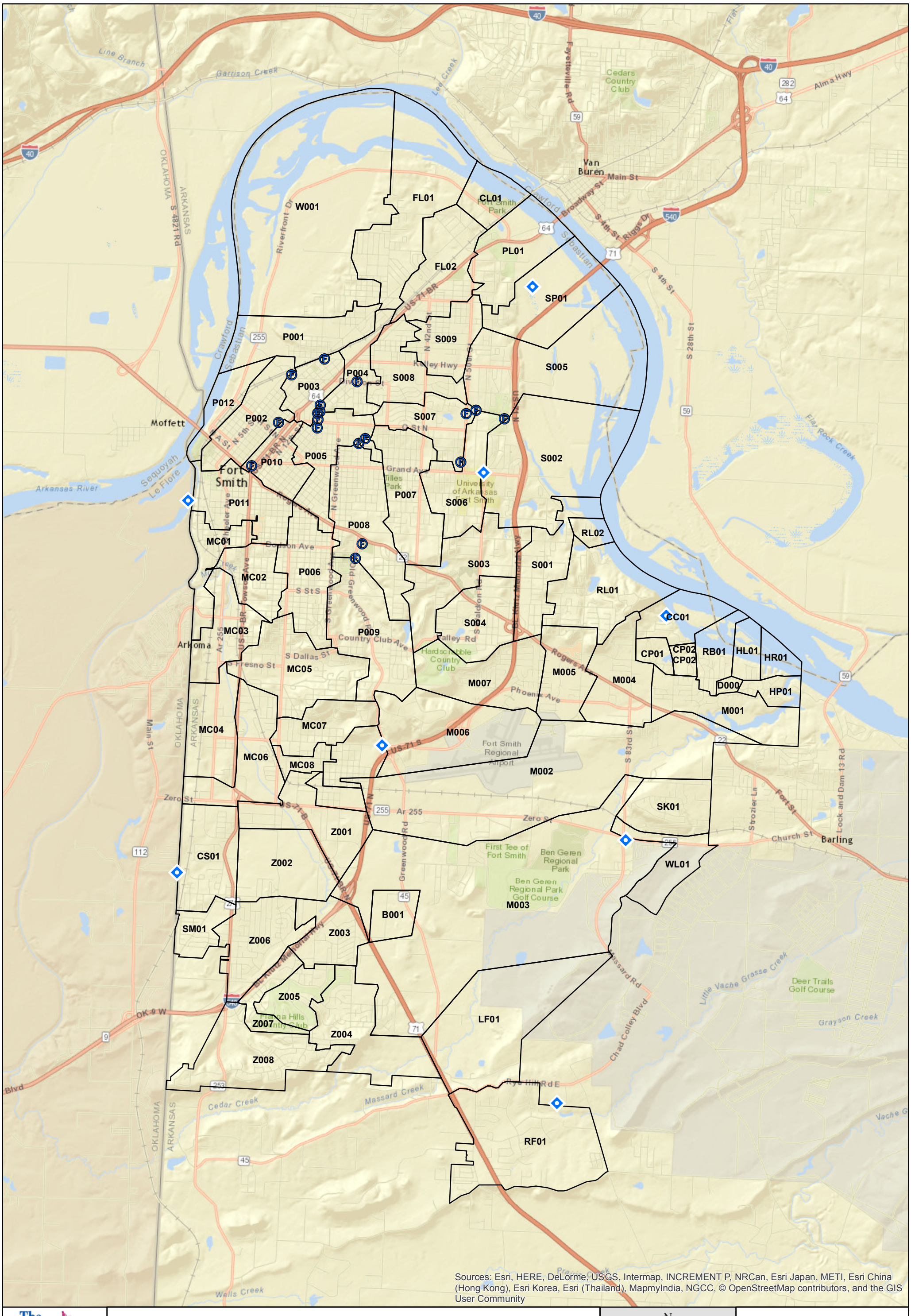
The following SSA Activities were conducted during the 2016 Annual Report year:

- The City exceeded the minimum 40 miles annual SSA requirement as shown in the 2015 SSA Addendum (Attachment 1) and the 2016 SSA (Attachment 2).
- Total of 51.6 miles of Gravity Sewer Lines were assessed in the 2016 SSA area including manholes, CCTV, Smoke Testing and Dye Testing (see Figure 2-1, Table 2-1).
- An additional 0.53 miles of CCTV were conducted in the 2015 SSA area during year 2016. Tabulations of the condition assessment activities are provided in Attachment 1 and Attachment 2.
- Flow Monitoring was conducted at 18 locations during this reporting period. Figure 2-2 provides the Flow Monitoring and Rain Gauge locations used.
- No gravity sewer investigation was performed outside the limits of the Consent Decree.
- Total of 14,069 linear feet (2.66 miles) of additional gravity sewer lines were added to the WCTS during this report period. Additional gravity sewer lines are identified in Figure 2-3.
- Total of 14 pipe segments were identified as potentially receiving storm water discharges from private property, these were associated with 10 downspouts and 4 area storm drains, discovered during the 2016 SSA (a detailed tabulation is provided in Attachment 2: 2016 SSA). These are under further review and will be handled in accordance with the Private Line Remedial Program Plan (Attachment 14).
- 823 potential Private Service Line Defects including 378 Private Service Lines and 445 Private Cleanouts were discovered during the 2016 SSA (a detailed tabulation is provided in Attachment 2: 2016 SSA). The potential Private Service Line Defects identified in the 2016 SSA will be evaluated and addressed as described in the to be approved Private Line Defect Remedial Program Plan (see Section 2.7.11).
- There were no Direct Discharges from the WCTS discovered during the 2016 SSA.

Table 2-2 Condition Assessment Status

Condition Assessment Activities	Previous Years	2016 Annual Report Year	Total
Manhole Inspection	1,170	1,152	2,322
Sewer Pipe Inspected	301,124 LF (56.9 miles)	272,626 (51.6 miles)	537,750 (108.5 Miles)
Length of Sewer Pipe Smoke Tested	301,124 LF (56.9 miles)	272,626 LF (51.6 miles)	537,750 LF (108.5 Miles)
Sewer Pipe Dye Tested	8,868 LF (1.68 miles)	11,807 LF (2.24 miles)	20,675 LF (3.92 miles)
Small Diameter Sewer Pipe CCTV	245,208 LF (46.44 miles)	237,717 LF (45.02 miles)	482,925 LF (91.46 miles)
Large Diameter Sewer Pipe CCTV	4,811 LF (0.91 Miles)	11,164 LF (2.11 miles)	15,975 LF (3.02 miles)

[1]Detailed tabulation of Condition Assessment Activities is provided in Attachments 1 and 2.



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

The City of Fort Smith ARKANSAS

JCL: January 30, 2017
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Flow Meter Locations

Rain Guage Locations

Subbasin Service Area

N

1 inch = 1 miles

0 0.25 0.5 1 Miles

2016 Flow Meter Locations

City of Fort Smith Annual Report (2016), Figure 2-2

965 Ft
Additional Sewer

2,486 Ft.
Additional Sewer

841 Ft.
Additional Sewer

209 Ft.
Additional Sewer

215 Ft.
Additional Sewer

732 Ft.
Additional Sewer

8,621 Ft.
Additional Sewer

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

The City of Fort Smith ARKANSAS

Additional Sewer

Pump Stations

Sewer Subbasins

N

1 inch = 3,000 feet

0 7501,500 3,000 4,500 Feet

2016 Additional Sewer Line Locations

City of Fort Smith Annual Report (2016), Figure 2-3

CL: 30 January, 2017
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\2016_AnnualReport\2016_Conditional_Remedial_Measures.mxd

2.1.2 Condition Assessment Results

Pursuant to the requirements of Section V, Article Two: Condition Remedial Measures and Section X, Paragraph 92 this section documents the City's progress toward completing the Condition Remedial Measures activities. The City contracted RJN Group, Inc. (RJN) to conduct SSA activities in 2016. Figure 2-1 and Table 2-1 outline the SSA Areas. The 2015 SSA Addendum (see Attachment 1) provides additional condition assessments for in the 2015 SSA area not completed during the 2015 Annual Report period and includes NASSCO ratings for line segments and manholes. The 2016 SSA NASSCO ratings for line segments and manholes with condition assessments is included in Attachment 2. The following is a summary of the NASSCO ratings for manholes (Table 2-5) and line segments (Table 2-6). A detailed tabulation of these results are provided in Attachment 1: 2015 SSA Addendum and Attachment 2: 2016 SSA.

Table 2-3 NASSCO MACP Score Summary

Sub-Basin	NASSCO Score							
	Not Inspected	No Defect	1	2	3	4	5	Total
2015 SSA	109	511	101	258	132	107	145	**1,363**
2016 SSA	180	251	59	166	154	122	256	**1,188**
Total	**289**	**762**	**160**	**424**	**286**	**229**	**401**	**2,551**

Of the 109 manholes that were not inspected, 10 manholes will be replaced as part of 2015 remedial measures work in Sub-Basin P007 and 11 manholes were confirmed not to exist. Ongoing efforts are being performed by the City, in concert with RJN, to locate and/or make manholes accessible for required assessment.

Table 2-4 NASSCO PACP Score Summary

Sub-Basin	NASSCO Score (linear feet)						
	No Defect	1	2	3	4	5	Total
2015 SSA	16,008	10,379	33,831	65,838	53,351	73,402	**252,809**
2016 SSA	33,615	4,444	19,127	42,609	38,386	107,907	**246,088**
Total	**49,623**	**14,823**	**52,958**	**108,447**	**91,737**	**181,309**	**498,897**

2.2 Condition Remedial Measures

Pursuant to the requirements of Section V, Article Two: Condition Remedial Measures and Section X, Paragraph 92 this section documents the City's progress toward completing the Condition Remedial Measures activities. The following Condition Remedial Measures Activities were conducted during the 2016 Annual Report year:

- The Remedial Measures Plan for 2015 SSA (2015 RMP) is provided in Attachment 3.
- The City contracted 3 Design Consultants to design the Remedial Measure Activities for the 2015 SSA area.

- The City contracted Hawkins-Weir Engineers to conduct an evaluation of the Basin 12 Remedial Measures Plan and determine priority of Remedial Measure Activities, budget and schedule.
- The Remedial Measures Plan for the 2016 SSA will be provided within 12 months of the condition assessment report.

2.3 Pump Station/ Force Main Evaluation Report

Pursuant to the requirements of Section V, Article Three: Pump Station/Force Main Evaluation Report, this section documents the progress of the Pump Station and Force Main evaluations. The City has contracted Hawkins-Weir Engineers to complete the Pump Station/Force Main Evaluation Report for submittal by March, 2018. Hawkins-Weir Engineers have completed the following activities as part of the Pump Station/Force Main Evaluation Report:

- Developed detailed descriptions of each pump station;
- Performed a condition assessment of each pump station;
- Determined, by field measurement, the actual firm capacity with the largest pump out of service
- Performed a condition assessment of each force main, including the following activities as needed:
    - Evaluated soil conditions inherent to any metallic pipe force main route at Broad Electro-Magnetic (BEM) force main inspection locations;
    - Performed force main evaluation by direct inspections of the force mains, where they are physically visible, and through use of industry standard alternative methodology when lines are buried or otherwise inaccessible, and;
- Started developing the Remedial Measures plan based on the previous activities.

2.4 Capacity Assessment and Hydraulic Model

Pursuant to the requirements of Section V, Article Four: Capacity Assessment and Hydraulic Modeling and Section X, Paragraph 94, f, this section documents the City's progress toward completing the Capacity Assessment and Hydraulic Modeling.

The Hydraulic Model Update Report is provided in Attachment 4. The Capacity Assessment Report is due by March 31, 2018 and CDM Smith has been contracted by the City to develop the Capacity Assessment Report for submittal on or before March 31, 2018.

2.5 Capacity Remedial Measures

Pursuant to the requirements of Section V, Article Five: Capacity Remedial Measures Plan and Section X, Paragraph 93 this section documents the City's progress toward completing the Capacity Remedial Measures activities. Table 2-5 and Figure 2-4 provide the status of Capacity Related Remedial Measure Projects. The City is currently on schedule for the construction of

Capacity Remedial Measures identified in Appendix E2. The Capacity Remedial Measures Plan is due by March 31, 2019 and CDM Smith has been contracted by the City to develop the Capacity Remedial Measures Plan for submittal by March 31, 2019.

Table 2-5 Capacity Related Remedial Measure Projects Complete

Project	Status
Mill Creek Equalization Basin and Pump Station	Construction Complete in 2016
Mill Creek Capacity Improvements - Phase 1	Construction Complete in 2016
Replacement of Pump Stations 15, 16, 17 and 23	Construction Complete in 2016

2.6 Additional Remedial Measure Activities

In addition to the Condition and Capacity Projects outlined in the CD, the Sewer Rehabilitation and Capacity Projects for Basin 17 Collection System Improvements was completed in 2016. This project provides WCTS Condition Improvements for 9,891 linear feet of sewer lines and 127 manholes and WCTS Capacity Improvements for 3,522 linear feet of sewer lines in Basin 17. The Wheeler Avenue Sanitary Sewer Replacement project, for condition related work, was also completed in 2016. The project replaced 3,497 linear feet of sewer lines. The capacity related activities are shown in Figure 2-4 and the condition related activities are shown in Figure 2-5.

Mill Creek EQ Basin and Pump Station

Mill Creek Capacity Improvements (Phase 1)

Mill Creek Capacity Improvements (Phase 2)

Zero St. Eq. Basin and Pump Station

Pump Station 19 Force Main Replacement

Basin 17 -- Capacity Improvements

Replacement of Pump Stations 15, 16, 17, 23
Station 16 was completly removed/replaced

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

The City of Fort Smith ARKANSAS

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- Pump Station Completed in Previous Annual Report Year
- Pump Station Completed in Annual Report Year
- EQ Basins Completed in Annual Report Year
- Sewer Lines
- Sewer Lines Completed in Annual Report Year
- Sewer Lines Completed in Prior Years
- Manholes Completed in Annual Report Year
- Sewer Pump Stations
- Subbasin Service Area

N

1 inch = 2,500 feet

0 6251,250 2,500 3,750 Feet

2016 Completed Capacity Remedial Measures

City of Fort Smith Annual Report (2016), Figure 2-4

Basin 17
Collection System Improvements

Wheeler Avenue
Sanitary Sewer Replacement

P011 P010 P005 P008 P007 P006 P009 Z001 Z004

MC01 MC02 MC03 MC04 MC05 MC06 MC07 MC08

S006 S002 S003 S001 S004

M007 M006 M005 M004 M002 M001

RL02 RL01

CC01 CP01 CP02 CP02 RB01

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

The City of Fort Smith ARKANSAS

Sewer Lines Completed in Annual Report Year

Sewer Lines

Manhole Remendiation in Annual Report Year

Pump Stations

Sewer Subbasins

N

1 inch = 2,000 feet

0 5001,000 2,000 3,000 Feet

2016 Completed Condition Remedial Measures

City of Fort Smith Annual Report (2016), Figure 2-5

ICL: 30 January, 2017
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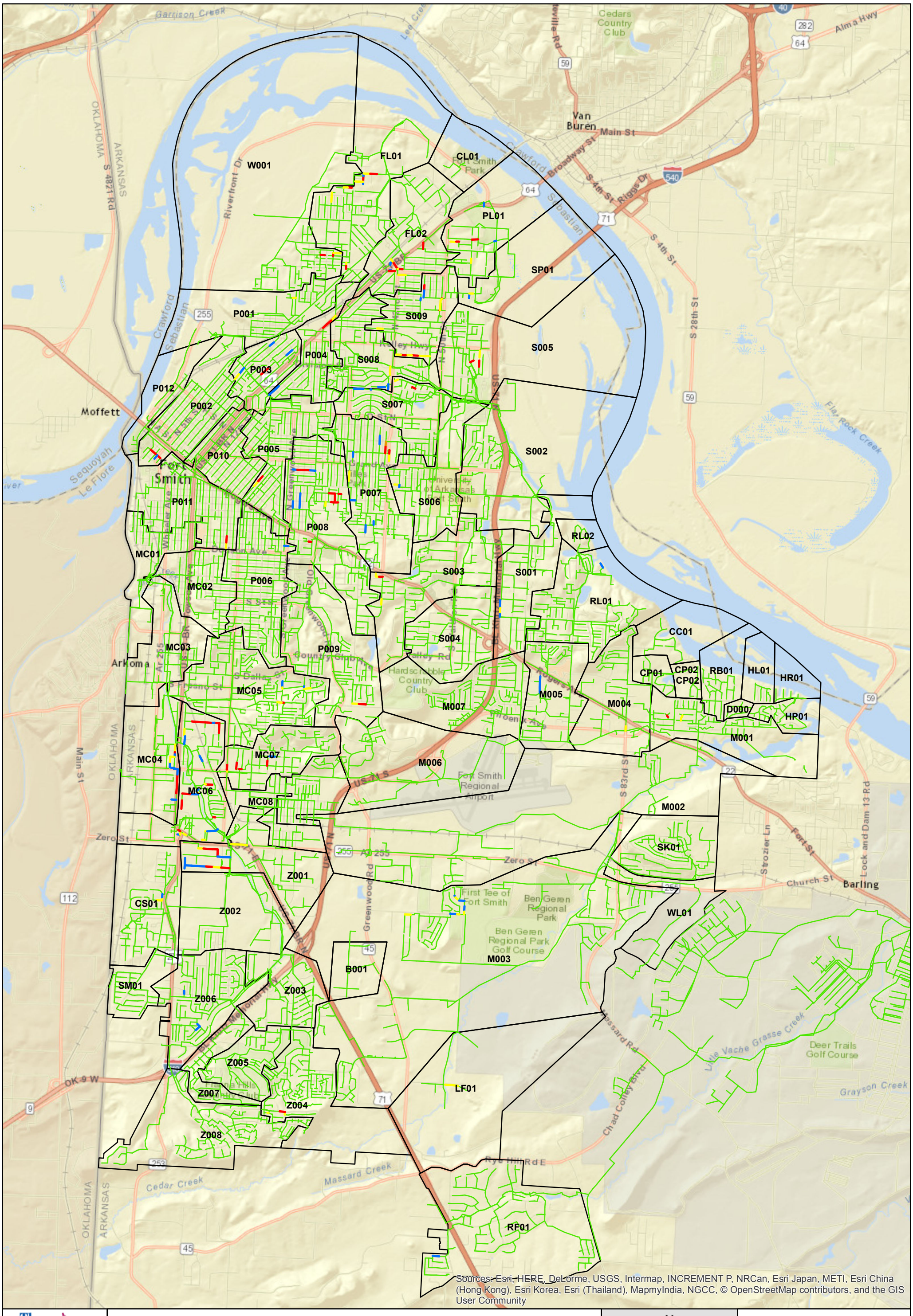
\2016_AnnualReport\2016_Conditional_Remedial_Measures.mxd



The City of Fort Smith ARKANSAS

JCL: January 30, 2017
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Times Cleaned = 1
Times Cleaned = 2
Times Cleaned = 3
Times Cleaned = 4
Sewer Lines
Subbasin Service Area

N

1 inch = 1 miles

0 0.225 0.45 0.9 Miles

2016 Targeted Line Cleaning

City of Fort Smith Annual Report (2016), Figure 2-6

2.7 CMOM Activities

2.7.1 FOG Control Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; FOG Control Program Component and Section X, Paragraph 94, a, this section documents the City's progress toward completing the FOG Control Program activities. The City adopted a FOG Ordinance (Ordinance #89-16) December 20, 2016. The FOG Control Program Plan was submitted under separate cover in December 2016, and is provided in Attachment 5

2.7.2 Root Control Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Root Control Program Component and Section X, Paragraph 94, b, this section documents the City's progress toward completing the Root Control Program activities. The CMOM Root Control Program Plan was approved July 5, 2016. The reactive root removal activities correspond with the SSO response activities when Roots are identified as the cause of an SSO. The reactive root removal pipe sections are provided in Attachments 9 and 10 as part of SSO and recurring SSO Reporting. Proactive root control activities, performed during 2016, were conducted as part of SSA cleaning activities. These activities are described in the 2015 SSA Addendum (Attachment 1) and 2016 SSA (Attachment 2) Reports. The City has begun the planning process to establish protocols, for a pilot study, for the use of chemical root treatment as an alternative proactive measure. It is anticipated that this study will occur in 2017, with the results assisting the City in developing a formal response for continued use of this technology. Reporting for this effort will be included in the 2017 Annual Report.

2.7.3 Gravity Sewer Line Cleaning Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Gravity Sewer Line Cleaning Component and Section X, Paragraph 94, c, this section documents the City's progress toward completing the Gravity Sewer Line Cleaning Program activities. The Gravity Sewer Line Cleaning Program Plan was approved July 5, 2016

RJN conducted Gravity Sewer Line Cleaning activities as part of the SSA activities described in Section 2.1. Additional cleaning was conducted in the 2015 SSA area and is provided in Attachment 1. The cleaning activities conducted as part of the 2016 SSA is included in Attachment 2. See Figure 2-2 for a map of the Gravity Sewer Lines.

Table 2-6 Gravity Sewer Line Cleaning

Gravity Sewer Line Cleaning Activities	Previous Years	2016 Annual Report Year	Total
Small Diameter Sewer Pipe Cleaning	245,208 LF (46.44 Miles)	306,463 LF (58.04 miles)	551,671 LF (104.48 miles)
Large Diameter Sewer Pipe Cleaning	4,811 LF (0.91 Miles)	19,853 LF (3.76 Miles)	24,664 LF (4.67 Miles)

[1]Detailed tabulation of Gravity Sewer Line Cleaning Activities is provided in Attachments 1 and 2.

The City conducted 116,218 LF of Targeted line cleaning during the 2016 Annual Report period. Figure 2-6 provides the locations of the Targeted Line Cleaning.

2.7.4 CSSA Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; CSSA Program Component and Section X, Paragraph 94, d, this section documents the City's progress toward completing the CSSA Program activities. The CSSA Program Plan was due within 24 months of DOL. The CSSA Program Plan was submitted under separate cover in December 2016 and is provided in Attachment 6.

2.7.5 Continuing Pump Station and Force Main Evaluation and Preventive Maintenance Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Continuing Pump Station and Force Main Evaluation and Preventive Maintenance Program and Section X, Paragraph 94, e, this section documents the City's progress toward completing the Continuing Pump Station and Force Main Evaluation and Preventive Maintenance Program activities. The Continuing Pump Station and Force Main Evaluation and Preventive Maintenance Program Plan was due within 24 months of DOL. The Continuing Pump Station and Force Main Evaluation and Preventive Maintenance Program Plan was submitted under separate cover in December 2016 and is provided in Attachment 7.

Although this program is not scheduled to begin until Calendar Year 2023, the City conducted the 2016 Pump Station Preventative Maintenance activities outlined in Appendix B. Pump Stations 15, 17 and 23 were replaced and the standby power supply was installed and Pump Station 16 was decommissioned.

2.7.6 Continuing Capacity Assurance Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Continuing Capacity Assurance Program and Section X, Paragraph 94, f, this section documents the City's progress toward completing the Continuing Capacity Assurance Program. The Continuing Capacity Assurance Program was due within 24 months of DOL. The Continuing Capacity Assurance Program was submitted under separate cover in December 2016 and is provided in Attachment 8.

2.7.7 SSO Reporting

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; SSO Reporting Component and Section X, Paragraph 94, g, this section documents the City's progress toward completing the SSO Reporting Program activities. The SSO Documenting and Reporting Plan was due within 12 months of the DOL. The SSO Documenting and Reporting Plan was approved July 5, 2016. The City is continuing to comply with the immediate, monthly and annual reporting requirements as outlined in the SSO Reporting Plan. A detailed tabulation of the SSO events in the 2016 Annual Report period is provided in Attachment 9. A detailed tabulation of reoccurring SSOs for 2015-2016 is provided in Attachment 10. A detailed tabulation of reoccurring PSLRs for 2015-2016 is provided in Attachment 11.

The City is conducting the following activities to reduce and eliminate reoccurring SSO's. RJN conducted SSA and Gravity Sewer Line Cleaning activities as outlined in Sections 2.1 and 2.73. The SSA and Gravity Sewer Line Cleaning activities were determined based on an evaluation of

the reoccurring SSO locations and the City is currently reevaluating the SSO locations and causes to determine the area for the 2017 SSA and Gravity Sewer Line Cleaning activities. In addition, the City is evaluating the reoccurring SSO locations to determine if additional Targeted Line Cleaning locations should be added to prevent reoccurring SSO's.

In addition, the Sanitary Sewer Overflow Documentation and Reporting Program plan, approved July 5, 2016, was revised to reflect non-material changes related to ADEQ reporting requirements. In accordance with the terms of the Consent Decree a copy of the Revised Sanitary Sewer Documentation and Reporting Program Plan has been included as Attachment 18.

2.7.8 OERP

Pursuant to the requirements of Section V, Article Seven; Development of a CMOM Program; OERP Component and Section X, Paragraph 94, i, this section documents the City's progress toward completing the OERP activities. The OERP Plan was due within 12 months of the DOL being approved July 5, 2016. The SSO OERP activities are outlined in Section 2.7.7 and Attachments 9, 10 and 11.

2.7.9 IMS Update

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; IMS Update, and Section X, Paragraph 94, h, this section documents the City's progress toward completing the IMS Update activities. The IMS Update Plan was due within 24 months of DOL. The IMS Update was submitted under separate cover December 2016 and is provided in Attachment 12. As part of the IMS update the City contracted with CDM Smith to implement a GIS conversion from their current AutoCAD system. The conversion is complete and CDM Smith is in the post-processing phase of the task.

2.7.10 SOP Component

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; SOP Component and Section X, Paragraph 94, j, this section documents the City's progress toward completing the SOP component activities. The SOP Plan was due within 18 months of DOL. The SOP Plan was submitted under separate cover in June, 2016 and is provided in Attachment 13. The SOP Plan was approved January 3, 2017. The City has completed drafts for 90% of the SOPs scheduled to be completed within 24 months from agency approval.

2.7.11 Private Service Line Defect Remediation Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Private Line Defect Remedial Program Component and Section X, Paragraph 94, k, this section documents the City's progress toward completing the Private Line Defect Remedial Program activities. The Private Line Defect Remedial Program Plan was due within 24 months of DOL. The Private Line Defect Remedial Program Plan was submitted under separate cover December 2016 and is provided in Attachment 14.

2.7.12 Comprehensive Training Program

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Comprehensive Training Program Component and Section X, Paragraph 94, l, this section documents the City's progress toward completing the Comprehensive Training Program

activities. The Comprehensive Training Program Plan was due within 18 months of DOL. The Comprehensive Training Program Plan was submitted under separate cover in June 2016 and is provided in Attachment 15. The Comprehensive Training Program Plan was approved on December 6, 2016.

2.7.13 Inventory Management System Update

Pursuant to the requirements of Section V, Article Seven: Development of a CMOM Program; Inventory Management System and Section X, Paragraph 94, m, this section documents the City's progress toward completing the Inventory Management System activities. The Inventory Management System was due within 24 months of DOL. The Inventory Management System was submitted under separate cover December, 2016 and is provided in Attachment 16.

2.8 SEP

Pursuant to the requirements of Section V, Appendix F: SEP and Section X, Paragraph 95 this section documents the City's progress toward completing the SEP activities. The information regarding the SEP Implementation as outlined in Section D, Subparagraph 3 of Appendix F of the CD is provided in Attachment 17 of this report.

2.9 Mitigation Program Requirement

Pursuant to the requirements of Section VI, Mitigation Program Requirement, Paragraph 70.a, this section documents the City's progress toward completing the Mitigation Program Activities. The Mitigation Program Quality Assurance Project Plan was due within 12 months of the DOL. The Mitigation Program Quality Assurance Project Plan comments were received June 29, 2016 and the City responded to Comments on August 8, 2016. The City completed installation of the sampling equipment on March 22, 2016. Baseline monitoring was conducted in; the 2nd Quarter (June 2016), 3rd Quarter (August 2016) and 4th Quarter (November 2017). Samples were collected for analysis in the 2nd Quarter (May 2016). No additional samples could be collected for analysis in 2016 due to insufficient storm events, and sampling will continue in 2017.

Section 3

Attachments

Attachment 1
2015 Sanitary Sewer Condition Assessment Addendum

March 2017

Addendum to Condition Assessment Report

2015 Sanitary Sewer Assessment Sub-Basins: S004, P007, FL01, S003, S008, and S009

PREPARED FOR THE

City of Fort Smith, Arkansas

PREPARED BY

RJN Group, Inc.

1808 S. C Street
Fort Smith, Arkansas 72901
(479) 709-9439

rjngroup
40 years of collection system solutions

rjngroup
The Choice for Collection System Solutions

www.rjn.com

March 3, 2017

Mrs. Mitchell Dodroe, P.E.
Deputy Director of Engineering
Utility Department
City of Fort Smith
801 Carnall Ave #500
Fort Smith, AR 72901

Subject: City of Fort Smith, Arkansas
Addendum to Sanitary Sewer Assessment Year 1 – Final Condition Assessment Report

Dear Mrs. Dodroe:

RJN Group, Inc. is pleased to submit this Addendum to the Final Condition Assessment Report for the above referenced project.

This addendum includes the analysis and results from the additional manhole inspections and cleaning and televising of sanitary sewer lines within the six (6) sub-basins studied during the 2015 sanitary sewer assessment.

We appreciate the opportunity to work with the City of Fort Smith 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 call.

Respectfully Submitted,

RJN GROUP, INC.

Daniel Jackson, P.E.
Project Manager

Tristan Nickel, P.E.
Project Engineer

DHJ/tn/2832
Enclosure

Addendum to Condition Assessment Report

2015 Sanitary Sewer Assessment

Sub-Basins: S004, P007, FL01, S003, S008, and S009

City of Fort Smith

March 2017

I hereby certify that this report was prepared under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Arkansas.

Dan Jackson

Date: 3/3/2017 Registration No.: 13978

2015 Condition Assessment Addendum

rjngroup
40 years of collection system solutions

ADDENDUM TO
SANITARY SEWER ASSESSMENT – 2015
CONDITION ASSESSMENT REPORT

The City of Fort Smith, Arkansas contracted RJN Group, Inc. to conduct a Sanitary Sewer Assessment (SSA) in six (6) sub-basins as part of the City's Consent Decree Program. The six (6) sub-basins were FL01, P007, S008, S009, and portions of S003 and S004 consisting of 1,363 manholes and 301,124 linear feet or 56.9 miles of sanitary sewer pipe.

RJN Group, Inc. services included the following tasks:

- Flow Monitoring
- Manhole Condition Assessment (NASSCO Level 2 Inspections)
- Smoke Testing
- Cleaning and Televising of Sanitary Sewers
- Dyed Water Flooding
- Defect Analysis/Grading

This Addendum to the Condition Assessment Report dated March 2016 addresses the results from field inspections conducted after the report was issued. Additional inspections were performed on 72 manholes and CCTV of 2,792 linear feet of sanitary sewer line. These assets were not originally inspected due to being buried, not found, etc. The City of Fort Smith located and/or uncovered these for RJN to inspect. NASSCO scores for manholes and sewer lines will also be provided.

INSPECTION QUANTITIES AND RESULTS

MANHOLE CONDITION ASSESSMENT

Inspections were performed on 72 manholes. A detailed list of manholes inspected is provided in Appendix A and can be seen on Figures 1 to 6. NASSCO MACP defect grades were used to generate scores for all manholes. The peak defect grade was utilized to provide an overall score for each manhole. These scores are on a scale of 1 to 5 with 5 being in the worst condition. Manholes with a score of 1, 2, or 3 were entered into the City's CMOM program while rehabilitation recommendations were generated for manholes with a score of 4 or 5. A total of 21 manholes received a score of 4 or 5. The breakdown of manholes in each sub-basin, by score, can be seen in Table 1. A list of each NASSCO MACP score is provided in Appendix B. There are a total of 109 manholes that were unable to be inspected. These structures were either located in a heavy traffic area, buried, inaccessible due to property restraints, and some do not exist or will be replaced during proposed rehabilitation. Structures that have been identified as non-existent or that are proposed to be replaced during sewer line rehabilitation will not require additional work as a part of the assessment activities. A list of each manhole and its current status is provided in Appendix C.

Table 1

NASSCO MACP SCORE SUMMARY

Sub-Basin	No Scorable Defect	NASSCO Score 1	2	3	4	5	Total
FL01	3	0	0	0	0	2	5
S009	8	1	3	5	3	3	23
S008	6	2	3	3	3	6	23
P007	2	0	0	0	0	0	2
S003	12	1	1	0	0	4	18
S004	1	0	0	0	0	0	1
Total	**32**	**4**	**7**	**8**	**6**	**15**	**72**

CLEANING AND TELEVISING OF SANITARY SEWERS

Additional sanitary sewer line cleaning was performed on 57,184 linear feet or 10.8 miles of sanitary sewer line along with the television inspection of an additional 2,792 linear feet of sanitary sewer line. The additional cleaning performed was on PVC pipe installed after 1995. As part of the Consent Decree these lines require cleaning, however no CCTV is mandated. The total linear footage of sanitary sewer lines cleaned by sub-basin can be seen in Table 2. Of the 57,184 linear feet that was cleaned, 6,620 linear feet and 50,564 linear feet were of large (≥ 24") and small diameter respectively. NASSCO PACP defect grades were used to generate scores for all sewer lines. The peak defect grade was utilized to provide an overall score for each sewer line. Scores were on a scale of 1 to 5 with a score of 5 assigned to the sewer lines in the worst condition. A total of 65 linear feet from the 2015 SSA received a score of 4 or 5. Figures 7 to 11 show the locations of the 65 linear feet that scored a 5. The total linear footage of each can be seen in Table 3. Of the 2,792 linear feet that was cleaned, 416 linear feet and 2,376 linear feet were of large (≥ 24") and small diameter respectively. A detailed list of lines cleaned and televised along with the NASSCO PACP score is provided in Appendix D. Figure 12 shows the lines that were cleaned or televised.

Table 2

CLEANING FOOTAGE

Sub-Basin	Sewer Lines (linear feet)
FL01	12,808
S009	4,549
S008	7,899
P007	14,256
S003	13,532
S004	4,140
Total	**57,184**

Table 3

NASSCO PACP SCORE SUMMARY

		NASSCO Score (linear feet)					
Sub-Basin	**No Defects**	**1**	**2**	**3**	**4**	**5**	**Total**
FL01	416	0	0	455	0	0	871
S009	60	0	0	0	0	0	60
S008	0	0	90	121	0	0	211
P007	656	0	0	150	0	0	806
S003	779	0	0	0	0	65	844
S004	0	0	0	0	0	0	0
Total	**1,911**	**0**	**90**	**726**	**0**	**65**	**2,792**

RESULTS SUMMARY

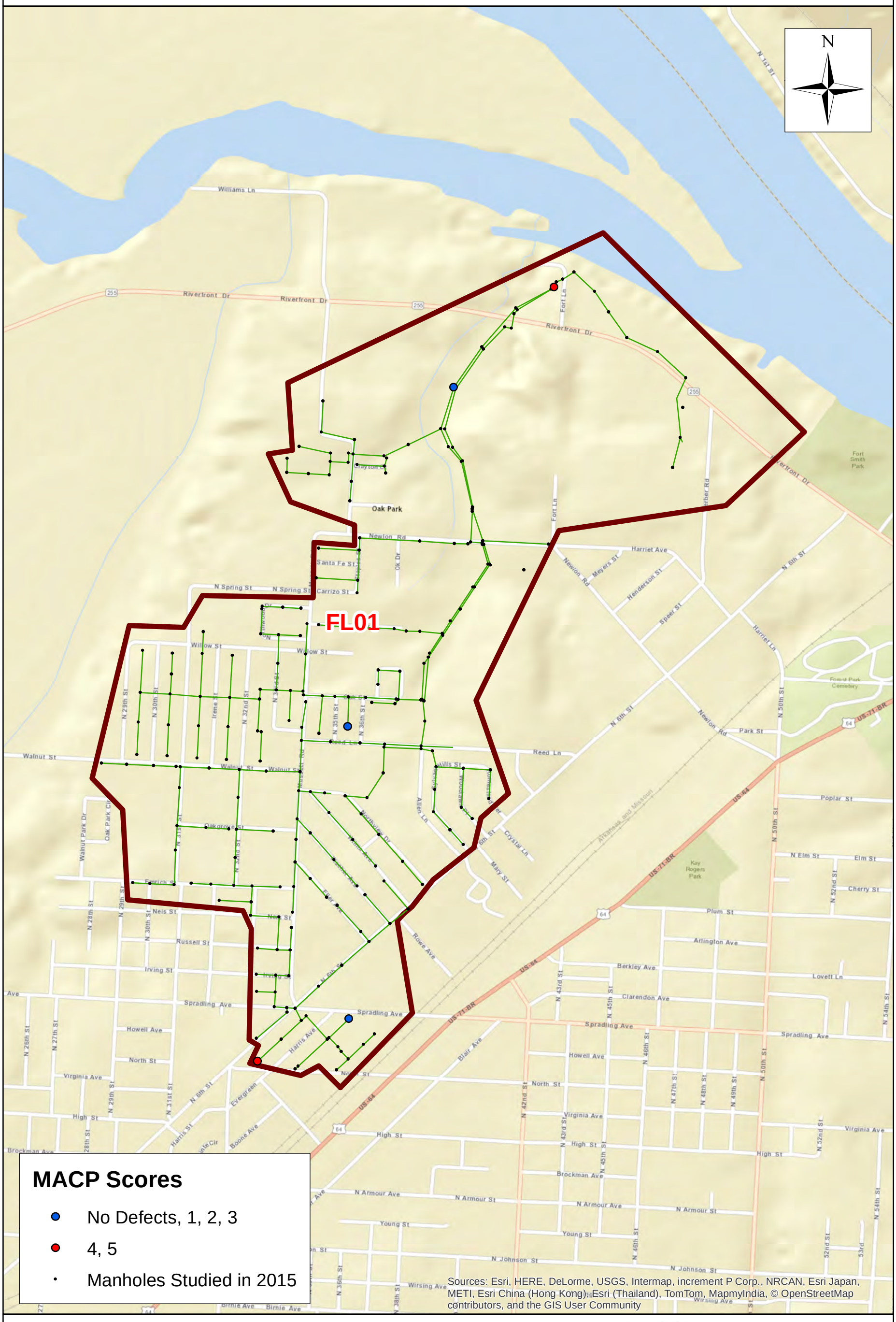
The additional manhole inspections and sanitary sewer cleaning and television inspection conducted after the 2015 SSA included the study of 72 manholes, cleaning 57,184 linear feet of sanitary sewer line and televising 2,792 linear feet of sanitary sewer line in the study area. Table 4 summarizes the number of manholes and linear feet of sewer line which generated a NASSCO grade 4 or 5 by sub-basin.

Table 4

NASSCO SCORE 4 & 5 SUMMARY

Sub-Basin	**Manholes**	**Sewer Lines (linear feet)**
FL01	2	0
S009	6	0
S008	9	0
P007	0	0
S003	4	65
S004	0	0
Total	**21**	**65**

City of Fort Smith, AR



MACP Scores

- No Defects, 1, 2, 3
- 4, 5
- Manholes Studied in 2015

rjngroup
The Choice for Collection System Solutions

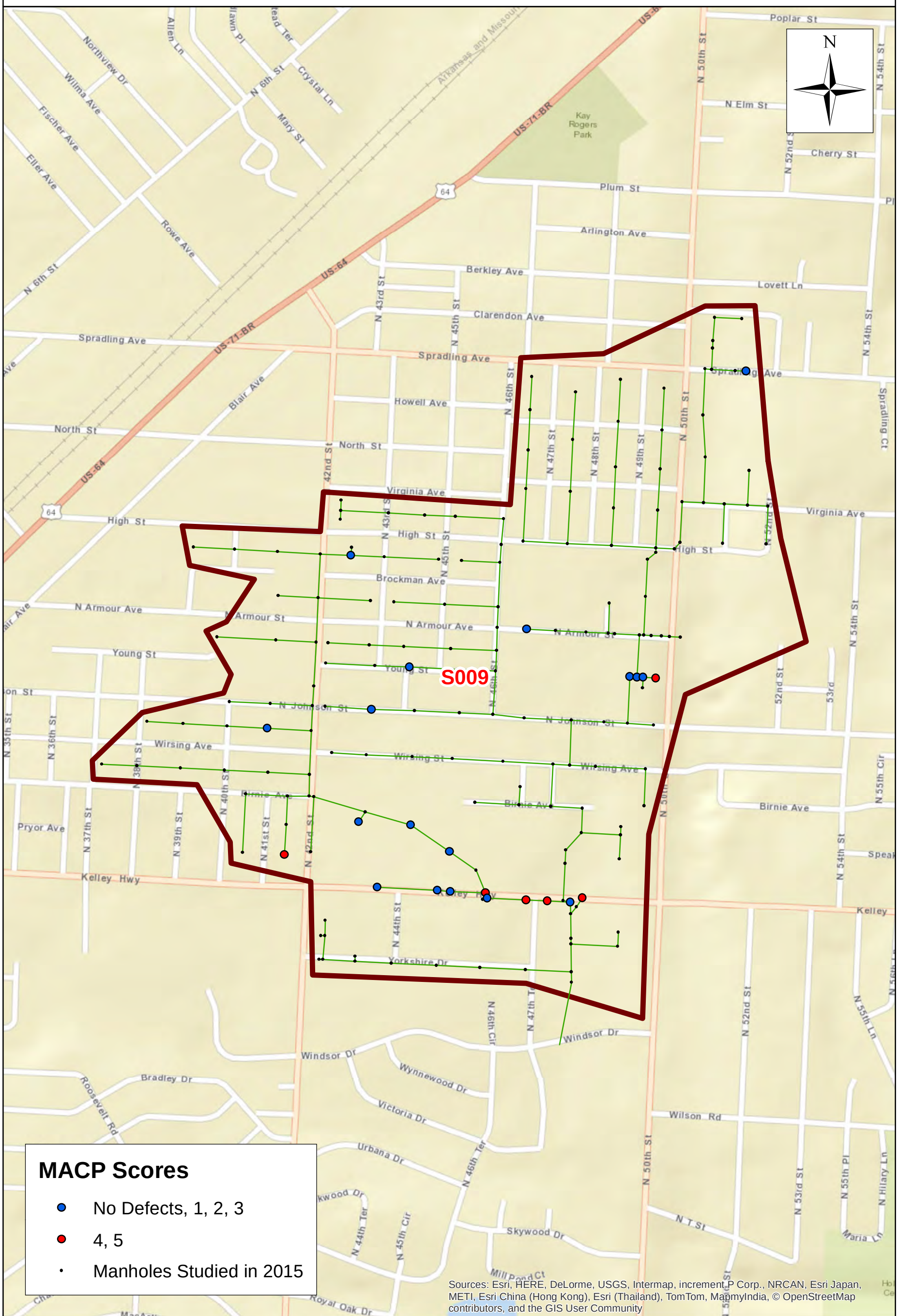
Gravity Sewer Lines

Basin Boundaries

Fort Smith ARKANSAS

Figure 1
MACP Score
Sub-Basin FL01

City of Fort Smith, AR

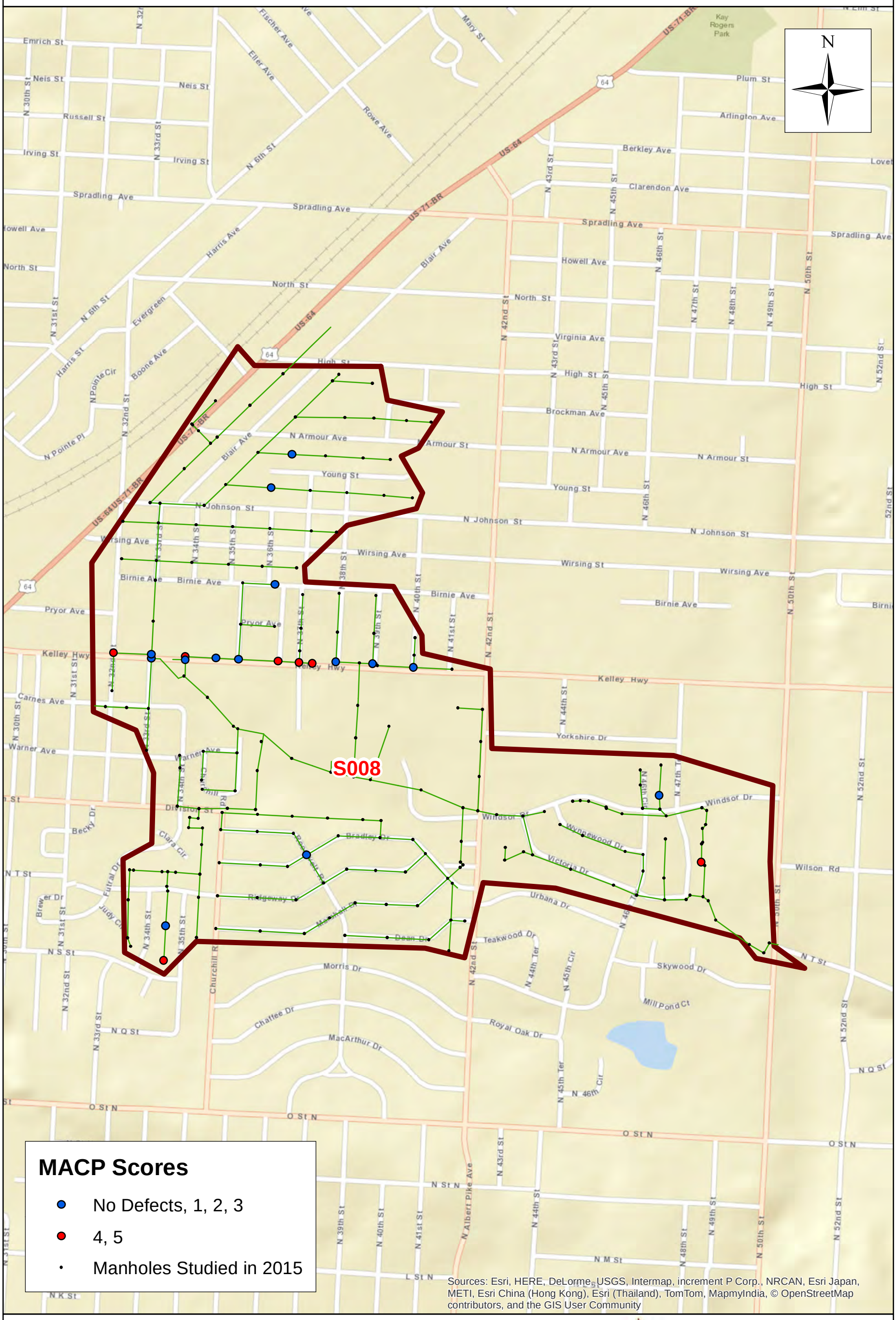


rjngroup
The Choice for Collection System Solutions

Fort Smith ARKANSAS

Figure 2
MACP Score
Sub-Basin S009

City of Fort Smith, AR



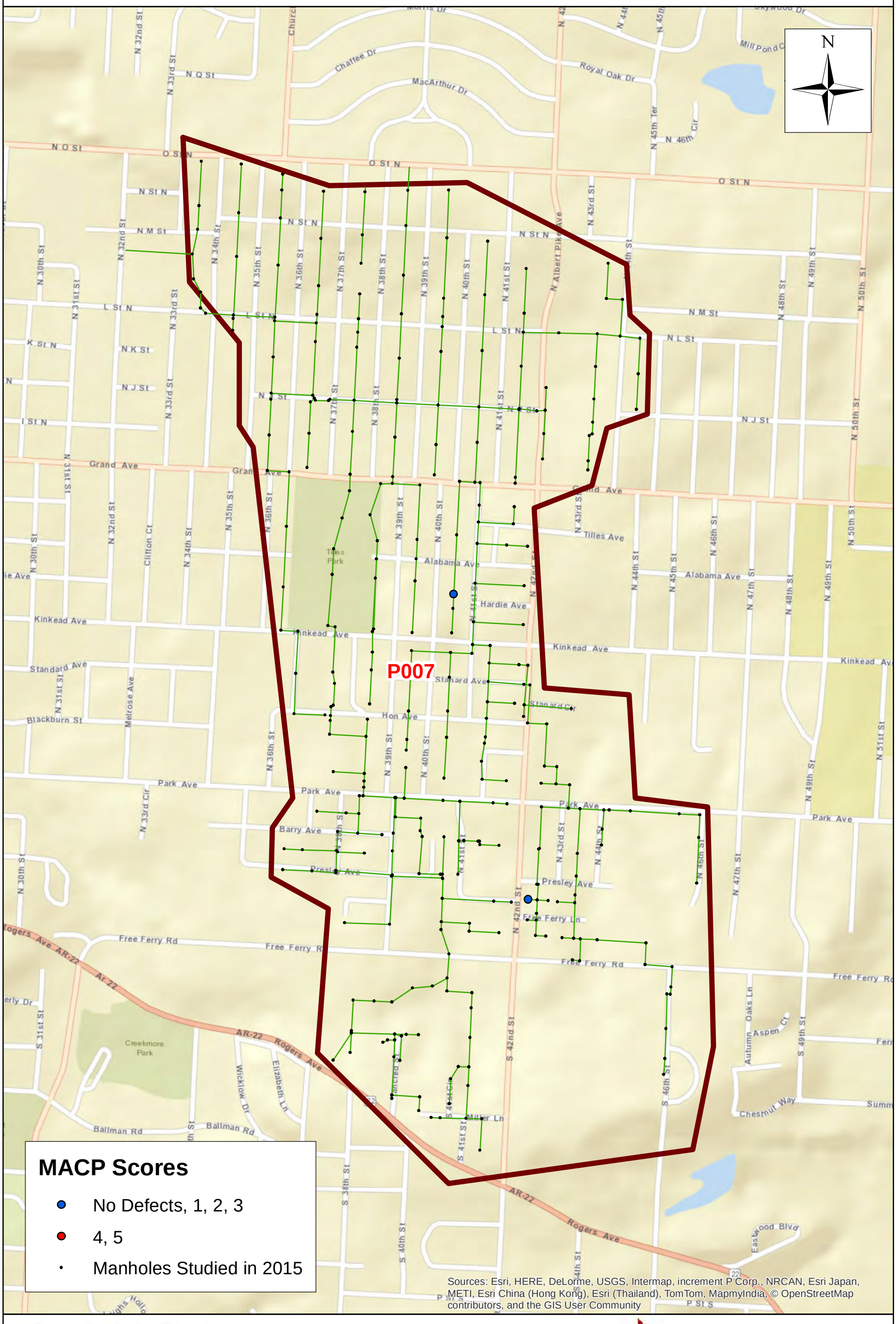
rjngroup
The Choice for Collection System Solutions

Gravity Sewer Lines
Basin Boundary

Fort Smith ARKANSAS

Figure 3
MACP Score
Sub-Basin S008

City of Fort Smith, AR



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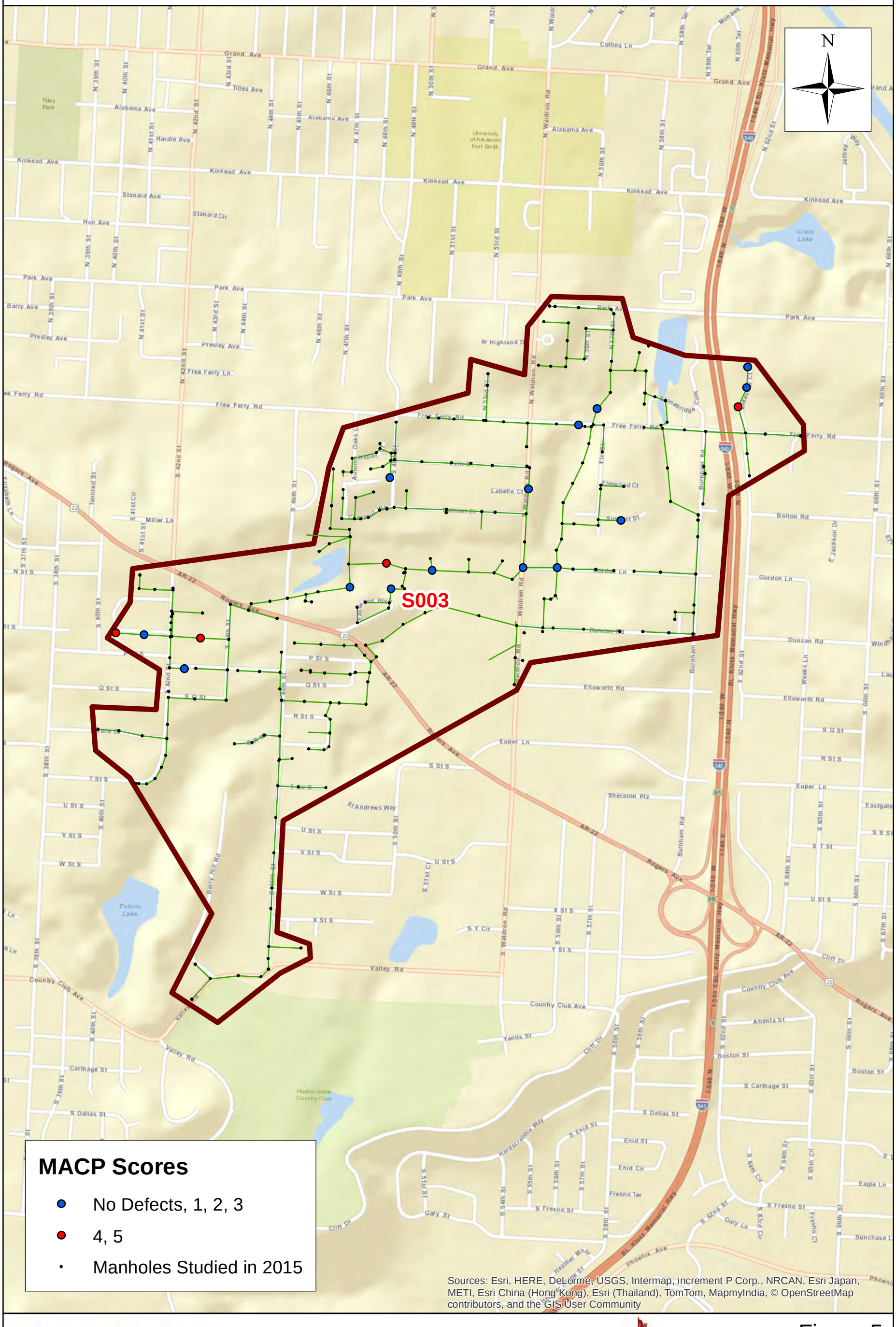
The Choice for Collection System Solutions

Gravity Sewer Lines
Basin Boundary

Fort Smith ARKANSAS

Figure 4
MACP Score
Sub-Basin P007

City of Fort Smith, AR



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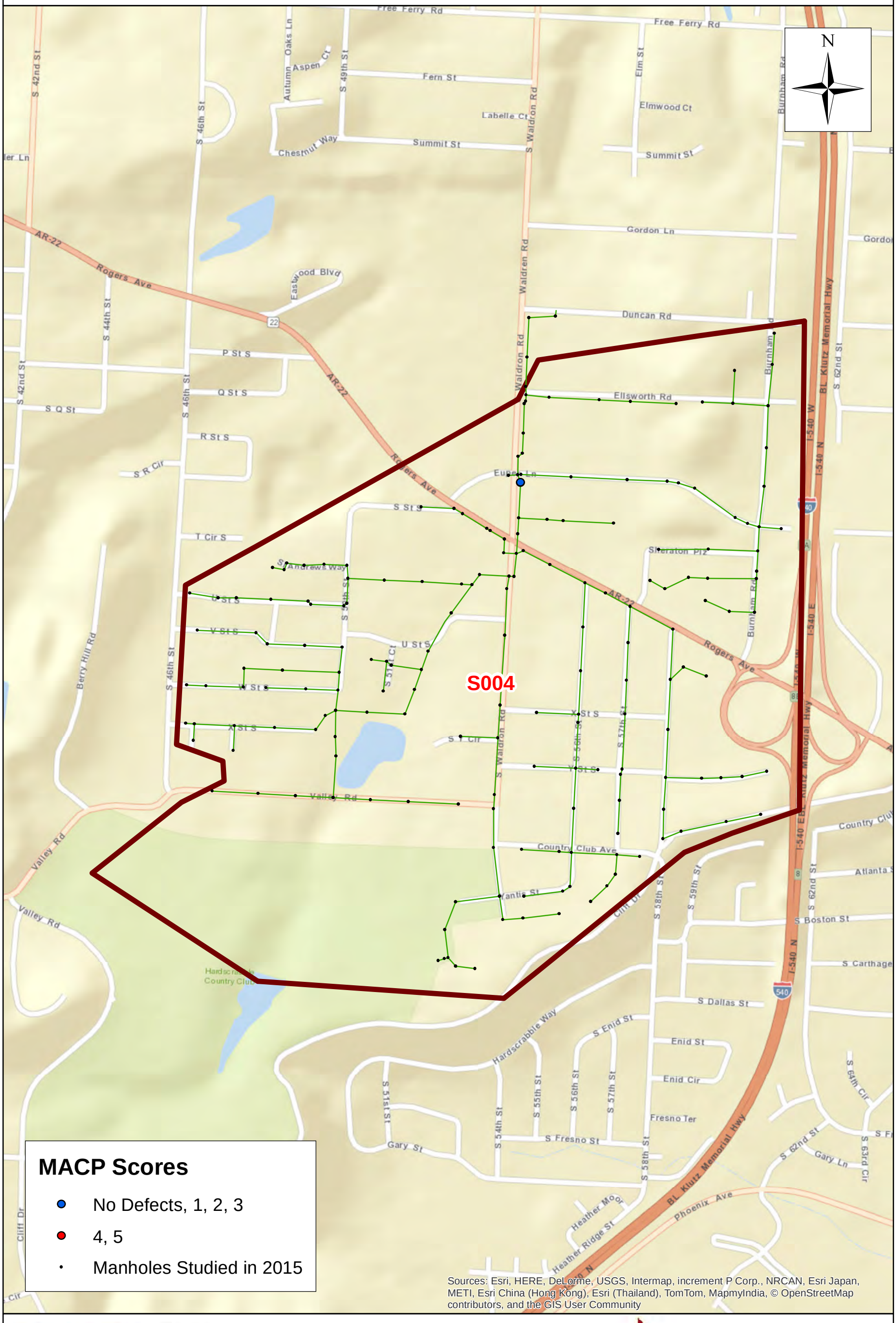
Gravity Sewer Lines

Basin Boundary

Fort Smith ARKANSAS

Figure 5
MACP Score
Sub-Basin S003

City of Fort Smith, AR



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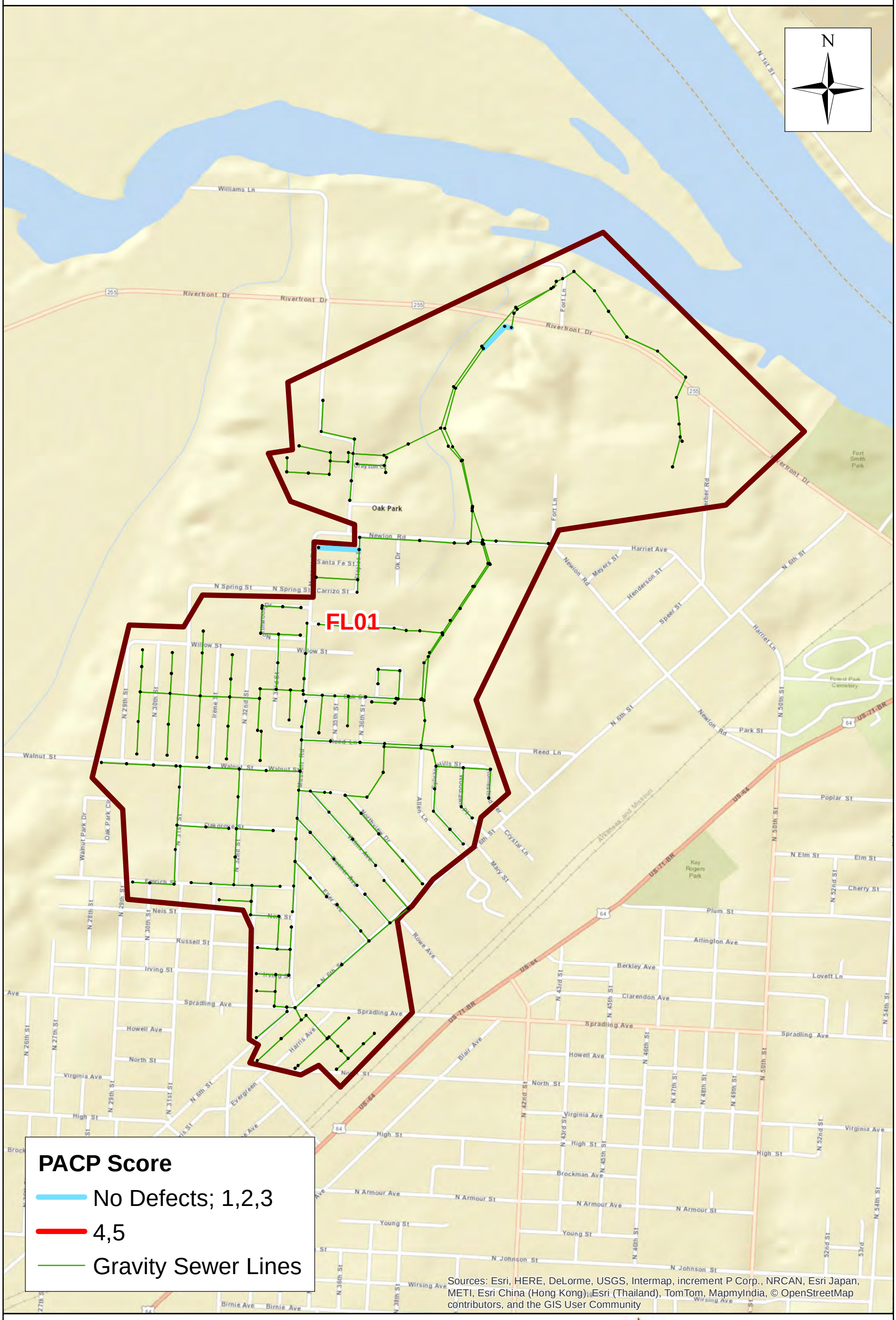
Gravity Sewer Lines
Basin Boundary

Fort Smith ARKANSAS

Figure 6
MACP Score
Sub-Basin S004

City of Fort Smith, AR



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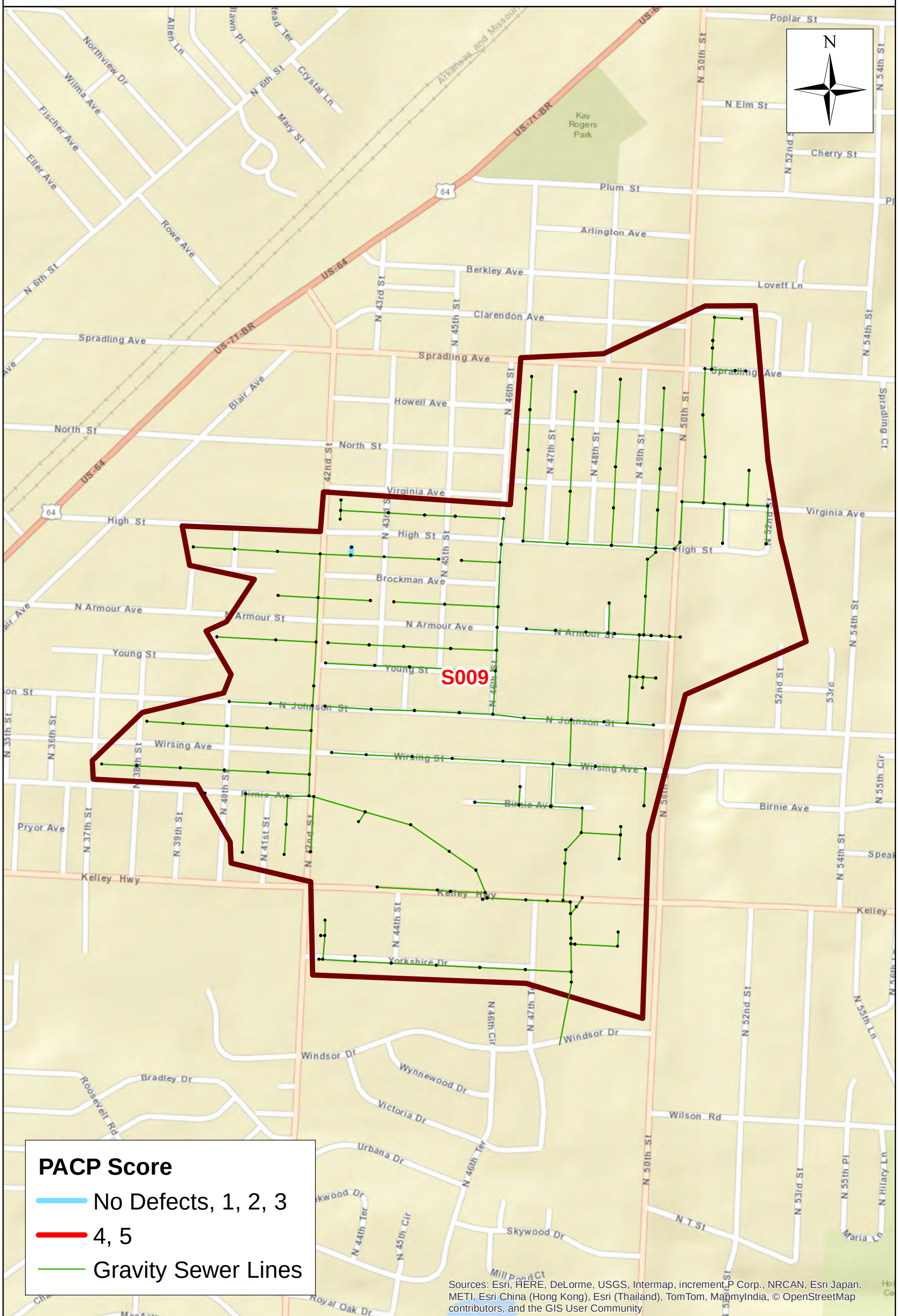
Manholes

Basin Boundaries

Fort Smith ARKANSAS

Figure 7
PACP Score
Sub-Basin FL01

City of Fort Smith, AR



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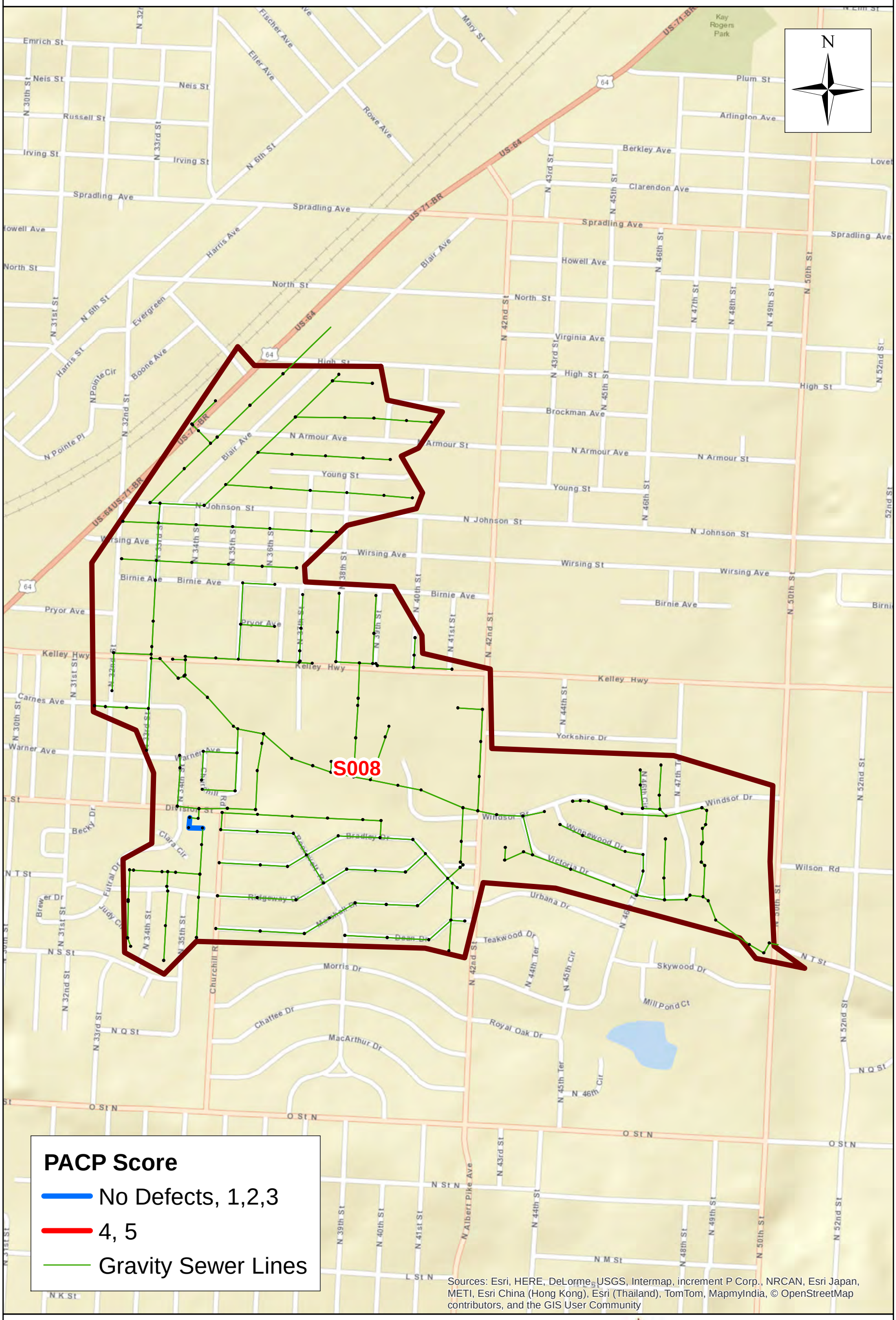
Manholes

Basin Boundary

Fort Smith ARKANSAS

Figure 8
PACP Score
Sub-Basin S009

City of Fort Smith, AR



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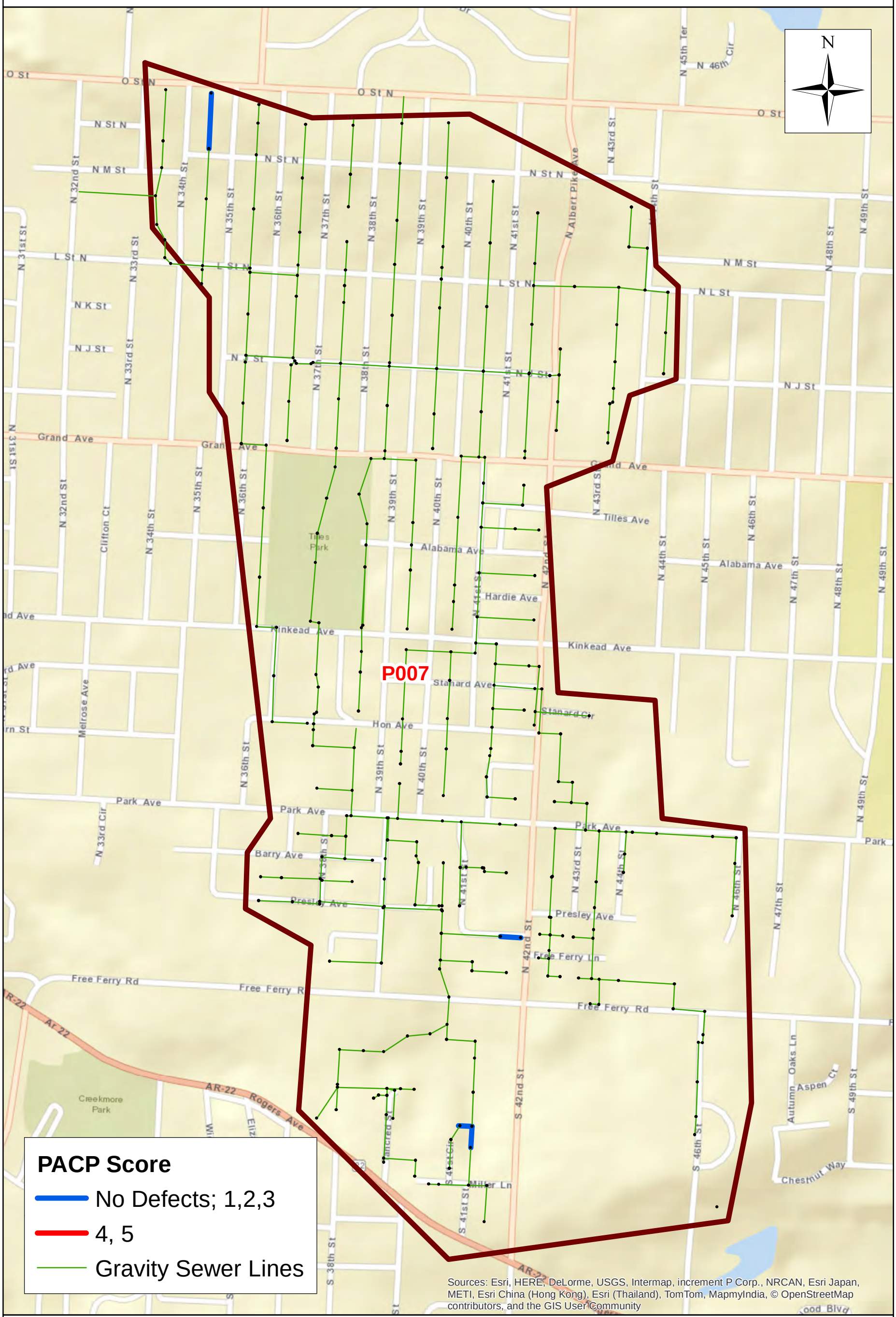
Fort Smith ARKANSAS

Figure 9
PACP Score
Sub-Basin S008

City of Fort Smith, AR



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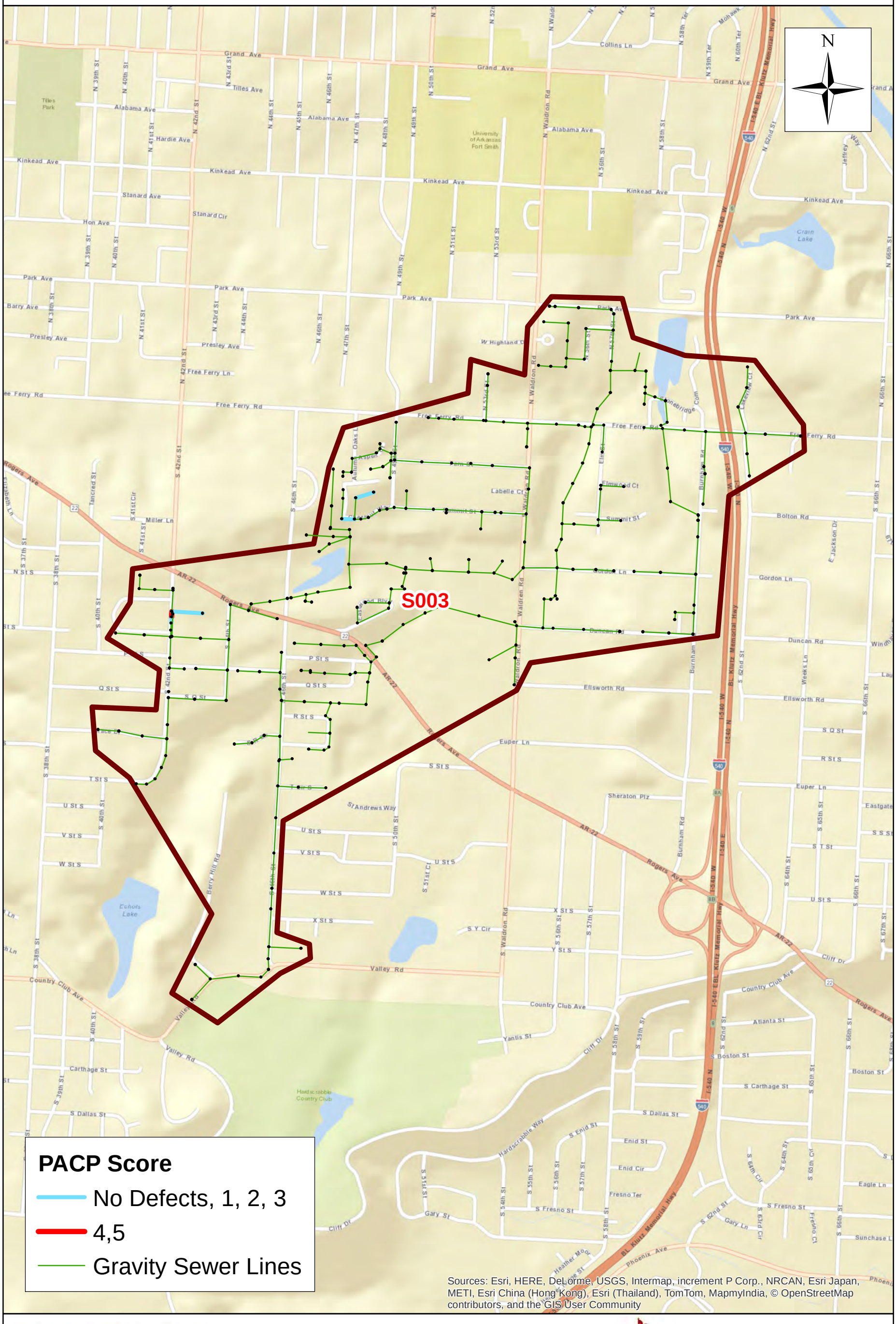
Manholes

Basin Boundary

Fort Smith ARKANSAS

Figure 10
PACP Score
Sub-Basin P007

City of Fort Smith, AR



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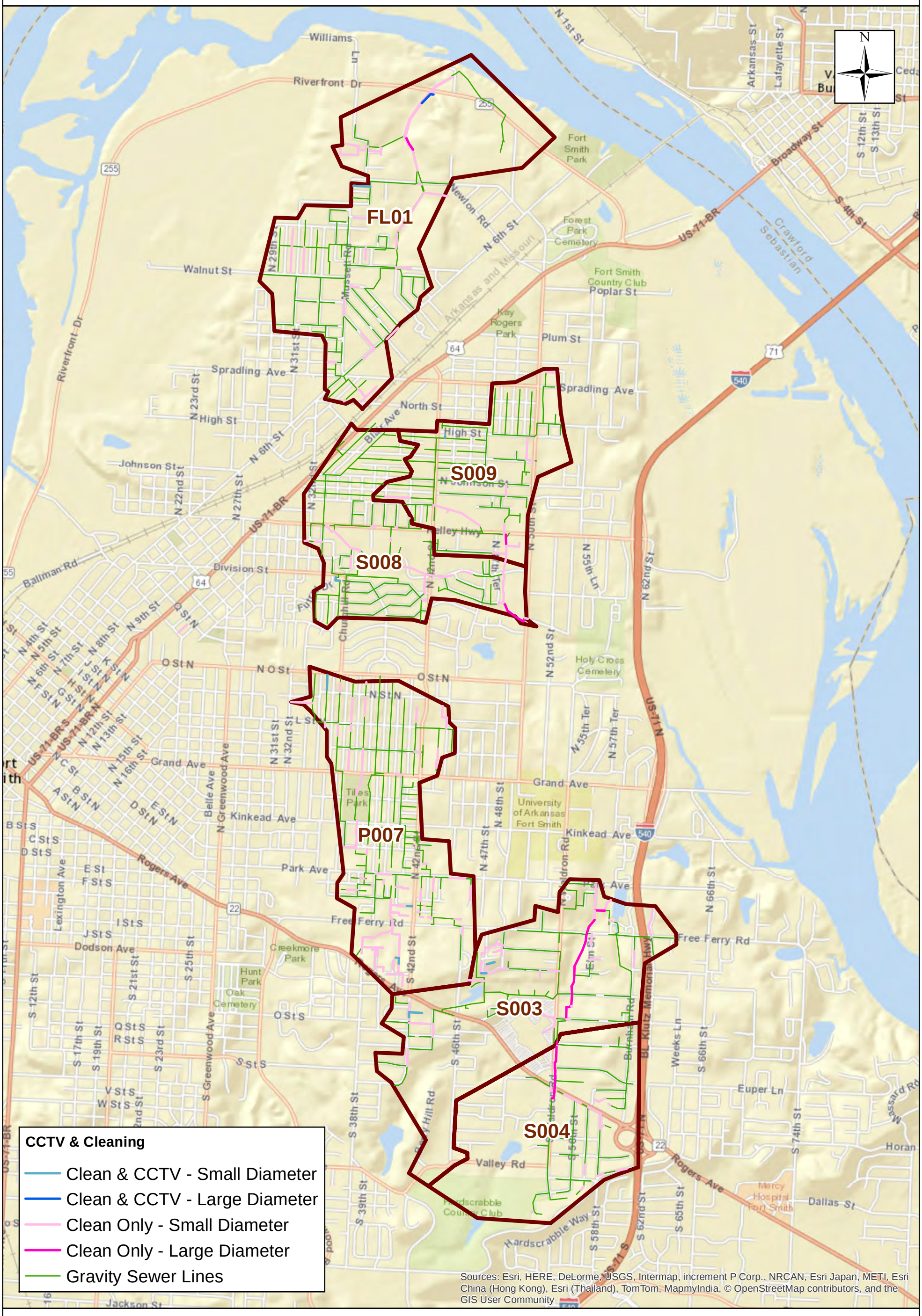
Fort Smith ARKANSAS

Figure 11
PACP Score
Sub-Basin S003

City of Fort Smith, AR



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Basin Boundaries

Fort Smith ARKANSAS

Figure 12
Sewer Lines Cleaned and Televised Study Area

APPENDICES

APPENDIX A

MANHOLE INSPECTED

Manhole Inspected

Manhole Number	NASSCO Inspection Level	Inspection Status
S004-0032	Level 2	Inspected
S003-3460	Level 2	Inspected
S003-3370	Level 2	Inspected
S009-1230	Level 2	Inspected
S009-1220	Level 2	Inspected
S009-1210	Level 2	Inspected
S009-1200	Level 2	Inspected
S009-1190	Level 2	Inspected
S009-1180	Level 2	Inspected
S009-1175	Level 2	Inspected
S009-0110	Level 2	Inspected
S009-0100	Level 2	Inspected
S008-3010	Level 2	Inspected
S008-1950	Level 2	Inspected
S008-1940	Level 2	Inspected
S008-1930	Level 2	Inspected
S008-1880	Level 2	Inspected
S008-1870	Level 2	Inspected
S008-1860	Level 2	Inspected
S008-1170	Level 2	Inspected
S008-1130	Level 2	Inspected
S008-1110	Level 2	Inspected
S008-0910	Level 2	Inspected
S003-3200	Level 2	Inspected
S003-0920	Level 2	Inspected
S008-2310	Level 2	Inspected
S008-1410	Level 2	Inspected
S008-1400	Level 2	Inspected
S009-1320	Level 2	Inspected
S009-1250	Level 2	Inspected
S008-0352	Level 2	Inspected
S003-3290	Level 2	Inspected
S003-3280	Level 2	Inspected
S003-3270	Level 2	Inspected
S003-1430	Level 2	Inspected
S003-1420	Level 2	Inspected
S003-1250	Level 2	Inspected
S003-1400	Level 2	Inspected
S003-0550	Level 2	Inspected
S003-0620	Level 2	Inspected
S003-0360	Level 2	Inspected
S003-0700	Level 2	Inspected
S003-0800	Level 2	Inspected
S003-0990	Level 2	Inspected
S003-0860	Level 2	Inspected

Manhole Inspected

Manhole Number	NASSCO Inspection Level	Inspection Status
P007-2140	Level 2	Inspected
P007-1630	Level 2	Inspected
FL01-0050	Level 2	Inspected
FL01-1910	Level 2	Inspected
FL01-1870	Level 2	Inspected
FL01-0530	Level 2	Inspected
S009-0380	Level 2	Inspected
S009-0420	Level 2	Inspected
S009-0660	Level 2	Inspected
S009-0670	Level 2	Inspected
S009-0680	Level 2	Inspected
S009-0700	Level 2	Inspected
S009-0750	Level 2	Inspected
S009-1140	Level 2	Inspected
S009-1260	Level 2	Inspected
S009-1275	Level 2	Inspected
S009-1420	Level 2	Inspected
S009-1570	Level 2	Inspected
S008-2370	Level 2	Inspected
S008-1920	Level 2	Inspected
S008-1980	Level 2	Inspected
S008-1990	Level 2	Inspected
S008-2000	Level 2	Inspected
S008-1850A	Level 2	Inspected
S008-1980A	Level 2	Inspected
FL01-0020A	Level 2	Inspected
S008-1850	Level 2	Inspected

APPENDIX B

NASSCO MACP SCORES

NASSCO MACP Scores

Manhole Number	MACP Score
FL01-0020A	5
FL01-0050	0
FL01-0530	0
FL01-1870	5
FL01-1910	0
P007-1630	0
P007-2140	0
S003-0360	0
S003-0550	0
S003-0620	0
S003-0700	2
S003-0800	0
S003-0860	0
S003-0920	5
S003-0990	0
S003-1250	5
S003-1400	0
S003-1420	1
S003-1430	5
S003-3200	0
S003-3270	5
S003-3280	0
S003-3290	0
S003-3370	0
S003-3460	0
S004-0032	0
S008-0352	5
S008-0910	1
S008-1110	0
S008-1130	0
S008-1170	3
S008-1400	2
S008-1410	4
S008-1850	3
S008-1850A	4
S008-1860	5
S008-1870	3
S008-1880	2
S008-1920	0
S008-1930	5
S008-1940	5
S008-1950	5
S008-1980	2
S008-1980A	4
S008-1990	1
S008-2000	5
S008-2310	0
S008-2370	0
S008-3010	0
S009-0100	3
S009-0110	5
S009-0380	0
S009-0420	0
S009-0660	0
S009-0670	0
S009-0680	2
S009-0700	4
S009-0750	0
S009-1140	3
S009-1175	5
S009-1180	5
S009-1190	1
S009-1200	4
S009-1210	3
S009-1220	0
S009-1230	2
S009-1250	0
S009-1260	3

NASSCO MACP Scores

Manhole Number	MACP Score
S009-1275	2
S009-1320	4
S009-1420	0
S009-1570	3

APPENDIX C

MANHOLES NOT INSPECTED

Manholes Not Inspected

Manhole Number	Inspection Status	Comments
S004-0380	NI	Heavy traffic area
S004-1120	NA	Heavy traffic area
S004-1420	NA	Heavy traffic area
S004-1350	NA	Heavy traffic area
S004-1340	NA	Heavy traffic area
S004-1140	NA	Heavy traffic area
S004-1130	NA	Heavy traffic area
S009-0115	NA	Heavy traffic area
S008-1180	NA	Heavy traffic area
S008-1160	NA	Heavy traffic area
S008-1150	NA	Heavy traffic area
FL01-1770	NA	Heavy traffic area
P007-2380	NF	Manhole does not exist.
P007-1945	NF	Manhole does not exist.
P007-1210	NF	Manhole does not exist.
P007-1224	NF	Manhole does not exist.
P007-1222	NF	Manhole does not exist.
S009-0770	NF	Manhole does not exist.
S008-08-1	NA	Manhole does not exist.
S003-1410	NF	Manhole does not exist.
S008-2520	BM	Manhole does not exist.
S008-2480	NF	Manhole does not exist.
S009-0760	BM	Manhole does not exist.
S004-0450	NF	Manhole is buried and unable to access.
P007-0930	NA	Manhole is buried and unable to access.
P007-2340	NF	Manhole is buried and unable to access.
P007-0958	NF	Manhole is buried and unable to access.
P007-0970	NF	Manhole is buried and unable to access.
P007-0980	NF	Manhole is buried and unable to access.
P007-2170	NF	Manhole is buried and unable to access.
P007-2520	NF	Manhole is buried and unable to access.
S004-0605	NF	Manhole is buried and unable to access.
P007-1190	NF	Manhole is buried and unable to access.
P007-0960	NF	Manhole is buried and unable to access.
P007-0955	NF	Manhole is buried and unable to access.
P007-1150	NA	Manhole is buried and unable to access.
S004-0375	NI	Manhole is buried and unable to access.
P007-0090	NF	Manhole is buried and unable to access.
S004-0560	BM	Manhole is buried and unable to access.
S004-1330	NF	Manhole is buried and unable to access.
S004-1310	NA	Manhole is buried and unable to access.
S004-0390	NI	Manhole is buried and unable to access.
S008-2200	NA	Manhole is buried and unable to access.
S003-3250A	BM	Manhole is buried and unable to access.
S008-0970	NO	Manhole is buried and unable to access.
S008-0870	NF	Manhole is buried and unable to access.
S008-0880	NO	Manhole is buried and unable to access.
S008-0890	NO	Manhole is buried and unable to access.
S003-0950	NF	Manhole is buried and unable to access.
S003-1350	NF	Manhole is buried and unable to access.
FL01-0350	NF	Manhole is buried and unable to access.
S002-2180	NF	Manhole is buried and unable to access.
S002-2170	NF	Manhole is buried and unable to access.
S003-3260	BM	Manhole is buried and unable to access.
S008-1140	NF	Manhole is buried and unable to access.
S009-0785	NF	Manhole is buried and unable to access.
S009-1100	NF	Manhole is buried and unable to access.
P007-2354	NF	Manhole is to be replaced during rehabilitation construction
P007-2740	NA	Manhole is to be replaced during rehabilitation construction
P007-0720	NF	Manhole is to be replaced during rehabilitation construction
P007-1810	NF	Manhole is to be replaced during rehabilitation construction
P007-1820	NF	Manhole is to be replaced during rehabilitation construction
P007-2570	NF	Manhole is to be replaced during rehabilitation construction
P007-2330	NF	Manhole is to be replaced during rehabilitation construction
P007-2160	NF	Manhole is to be replaced during rehabilitation construction
P007-0020	NF	Manhole is to be replaced during rehabilitation construction
P007-2530	NA	Manhole is to be replaced during rehabilitation construction

Manholes Not Inspected

Manhole Number	Inspection Status	Comments
S008-1005	NF	Manhole is to be replaced during rehabilitation construction
P007-0820	NA	Siezed Cover.
P007-1264	NA	Siezed Cover.
P007-3100	NF	Structure located through CCTV.
P007-2210	NF	Structure located through CCTV.
S009-0320	NF	Structure located through CCTV.
S009-0630	NF	Structure located through CCTV.
S009-0620	NF	Structure located through CCTV.
S003-1290	NF	Structure located through CCTV.
S003-0770	NF	Structure located through CCTV.
FL01-2050	NF	Structure located through CCTV.
FL01-0750	BM	Structure located through CCTV.
FL01-0890	NF	Structure located through CCTV.
S003-0200	NF	Structure located through CCTV.
S003-3150	BM	Structure located through CCTV.
S003-3110	NF	Structure located through CCTV.
S008-2380	BM	Structure located through CCTV.
S009-1130	NF	Structure located through CCTV.
S009-1150	NA	Structure located through CCTV.
S009-1480	NF	Structure located through CCTV.
S009-1610	NF	Structure located through CCTV.
S009-0090	NF	Unable to access property for inspection.
P007-1170	NF	Unable to access property for inspection.
S009-1270	NA	Unable to access property for inspection.
S009-1240	NA	Unable to access property for inspection.
S009-0690	NF	Unable to access property for inspection.
S008-1100	NA	Unable to access property for inspection.
S003-0040	NF	Unable to access property for inspection.
S008-1420	NF	Unable to access property for inspection.
FL01-2070	NF	Unable to access property for inspection.
FL01-0730	NF	Unable to access property for inspection.
FL01-2480	NA	Unable to access property for inspection.
S003-0090	NF	Unable to access property for inspection.
FL01-0260	NF	Unable to access property for inspection.
FL01-0920	NF	Unable to access property for inspection.
S008-2450	NF	Unable to access property for inspection.
S008-2430	NF	Unable to access property for inspection.
P007-2060	NF	Unable to televise from both directions
P007-0140	NF	Unable to televise from both directions
P007-1060	NF	Unable to televise from both directions
S003-1360	NF	Unable to televise from both directions
S009-1575	NF	Unable to televise from both directions

APPENDIX D

SEWER LINES CLEANED AND TELEVISED WITH NASSCO SCORES

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
FL01	EOL	FL01-0930A	47	Clean Only
FL01	FL01-0150	FL01-0060	218	Clean Only
FL01	FL01-0160	FL01-0150	219	Clean Only
FL01	FL01-0170	FL01-0160	539	Clean Only
FL01	FL01-0170	FL01-2110	20	Clean Only
FL01	FL01-0220	FL01-0210	11	Clean Only
FL01	FL01-0230	FL01-0220	305	Clean Only
FL01	FL01-0240	FL01-0230	294	Clean Only
FL01	FL01-0250	FL01-0240	348	Clean Only
FL01	FL01-0270	FL01-0170	29	Clean Only
FL01	FL01-0350	FL01-0340	455	Clean Only
FL01	FL01-0420	FL01-0250	294	Clean Only
FL01	FL01-0439	FL01-0260	399	Clean Only
FL01	FL01-0530	FL01-0520	331	Clean Only
FL01	FL01-0800	FL01-0820	324	Clean Only
FL01	FL01-0830	FL01-0820	362	Clean Only
FL01	FL01-0845	FL01-0840	225	Clean Only
FL01	FL01-0850	FL01-0845	230	Clean Only
FL01	FL01-0860	FL01-0840	345	Clean Only
FL01	FL01-0870	FL01-0860	347	Clean Only
FL01	FL01-0930	FL01-0932	29	Clean Only
FL01	FL01-0930A	FL01-0930	347	Clean Only
FL01	FL01-1220	FL01-1210	160	Clean Only
FL01	FL01-1220A	FL01-1220	65	Clean Only
FL01	FL01-1300	FL01-1260	227	Clean Only
FL01	FL01-1310	FL01-1300	252	Clean Only
FL01	FL01-1700	FL01-1690	218	Clean Only
FL01	FL01-1800	FL01-1790	403	Clean Only
FL01	FL01-1905	FL01-1990	45	Clean Only
FL01	FL01-2090	FL01-2080	224	Clean Only
FL01	FL01-2100	FL01-2090	184	Clean Only
FL01	FL01-2200	FL01-0080	37	Clean Only
FL01	FL01-2210	FL01-2200	92	Clean Only
FL01	FL01-2220	FL01-2210	303	Clean Only
FL01	FL01-2230	FL01-2210	79	Clean Only
FL01	FL01-2240	FL01-0405	250	Clean Only
FL01	FL01-2250	FL01-2240	152	Clean Only
FL01	FL01-2260	FL01-2250	136	Clean Only
FL01	FL01-2270	FL01-2260	192	Clean Only
FL01	FL01-2280	FL01-2270	294	Clean Only
FL01	FL01-2290	FL01-2280	358	Clean Only
FL01	FL01-2300	FL01-1800	149	Clean Only
FL01	FL01-2310	FL01-2300	397	Clean Only
FL01	FL01-2320	FL01-1890	145	Clean Only
FL01	FL01-2330	FL01-2320	61	Clean Only
FL01	FL01-2340	FL01-2330	115	Clean Only
FL01	FL01-2350	FL01-2440	234	Clean Only
FL01	FL01-2360	FL01-2350	171	Clean Only
FL01	FL01-2370	FL01-2440	177	Clean Only
FL01	FL01-2390	FL01-0090	52	Clean Only
FL01	FL01-2400	FL01-2390	103	Clean Only
FL01	FL01-2410	FL01-2400	199	Clean Only
FL01	FL01-2420	FL01-2410	94	Clean Only
FL01	FL01-2430	FL01-2420	363	Clean Only
FL01	FL01-2440	FL01-2410	147	Clean Only
FL01	FL01-2450	FL01-2440	236	Clean Only
FL01	FL01-2460	FL01-2450	240	Clean Only
FL01	FL01-2470	FL01-2460	157	Clean Only
FL01	FL02-0008	FL01-0220	379	Clean Only
FL01	FL01-2060	FL01-2050	341	0
FL01	FL01-2050	FL01-2040	75	0
FL01	FL01-0350	FL01-0340	455	3
P007	EOL	P007-0610	53	Clean Only
P007	EOL	P007-1090	65	Clean Only
P007	EOL	P007-2130	27	Clean Only
P007	EOL	P007-2230	42	Clean Only

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P007	P007-0084	P007-0080	30	Clean Only
P007	P007-0090	P007-0084	101	Clean Only
P007	P007-0140	P007-0130	410	Clean Only
P007	P007-0152	P007-0155	307	Clean Only
P007	P007-0154	P007-0320	155	Clean Only
P007	P007-0180	P007-0170	234	Clean Only
P007	P007-0290	P007-0280	260	Clean Only
P007	P007-0330	P007-0157	242	Clean Only
P007	P007-0340	P007-0330	400	Clean Only
P007	P007-0370	P007-0430	262	Clean Only
P007	P007-0395	P007-0390	258	Clean Only
P007	P007-0400	P007-0395	239	Clean Only
P007	P007-0420	P007-0410	43	Clean Only
P007	P007-0430	P007-0440	362	Clean Only
P007	P007-0440	P007-0450	139	Clean Only
P007	P007-0450	P007-0460	238	Clean Only
P007	P007-0460	P007-0465	266	Clean Only
P007	P007-0484	P007-0482	381	Clean Only
P007	P007-0486	P007-0484	96	Clean Only
P007	P007-0490	P007-0486	183	Clean Only
P007	P007-0495	P007-0490	24	Clean Only
P007	P007-0500	P007-0495	73	Clean Only
P007	P007-0500A	P007-0500	41	Clean Only
P007	P007-0520A	P007-0520	145	Clean Only
P007	P007-0580	P007-0570	107	Clean Only
P007	P007-0640	P007-0640	287	Clean Only
P007	P007-0782	P007-0780	46	Clean Only
P007	P007-0784	P007-0782	120	Clean Only
P007	P007-0785	P007-0784	11	Clean Only
P007	P007-0786	P007-0785	27	Clean Only
P007	P007-0788	P007-0786	161	Clean Only
P007	P007-0940	P007-0930	435	Clean Only
P007	P007-0950	P007-0940	150	Clean Only
P007	P007-1080	P007-1070	134	Clean Only
P007	P007-1090	P007-1080	267	Clean Only
P007	P007-1100	P007-1070	219	Clean Only
P007	P007-1110	P007-1100	76	Clean Only
P007	P007-1200	P007-1190	20	Clean Only
P007	P007-1210	P007-1200	166	Clean Only
P007	P007-1220	P007-1200	365	Clean Only
P007	P007-1222	P007-1220	100	Clean Only
P007	P007-1224	P007-1222	100	Clean Only
P007	P007-1230	P007-1220	59	Clean Only
P007	P007-1240	P007-1230	206	Clean Only
P007	P007-1250	P007-1220	50	Clean Only
P007	P007-1250A	P007-1250	60	Clean Only
P007	P007-1250B	P007-1250A	43	Clean Only
P007	P007-1255	P007-1250	144	Clean Only
P007	P007-1260	P007-1255	320	Clean Only
P007	P007-1264	P007-1260	234	Clean Only
P007	P007-1267	P007-1264	118	Clean Only
P007	P007-1610	P007-1600	129	Clean Only
P007	P007-1650	P007-1600	45	Clean Only
P007	P007-1945	P007-1940	100	Clean Only
P007	P007-2040	P007-2030	104	Clean Only
P007	P007-2102	P007-2100	9	Clean Only
P007	P007-2108	P007-2102	296	Clean Only
P007	P007-2110	P007-2108	10	Clean Only
P007	P007-2155	P007-2155A	76	Clean Only
P007	P007-2170	P007-2160	88	Clean Only
P007	P007-2190	P007-2180	377	Clean Only
P007	P007-2230	P007-2240	96	Clean Only
P007	P007-2290	P007-2280	151	Clean Only
P007	P007-2340	P007-2330	375	Clean Only
P007	P007-2360	P007-2357	195	Clean Only
P007	P007-2370	P007-2360	100	Clean Only

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P007	P007-2372	P007-2370	25	Clean Only
P007	P007-2380	P007-2372	215	Clean Only
P007	P007-2520	P007-2510	105	Clean Only
P007	P007-2740A	P007-2740	411	Clean Only
P007	P007-2770	P007-2760	386	Clean Only
P007	P007-2940	P007-2930	172	Clean Only
P007	P007-2940A	P007-2940	60	Clean Only
P007	P007-3110	P007-3100	122	Clean Only
P007	P007-3120	P007-3110	210	Clean Only
P007	P007-3130	P007-3140	268	Clean Only
P007	P007-3140	P007-3150	287	Clean Only
P007	P007-3300	P007-2385	310	Clean Only
P007	P007-3310	P007-3300	137	Clean Only
P007	P007-3320	P007-3310	296	Clean Only
P007	P007-0140	P007-0130	410	0
P007	P007-0950	P007-0940	150	3
P007	P007-3100	P007-1050	88	0
P007	P007-1060	P007-1050	158	0
S003	S003-0060	S003-0030	121	Clean Only
S003	S003-0350	S003-0340	305	Clean Only
S003	S003-0650A	S003-0640	289	Clean Only
S003	S003-0660A	S003-0660	197	Clean Only
S003	S003-0940A	S003-0940	188	Clean Only
S003	S003-0940B	S003-0940A	305	Clean Only
S003	S003-1100	S003-1090	346	Clean Only
S003	S003-1150	S003-1140	307	Clean Only
S003	S003-1160	S003-1150	159	Clean Only
S003	S003-1250	S003-1090	321	Clean Only
S003	S003-1260	S003-1250	328	Clean Only
S003	S003-1290	S003-1280	350	Clean Only
S003	S003-1300	S003-1280	240	Clean Only
S003	S003-1310	S003-1300	20	Clean Only
S003	S003-1350	S003-1280	65	Clean Only
S003	S003-1360	S003-1350	70	Clean Only
S003	S003-1450	S003-3500	114	Clean Only
S003	S003-1480A	S003-1480	48	Clean Only
S003	S003-1480B	S003-1480	213	Clean Only
S003	S003-1480C	S003-1480B	349	Clean Only
S003	S003-1490	S003-1480	443	Clean Only
S003	S003-3050	S003-0680	132	Clean Only
S003	S003-3060	S003-3050	89	Clean Only
S003	S003-3070	S003-3060	80	Clean Only
S003	S003-3080	S003-3070	154	Clean Only
S003	S003-3090	S003-3080	88	Clean Only
S003	S003-3100	S003-3090	71	Clean Only
S003	S003-3110	S003-3100	145	Clean Only
S003	S003-3120	S003-3110	231	Clean Only
S003	S003-3130	S003-3120	99	Clean Only
S003	S003-3140	S003-3100	242	Clean Only
S003	S003-3150	S003-3140	214	Clean Only
S003	S003-3160	S003-0752	42	Clean Only
S003	S003-3170	S003-3160	84	Clean Only
S003	S003-3180	S003-3170	113	Clean Only
S003	S003-3190	S003-3180	139	Clean Only
S003	S003-3200	S003-3170	195	Clean Only
S003	S003-3210	S003-3160	135	Clean Only
S003	S003-3220	S003-3210	65	Clean Only
S003	S003-3230	S003-3220	283	Clean Only
S003	S003-3240	S003-3230	155	Clean Only
S003	S003-3250	S003-3240	97	Clean Only
S003	S003-3250A	S003-3250	50	Clean Only
S003	S003-3270	S003-0160	311	Clean Only
S003	S003-3280	S003-3270	237	Clean Only
S003	S003-3290	S003-3280	238	Clean Only
S003	S003-3300	S003-0130	81	Clean Only
S003	S003-3310	S003-3300	344	Clean Only

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
S003	S003-3320	S003-0560	45	Clean Only
S003	S003-3330	S003-3320	261	Clean Only
S003	S003-3340	S003-2180	206	Clean Only
S003	S003-3350	S003-3340	254	Clean Only
S003	S003-3360	S003-3550	253	Clean Only
S003	S003-3370	S003-3360	238	Clean Only
S003	S003-3380	S003-3370	216	Clean Only
S003	S003-3390	S003-3380	190	Clean Only
S003	S003-3400	S003-3390	235	Clean Only
S003	S003-3410	S003-3400	257	Clean Only
S003	S003-3420	S003-3410	243	Clean Only
S003	S003-3430	S003-3420	240	Clean Only
S003	S003-3440	S003-3430	177	Clean Only
S003	S003-3450	S003-3440	139	Clean Only
S003	S003-3460	S003-3450	199	Clean Only
S003	S003-3470	S003-3460	319	Clean Only
S003	S003-3480	S003-3470	66	Clean Only
S003	S003-3490	S003-3480	74	Clean Only
S003	S003-3500	S003-3490	329	Clean Only
S003	S003-3530	S003-3350	101	Clean Only
S003	S003-3540	S003-3530	357	Clean Only
S003	S003-3550	S003-3540	185	Clean Only
S003	S003-3560	S003-3550	56	Clean Only
S003	S003-3150	S003-3140	214	0
S003	S003-3110	S003-3100	145	0
S003	S003-1350	S003-1280	65	5
S003	S003-1360	S003-1350	70	0
S003	S003-1290	S003-1280	350	0
S004	EOL	S004-0340	68	Clean Only
S004	S004-0018	S004-0016	67	Clean Only
S004	S004-0020	S004-0018	48	Clean Only
S004	S004-0022	S004-020	24	Clean Only
S004	S004-0024	S004-0022	238	Clean Only
S004	S004-0026	S004-0024	160	Clean Only
S004	S004-0028	S004-0026	42	Clean Only
S004	S004-0030	S004-0028	146	Clean Only
S004	S004-0032	S004-0030	66	Clean Only
S004	S004-0034	S004-0032	282	Clean Only
S004	S004-0036	S004-0034	126	Clean Only
S004	S004-0038	S004-0036	158	Clean Only
S004	S004-0040	S004-0038	185	Clean Only
S004	S004-0080	S004-0030	74	Clean Only
S004	S004-0090	S004-0030	28	Clean Only
S004	S004-0370	S004-0038	102	Clean Only
S004	S004-0375	S004-0370	112	Clean Only

Attachment 2
2016 SSA Condition Assessment Report

March 2017

Condition Assessment Report

2016 Sanitary Sewer Assessment Sub-Basins: P003, P004, P005, P008, S006, and S007

PREPARED FOR THE

City of Fort Smith, Arkansas

PREPARED BY

RJN Group, Inc.

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Fort Smith, Arkansas 72901
(479) 709-9439

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March 3, 2017

Mrs. Mitchell Dodroe, P.E.
Deputy Director of Engineering
Utility Department
City of Fort Smith
801 Carnall Ave #500
Fort Smith, AR 72901

Subject: City of Fort Smith, Arkansas
Sanitary Sewer Assessment Year 2 – Final 2016 SSA Condition Assessment Report

Dear Mrs. Dodroe

In accordance with the February 2016 Engineering Agreement as part of Fort Smith Consent Decree program, RJN Group, Inc. is pleased to submit this final Condition Assessment Report for the above referenced project.

This report includes the analysis and results from six sub-basins (P003, P004, P005, P008, S006, S007) investigated during the 2016 sanitary sewer assessment.

We appreciate the opportunity to work with the City of Fort Smith 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 contact us.

Respectfully Submitted,

RJN GROUP, INC.

Daniel Jackson, P.E.
Vice President

Tristan Nickel, P.E.
Project Manager

DHJ/tn/2947
Enclosure

Remedial Measures Plan

2015 Sanitary Sewer Assessment

Sub-Basins: S004, P007, FL01, S003, S008, and S009

City of Fort Smith

3/3/17

March 2017

I hereby certify that this report was prepared under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Arkansas.

Date: 3/3/17 Registration No.: 15813

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2016 CONDITION ASSESSMENT

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SANITARY SEWER ASSESSMENT – 2016 CONDITION ASSESSMENT REPORT

The City of Fort Smith, Arkansas contracted RJN Group, Inc. to conduct a Sanitary Sewer Assessment (SSA) in six (6) sub-basins as part of their Consent Decree Program. The six (6) sub-basins were P003, P004, P005, P008, S006, and S007 consisting of 1,188 manholes and 272,626 linear feet or 51.6 miles of sanitary sewer pipe and can be seen on Figure 1. Table 1 outlines the quantities of assets per sub-basin.

RJN Group, Inc. services included the following tasks:

- Flow Monitoring
- Manhole Condition Assessment (NASSCO Level 2 Inspections)
- Smoke Testing
- Cleaning and Televising of Sanitary Sewers
- Dyed Water Flooding
- Night Flow Isolations
- Defect Analysis/Grading

This Condition Assessment Report addresses the results from field inspection. NASSCO scores for manholes and sewer lines are also provided.

Table 1
SUB-BASIN STATISTICS

Sub-Basins	Number of Manholes	Length of Sewer Pipe	
		Linear Feet	Miles
P003	138	38,180	7.2
P004	138	35,664	6.8
P005	113	28,137	5.3
P008	295	68,093	12.9
S006	252	52,151	9.9
S007	252	50,401	9.5
Total	**1,188**	**272,626**	**51.6**

FLOW MONITORING

Flow monitoring of sub-basin was conducted in 2016 to establish current flow rates. Sixteen (16) flow meters were used to monitor the six (6) sub-basins discussed in this Condition Assessment Report. Flow meters P010-01 and P011-01 were installed to establish flows for sub-basin P010. Rehabilitation efforts will not be made in sub-basin P010 for several years and for that reason sub-basin P010 was chosen to serve as a control basin. Once rehabilitation efforts in the 2016 SSA sub-basin have been completed, post rehabilitation flow monitoring will be conducted. Flow meters P010-01 and P011-01 will be reinstalled during post rehabilitation flow monitoring to help determine the effectiveness of the rehabilitation efforts. Table 2 provides a breakdown of the meters used to monitor each sub-basin. Figure 2 on page 4 depicts the flow meter locations used in 2016.

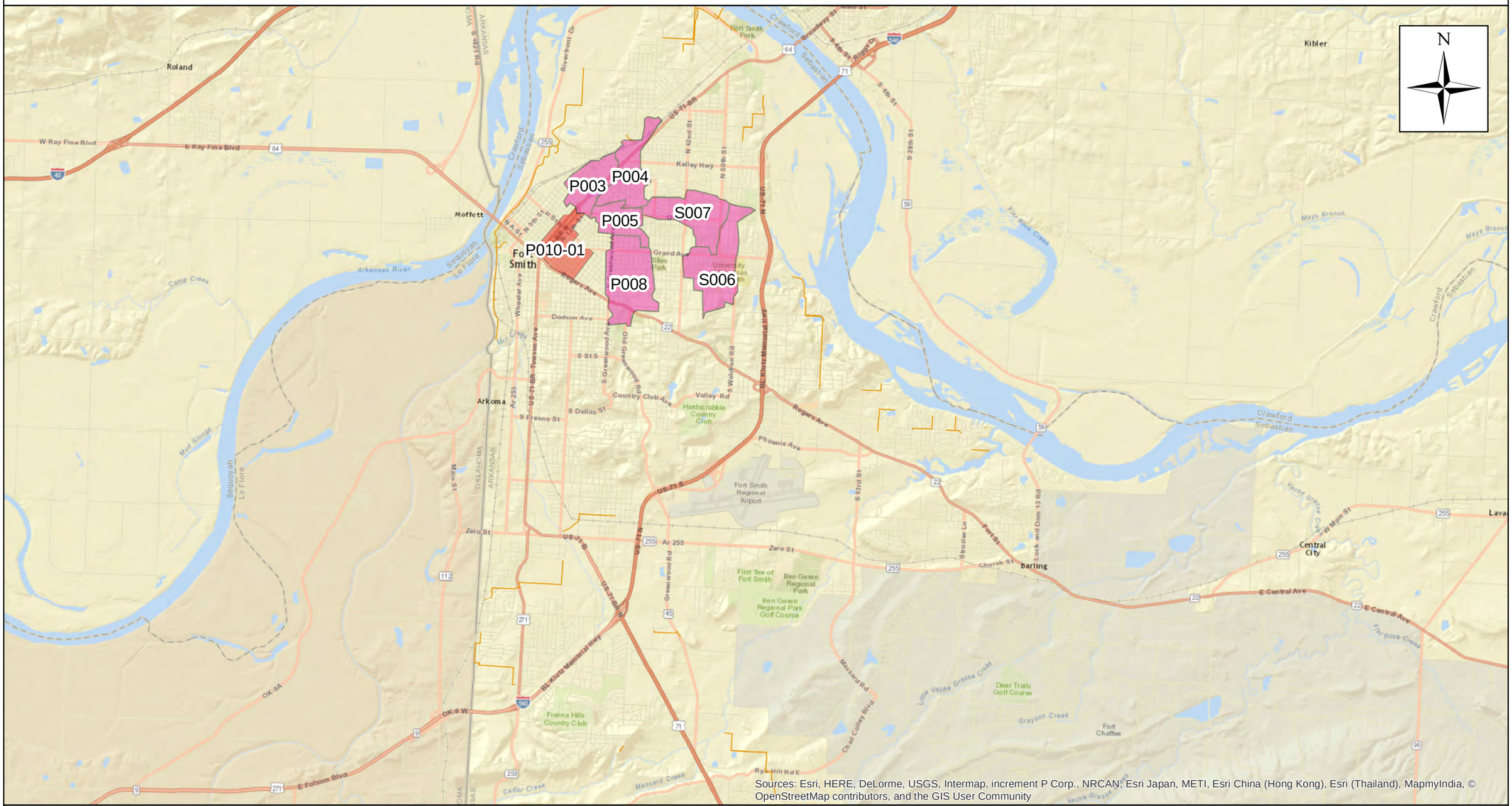
Table 2

SUB-BASIN ASSIGNMENTS

Sub-Basin	Meter Basin	Sub-Basin Size (lf)
P003	P003-01, P001-01	38,180
P004	P004-01, P004-02, P004-03	35,664
P005	P005-01A, P005-01B, P005-02, P007-01	28,137
P008	P008-01, P008-02, P009-01	68,093
S006	S006-01	52,151
S007	S007-01, S007-02, S007-03	50,401
P010[1/]	P010-01, P011-01	36,476

1/ Control Basin

City of Fort Smith, AR



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Control Basin

Basin Boundaries 2016

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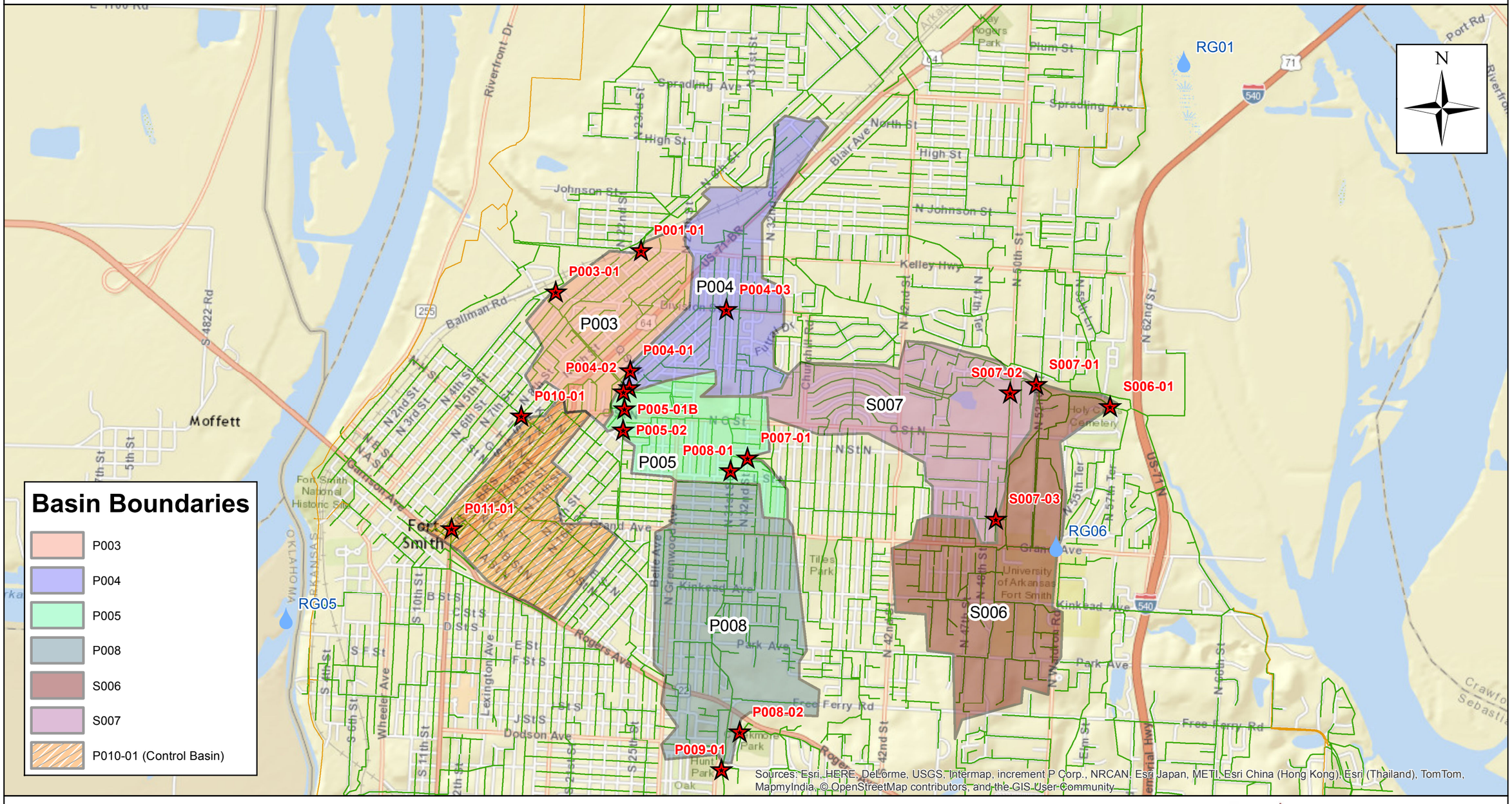
Figure 1
Sub-Basin Location

City of Fort Smith, AR



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Rain Gauges — Gravity Mains

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Figure 2
Flow Meter Locations

MANHOLE CONDITION ASSESSMENT

Manhole inspections were conducted utilizing NASSCO MACP level 2 inspection standards. A level 2 inspection grades manhole defects on a scale of 1 to 5, with 5 having the most severe defects. All inspection data was entered into the Innovyze software, InfoMaster. This software generated NASSCO grades for all defects notated during inspection, and an overall score was developed for each manhole. Additionally, manholes were inspected utilizing an IBAK Panoramo SI camera and all scans for each manhole have been provided to the city.

SMOKE TESTING

Smoke testing was conducted using the dual-blower method. Individual pipelines were isolated where applicable. Defects were noted where smoke was observed include: potential service cleanout defects, potential service line defects, potential gravity sewer line leaks, and potential cross-connections with the storm water system, downspouts, or area storm drains. A picture of the defect, GPS location, address and defect type are recorded.

CLEANING AND TELEVISING OF SANITARY SEWERS

Closed circuit television inspection (CCTV) investigations were performed on all non-plastic sewer lines and plastic sewer lines installed prior to 1995. NASSCO PACP inspection standards were utilized and results were entered into InfoMaster, which developed an overall score between 1 and 5 for each gravity line. All gravity lines within each sub-basin were cleaned.

DYED WATER FLOODING

Dyed water flooding was performed on selected defects identified during smoke testing. These defects consisted of potential gravity sewer line leaks and potential cross-connections with the storm water system. Potential gravity sewer line leaks on line segments that had a NASSCO score of 4 or 5 from the CCTV condition assessment were not tested.

NIGHT FLOW ISOLATION

Night flow isolation was performed in selected sub-basins identified from flow monitoring. Sub-basins where infiltration was determined to be greater than 5,000 gallons per day per inch-diameter-mile were further investigated and measurements were taken between 12:00 am and 5:00 am.

INSPECTION QUANTITIES AND RESULTS

FLOW MONITORING

Table 3 summarizes the dry and wet-weather flow rates experienced by each sub-basin during the flow monitoring, which occurred between March 25 and May 22, 2016. Inflow and infiltration rates are expressed below in million gallons per day (mgd) per 1,000 linear feet (lf). This analysis allows for a similar comparison of each sub-basin and will provide the baseline to evaluate post-construction results. Inflow rates are calculated to a 1-year/60-minute storm with a rainfall intensity of 1.55 inches/hour.

Table 3
SUB-BASIN FLOWS

Sub-Basin	Sub-Basin Size (lf)	Average Dry-Weather Flow (mgd)	Peak Hour Dry-Weather Flow (mgd)	Peak Hour Wet-Weather Flow (mgd)	Peak Inflow Rate (gpd/1,000 linear feet)	Peak Infiltration Rate (gpd/1,000 linear feet)
P003	38,180	1.942	5.343	16.720	125,091	2/
P004	35,664	0.120	0.283	1.573	126,205	15,993
P005	28,137	0.744	3.410	10.250	150,940	91,694
P008	68,093	0.620	1.714	3.303	47,449	4,653
S006	52,151	0.513	1.326	5.789	91,522	5,535
S007	50,401	0.187	0.715	3.255	112,815	11,716
P010[1/]	36,476	0.730	1.085	5.060	31,335	4,663

1/ Control Basin
2/ Negligible infiltration

MANHOLE CONDITION ASSESSMENT

Based on the City's GIS, 1,188 manholes were contained within the six sub-basin. From this, 1,008 (85%) were fully inspected. The remainder has been provided to the City for further research into their status. Table 4 summarizes the inspection status by basin. A detailed list of manholes inspected is provided in Appendix A. Manholes not inspected during the 2016 SSA will be addressed during the 2017 SSA.

NASSCO MACP defect grades were used to generate scores for all manholes. The peak defect grade was utilized to provide an overall score for each manhole. These scores are on a scale of 1 to 5, 5 being in the worst condition. Manholes with a score of 1, 2 or 3 will be entered into the City's CMOM program while rehabilitation recommendations were generated for manholes with a score of 4 or 5. 392 manholes generated a score of 4 or 5. The breakdown of manholes in each sub-basin, by score, can be seen in Table 5. A list of each manholes NASSCO MACP score is provided in Appendix B. Figures 3 through 8 outline the distribution of scores for each manhole.

Table 4
MANHOLE INSPECTION STATUS

Sub-Basin	Manholes Inspected	Manholes Not Inspected	Total Manholes
P003	109	29	138
P004	114	24	138
P005	101	12	113
P008	240	55	295
S006	222	30	252
S007	222	30	252
Total	**1,008**	**180**	**1,188**

Table 5

NASSCO MACP SCORE SUMMARY

Sub-Basin	Not Inspected	No Defects	NASSCO Score 1	2	3	4	5	Total
P003	29	24	5	16	19	17	28	138
P004	24	22	4	11	18	18	41	138
P005	12	23	6	12	11	13	36	113
P008	55	41	12	33	50	40	64	295
S006	30	76	17	34	30	16	49	252
S007	30	65	15	60	26	18	38	252
Total	**180**	**251**	**59**	**166**	**154**	**122**	**256**	**1,188**

SMOKE TESTING

A total of 272,626 linear feet (lf) of sanitary sewer lines were smoke tested within the six sub-basins, 13,333 linear feet (lf) were large diameter (≥ 24") and 259,293 linear feet (lf) were small diameter respectively. Table 6 outlines the linear footage per sub-basin. A list of sewer lines smoke tested is provided in Appendix C. Smoke testing uncovered 1,303 defects. Of the 1,303 defects, 416 were identified as public defects and 887 were identified as potential private defects. Table 7 provides a detailed breakdown of the types and quantity of defects identified per sub-basin. Appendix D contains a list of all smoke testing defects and their location. Figures 9 through 14 depict the locations of the defects.

Table 6

LINEAR FEET SMOKE TESTED

Sub-Basin	Linear Feet
P003	38,180
P004	35,664
P005	28,137
P008	68,093
S006	52,151
S007	50,401
Total	**272,626**

Table 7

SMOKE TESTING DEFECTS [1/]

Sub-Basin	Potential Cleanouts Public	Potential Cleanouts Private	Potential Service Lines Public	Potential Service Lines Private	Area Storm Drain	Manhole Frame Seals	Building Interior	Downspout	Sump Pump	Grease Trap	Gravity Sewer Lines	Catch Basin	Other Cross Connections	**Total**
P003	7	62	7	96	2	18	15	8	1	1	22	11	0	**250**
P004	10	91	6	75	0	29	15	1	0	0	30	7	1	**265**
P005	12	39	4	42	1	13	10	0	0	0	26	1	0	**148**
P008	3	60	0	78	0	32	4	1	0	0	24	4	0	**206**
S006	1	93	0	21	0	18	2	0	0	0	10	4	2	**150**
S007	6	100	0	76	1	64	6	0	0	0	28	3	0	**284**
Total	**39**	**445**	**17**	**388**	**4**	**174**	**52**	**10**	**1**	**1**	**140**	**30**	**2**	**1,303**

1/ Defect Definitions

- *Potential Cleanouts, Public: Defect associated with the threaded cap, ferrule or the riser portion of a cleanout located within the City right-of-way (ROW)*
- *Potential Cleanouts, Private: Defect associated with the threaded cap, ferrule or the riser portion of a cleanout located outside of the City right-of-way (ROW)*
- *Potential Service Lines, Public: Observation or defect associated with the portion of the sewer line servicing a structure that is located within the City right-of-way (ROW)*
- *Potential Services Lines, Private: Observation or defect associated with the portion of the sewer line servicing a structure that is located outside of the City right-of-way (ROW)*
- *Area Storm Drain: Receptacle designed to collect surface runoff or rainwater from an elevation contour defined watershed area*
- *Manhole Frame Seal: Defect associated with a manhole frame seal*
- *Building Interior: Smoke found inside a building*
- *Downspout: Potential defect associated with a pipe installed to drain water from the roof gutters or catchment to the storm drain or other means of disposal that appears to be connected to the sanitary sewer*
- *Sump Pump: Defect associated with a basement sump pump where the discharge of the pump is connect directly to the sanitary sewer system*
- *Grease Trap: Observation of smoke present or emitted from a grease trap or oil and water separator*
- *Gravity Sewer Lines: Defect associated with the main sewer line*
- *Catch Basin: Structure designed to drain excess rain and ground water from paved streets, parking lots, sidewalks and roofs; commonly constructed on the curb of a street*
- *Other Cross Connections: Pipe connection into the wastewater system from a source unable to be properly identified*

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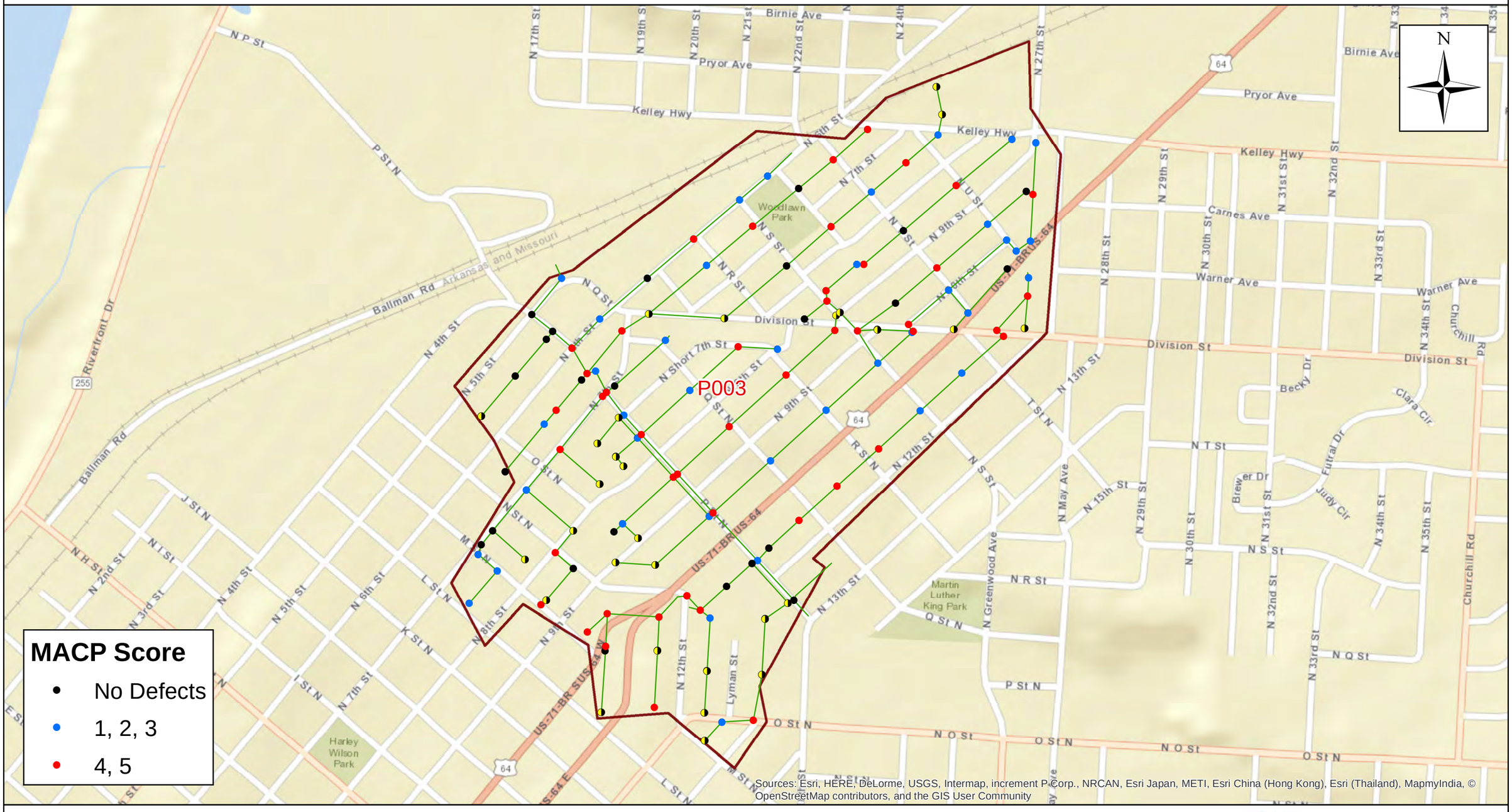

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Not Inspected — Gravity Sewer Lines — Basin Boundary

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Figure 3
MACP Score
Sub-Basin P003

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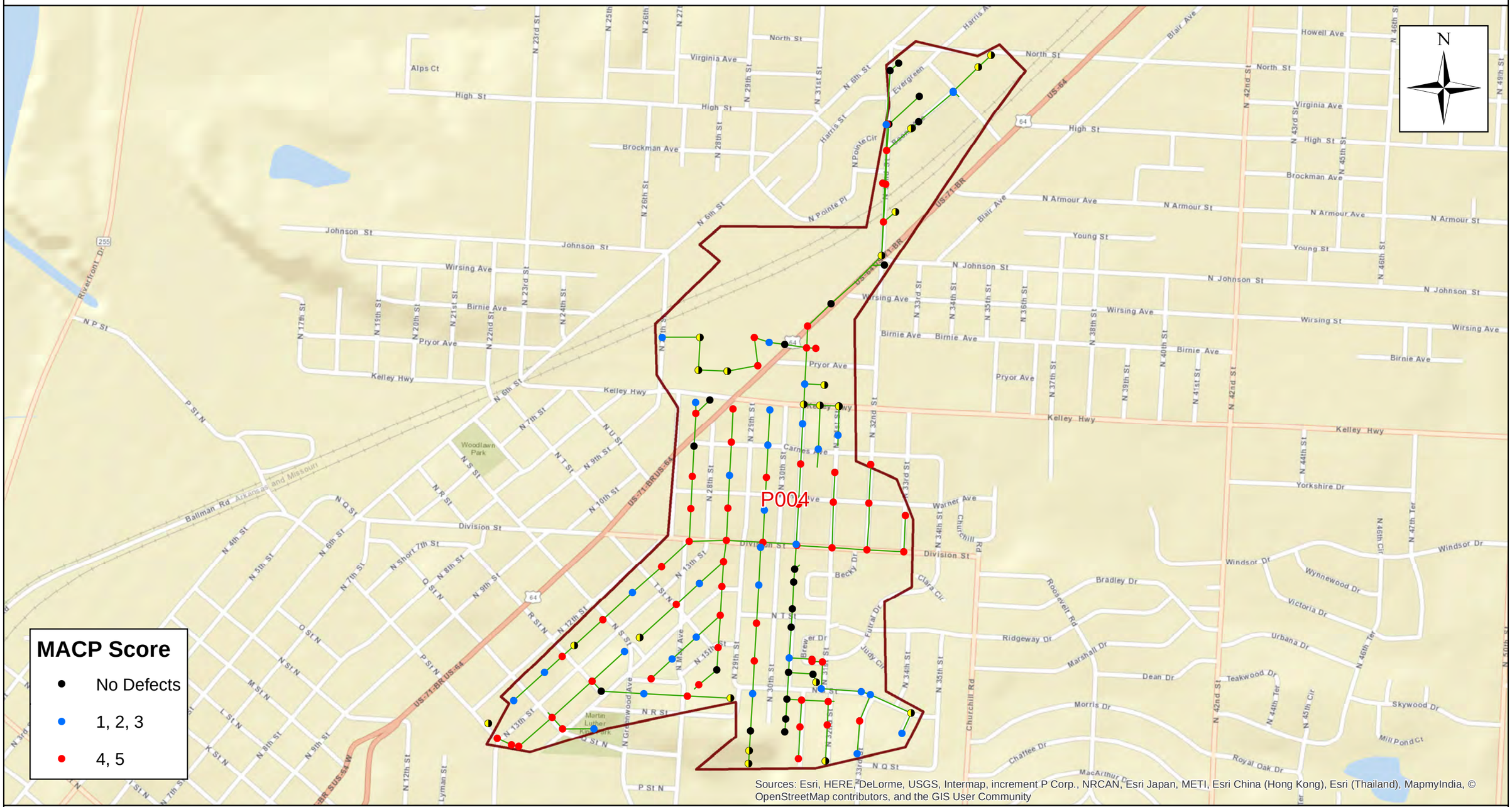

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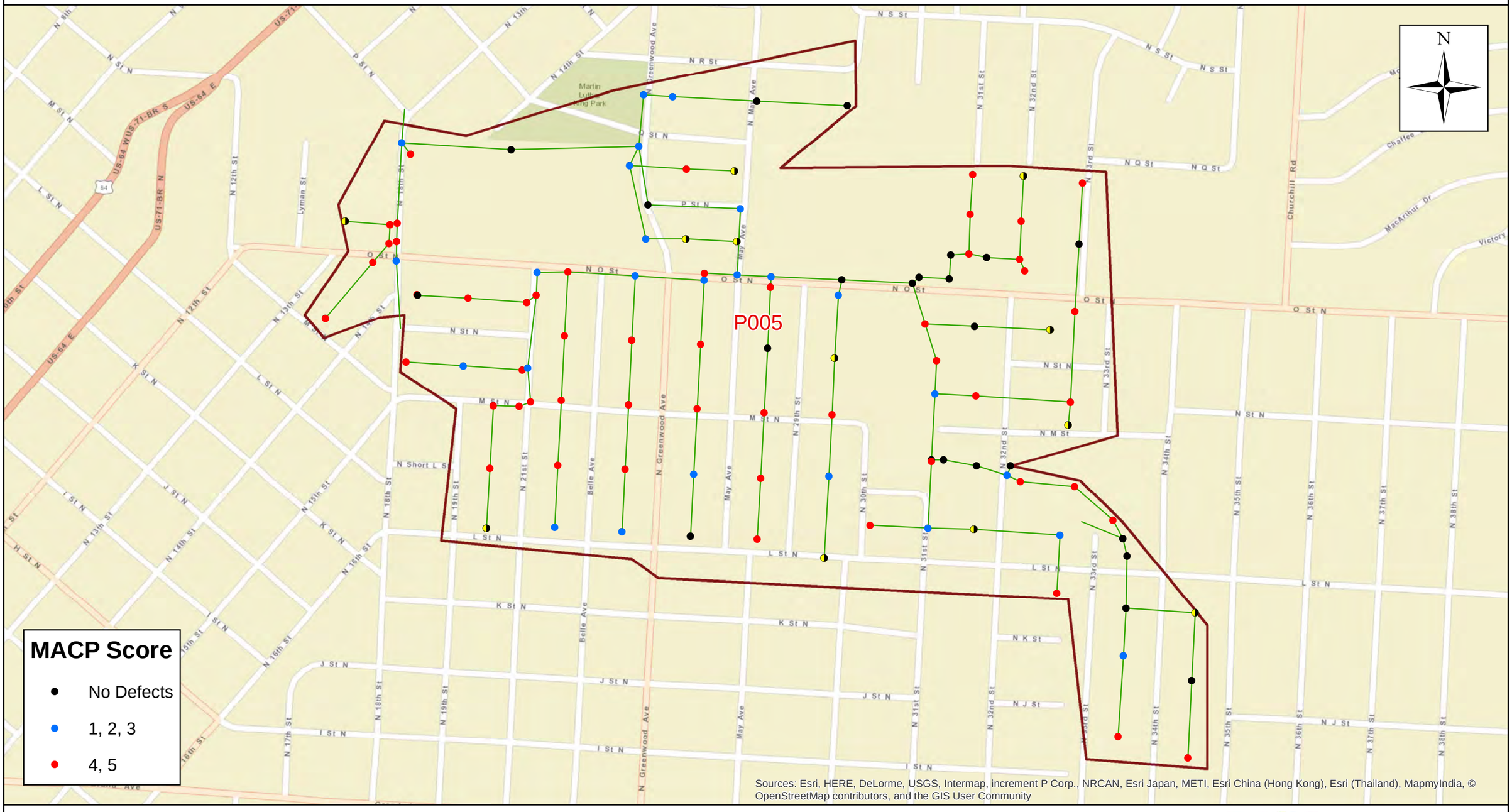
Not Inspected — Gravity Sewer Lines — Basin Boundary

Fort Smith ARKANSAS

Figure 4
MACP Score
Sub-Basin P004

City of Fort Smith, AR



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Not Inspected — Gravity Sewer Lines — Basin Boundary

Fort Smith ARKANSAS

Figure 5
MACP Score
Sub-Basin P005

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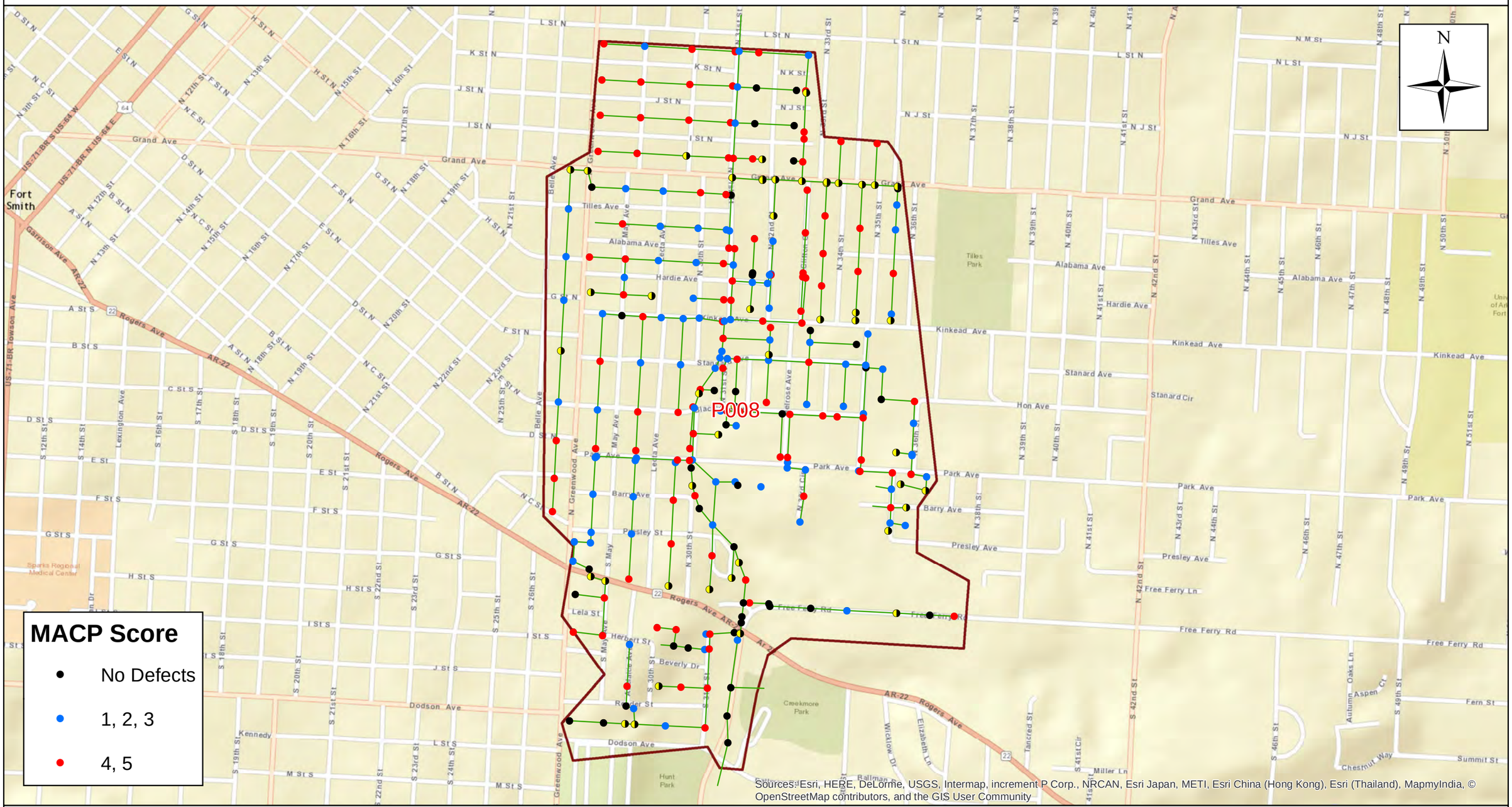

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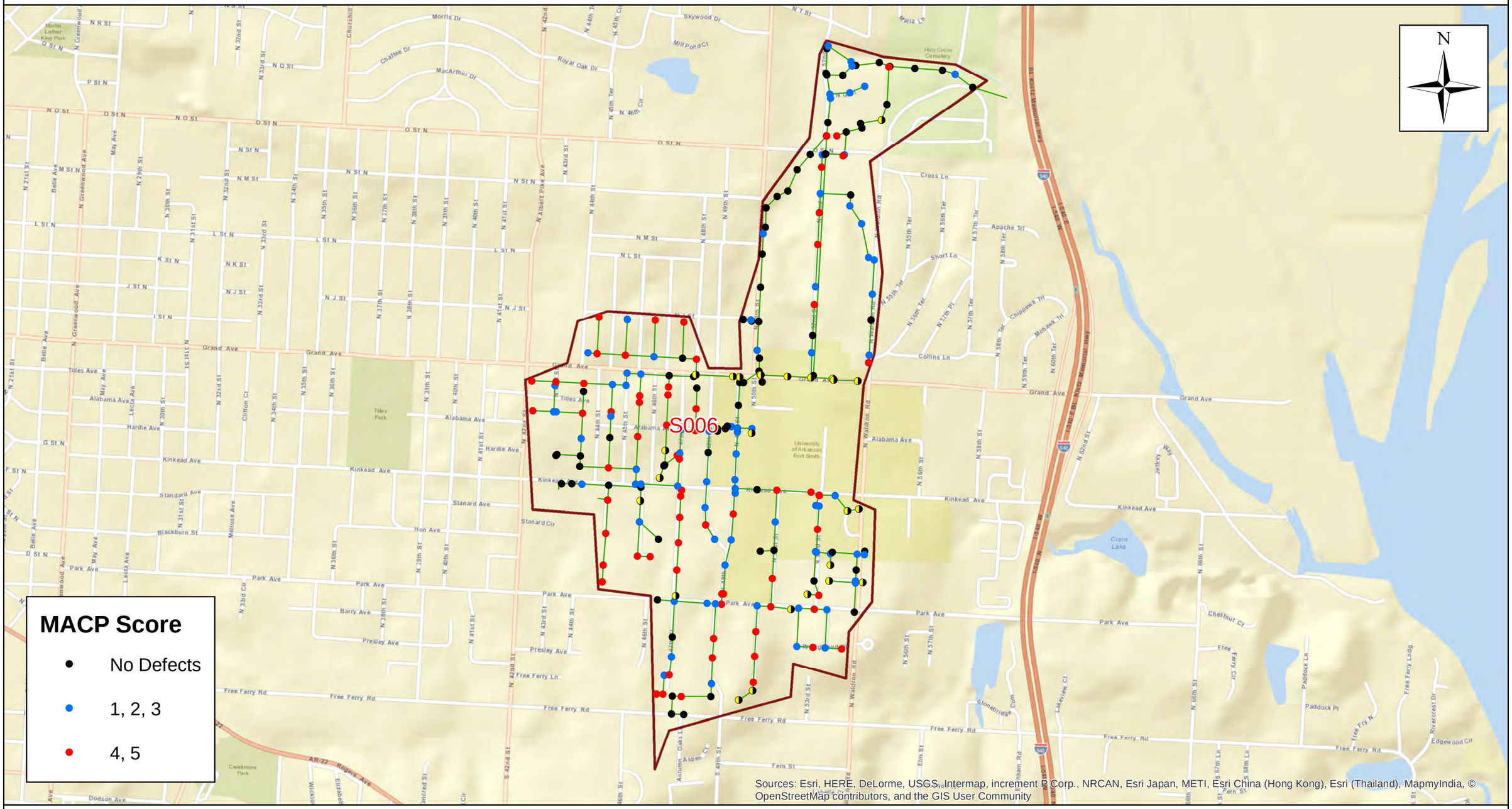
Not Inspected — Gravity Sewer Lines — Basin Boundary

Fort Smith ARKANSAS

Figure 6
MACP Score
Sub-Basin P008

City of Fort Smith, AR



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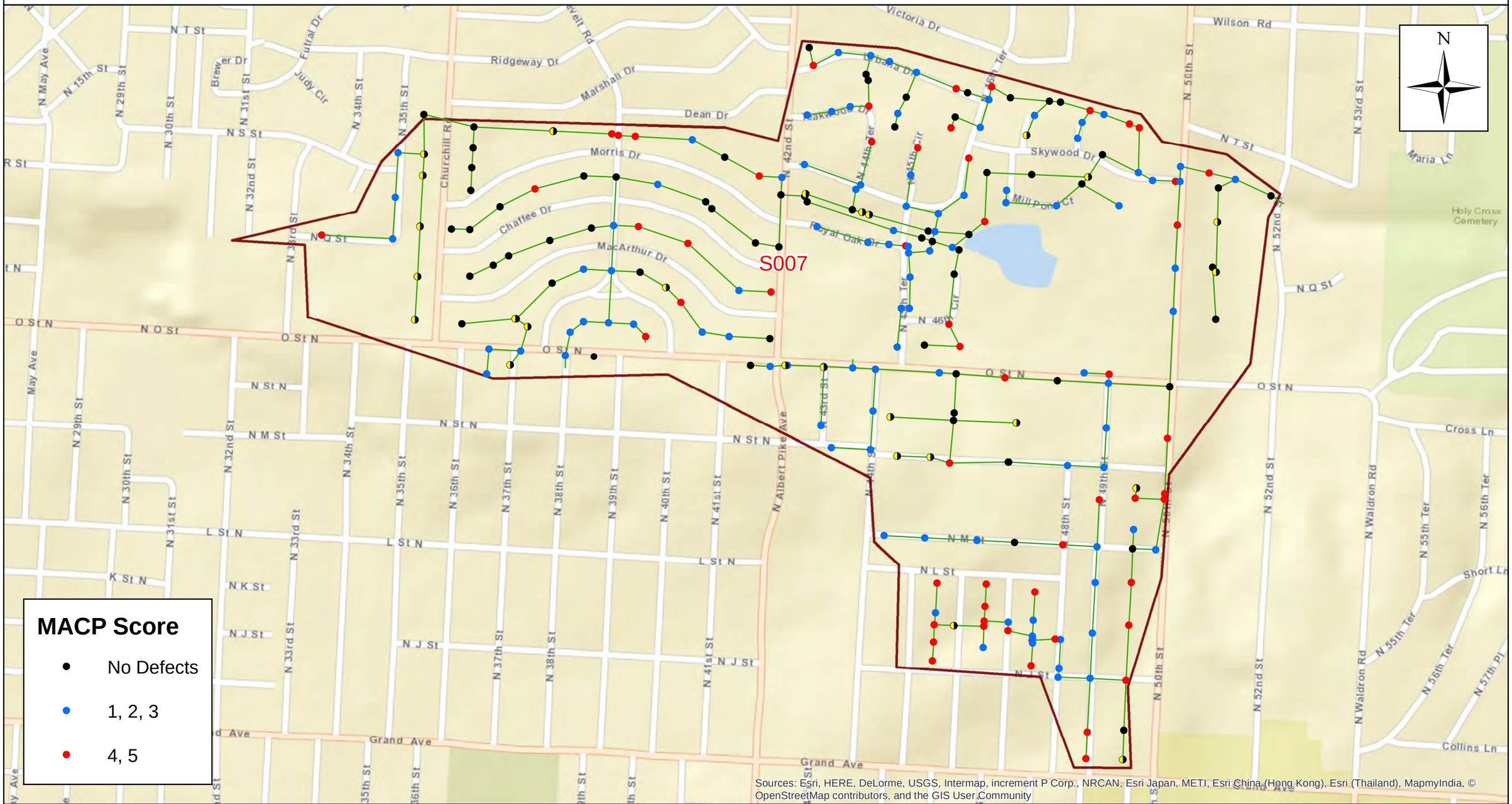
Not Inspected — Gravity Sewer Lines — Basin Boundary

Fort Smith ARKANSAS

Figure 7
MACP Score
Sub-Basin S006

City of Fort Smith, AR



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Not Inspected — Gravity Sewer Lines — Basin Boundary

Fort Smith ARKANSAS

Figure 8
MACP Score
Sub-Basin S007

City of Fort Smith, AR

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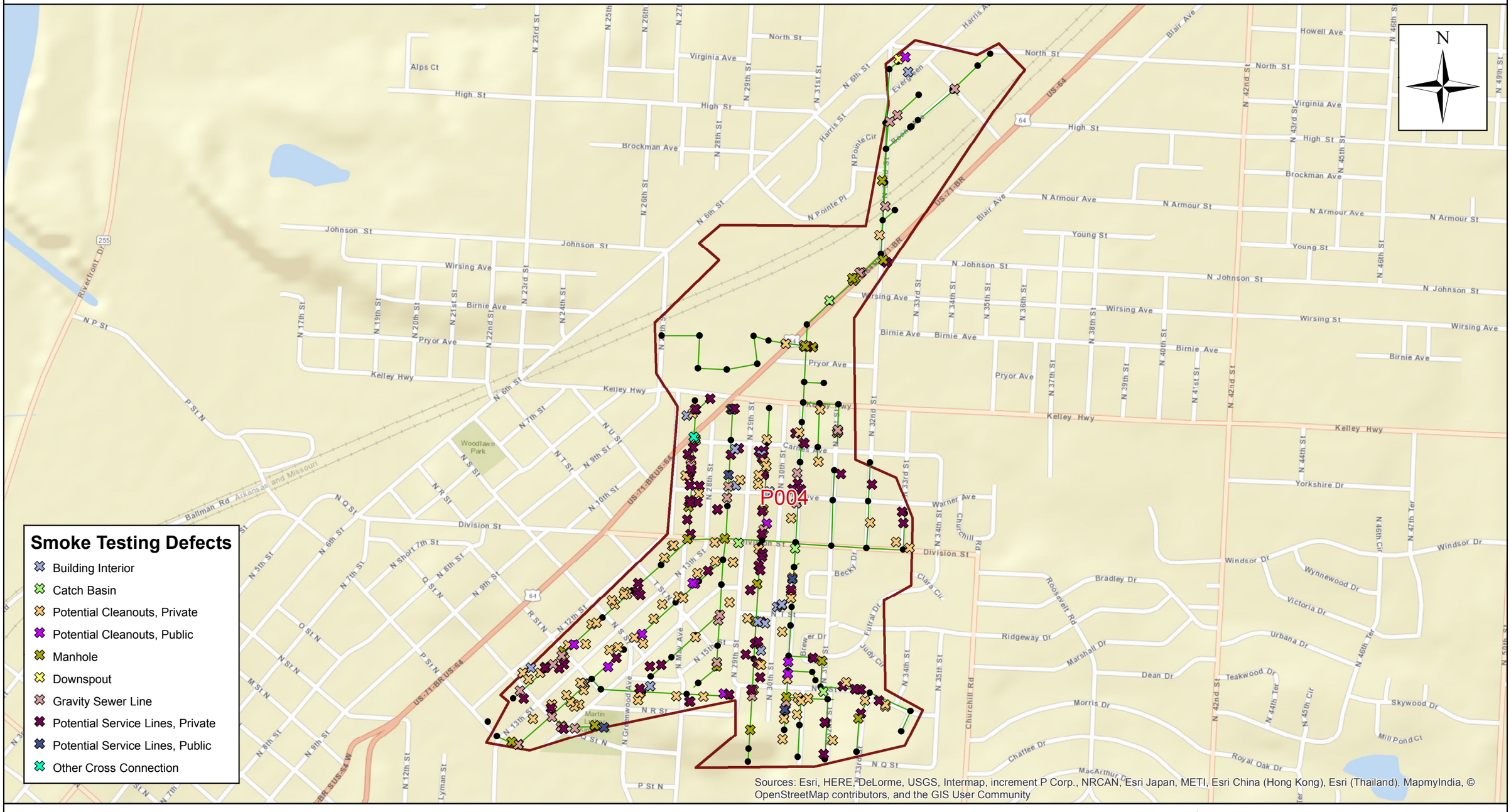
Manholes | Gravity Sewer Lines | Basin Boundary

Fort Smith ARKANSAS

Figure 9
Smoke Testing Defects
Sub-Basin P003

City of Fort Smith, AR



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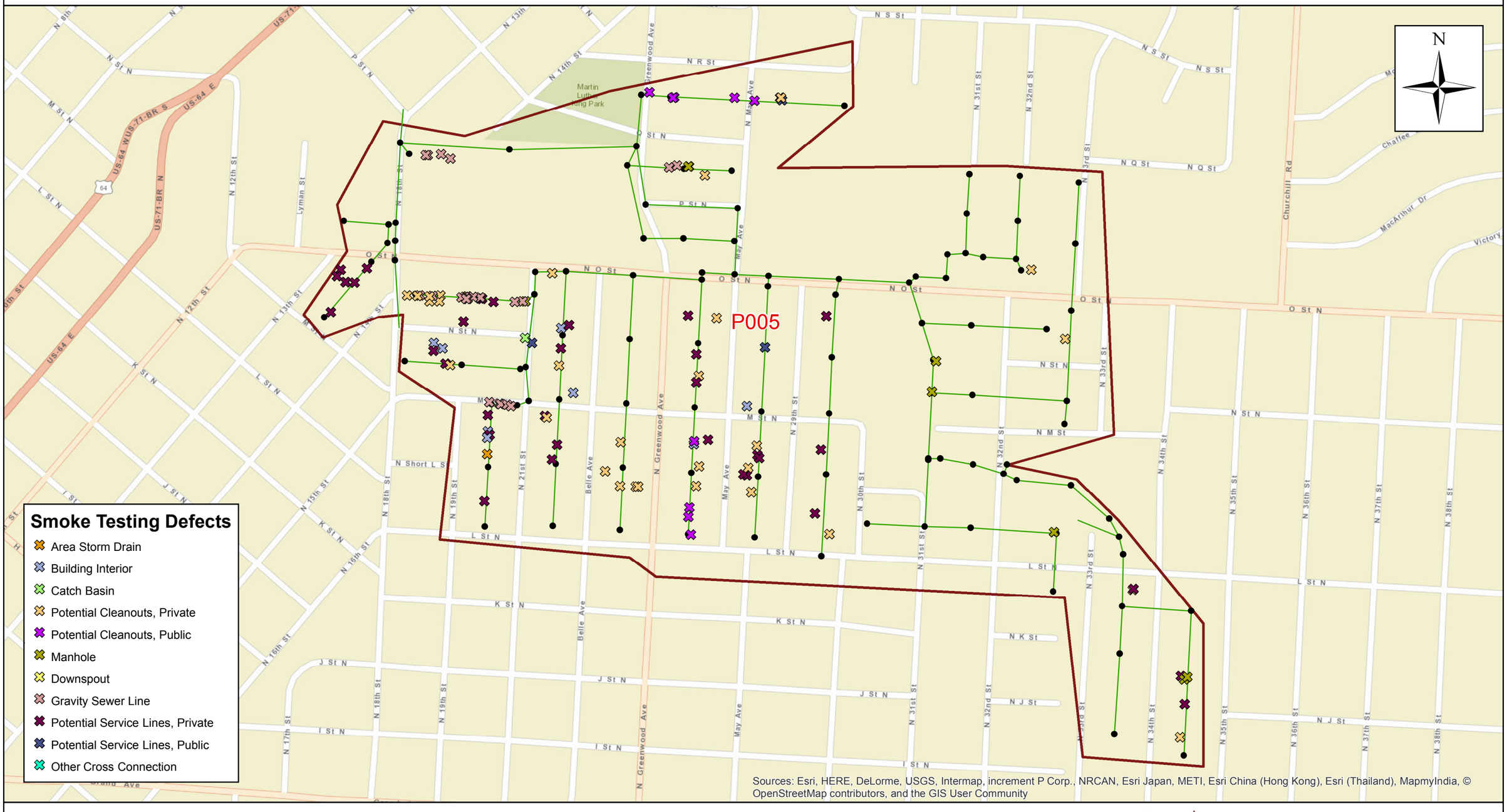
• Manholes — Gravity Sewer Lines ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 10
Smoke Testing Defects
Sub-Basin P004

City of Fort Smith, AR



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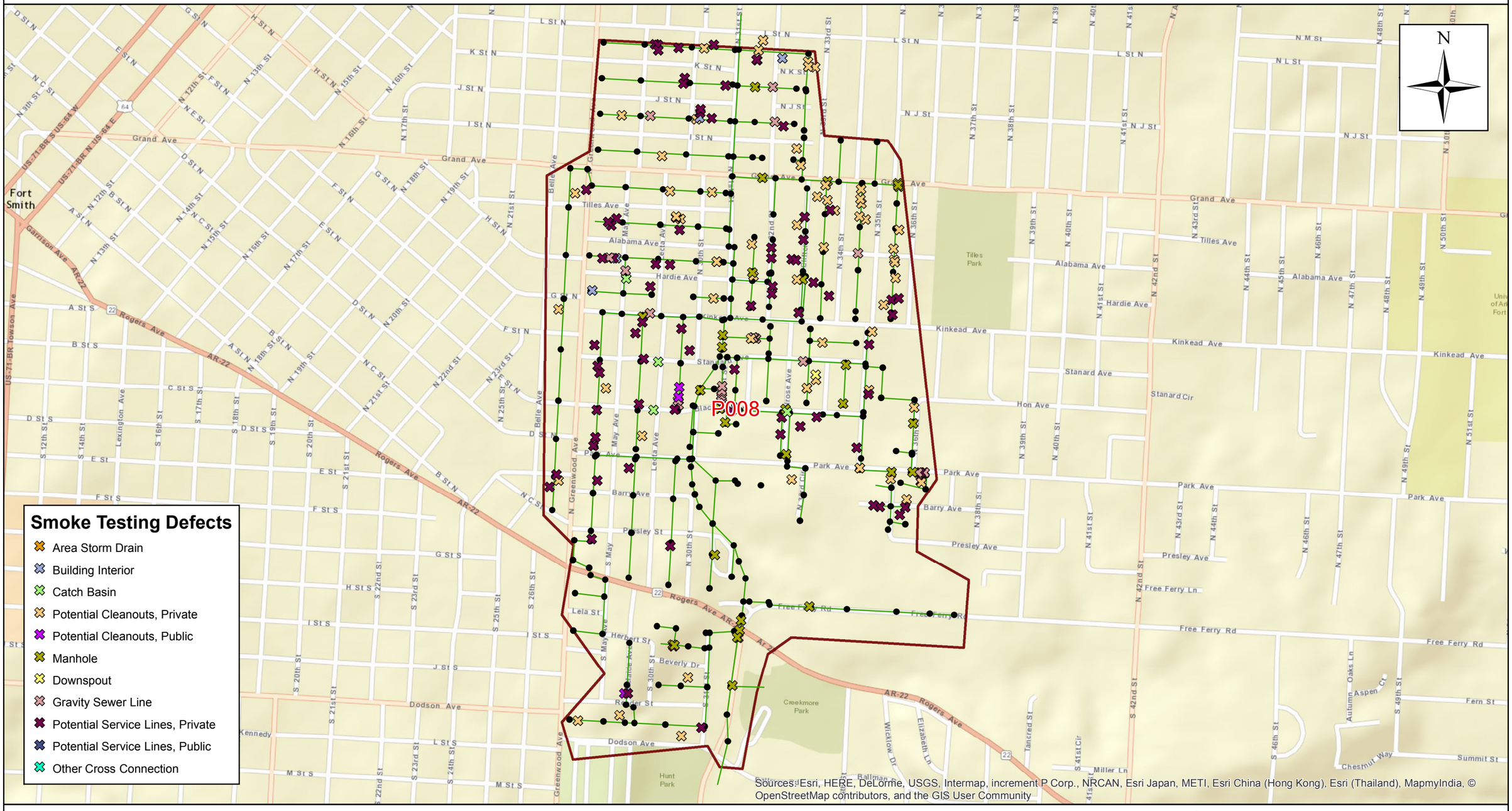
• Manholes — Gravity Sewer Lines ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 11
Smoke Testing Defects
Sub-Basin P005

City of Fort Smith, AR



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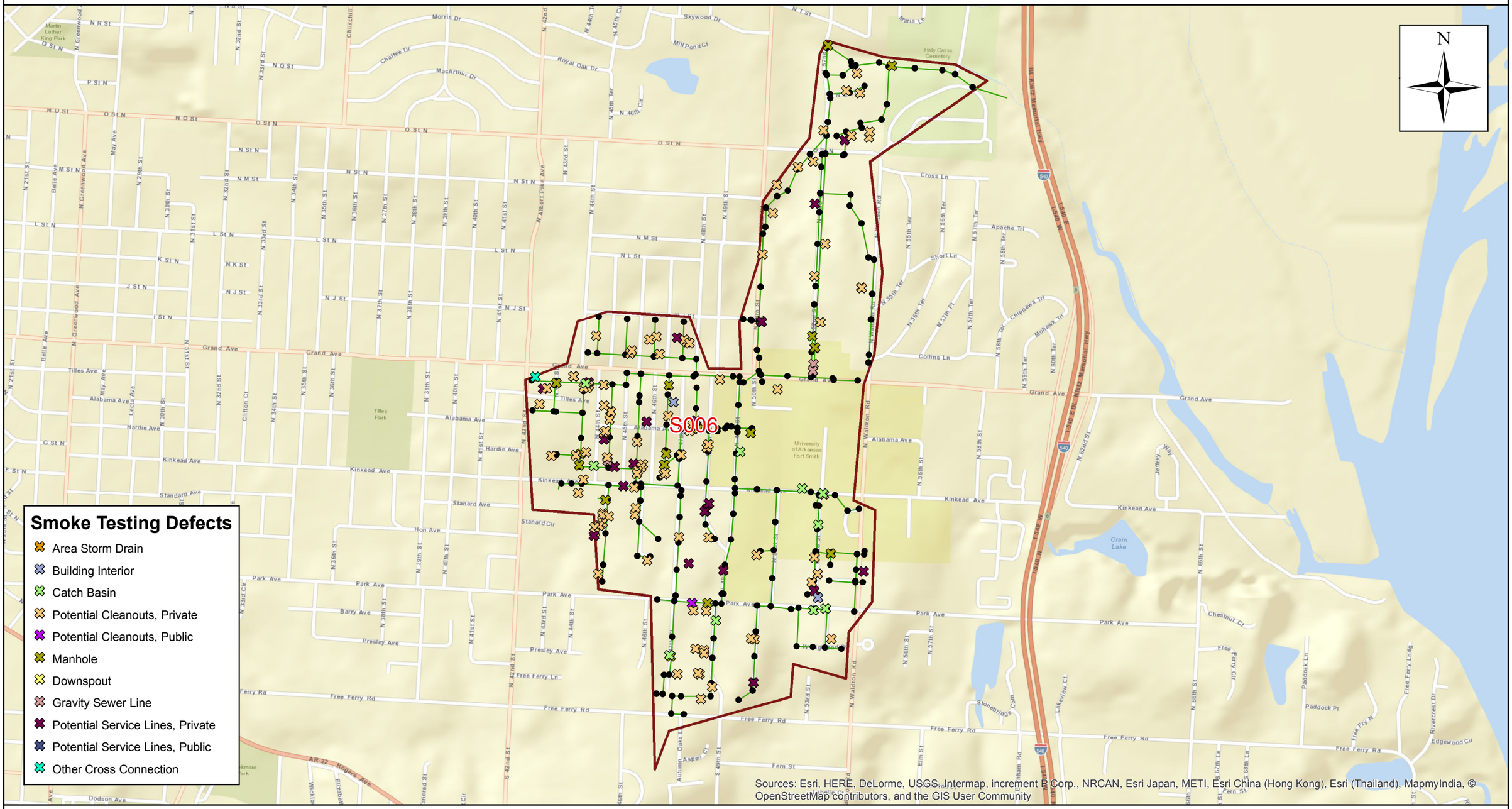
• Manholes — Gravity Sewer Lines ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 12
Smoke Testing Defects
Sub-Basin P008

City of Fort Smith, AR



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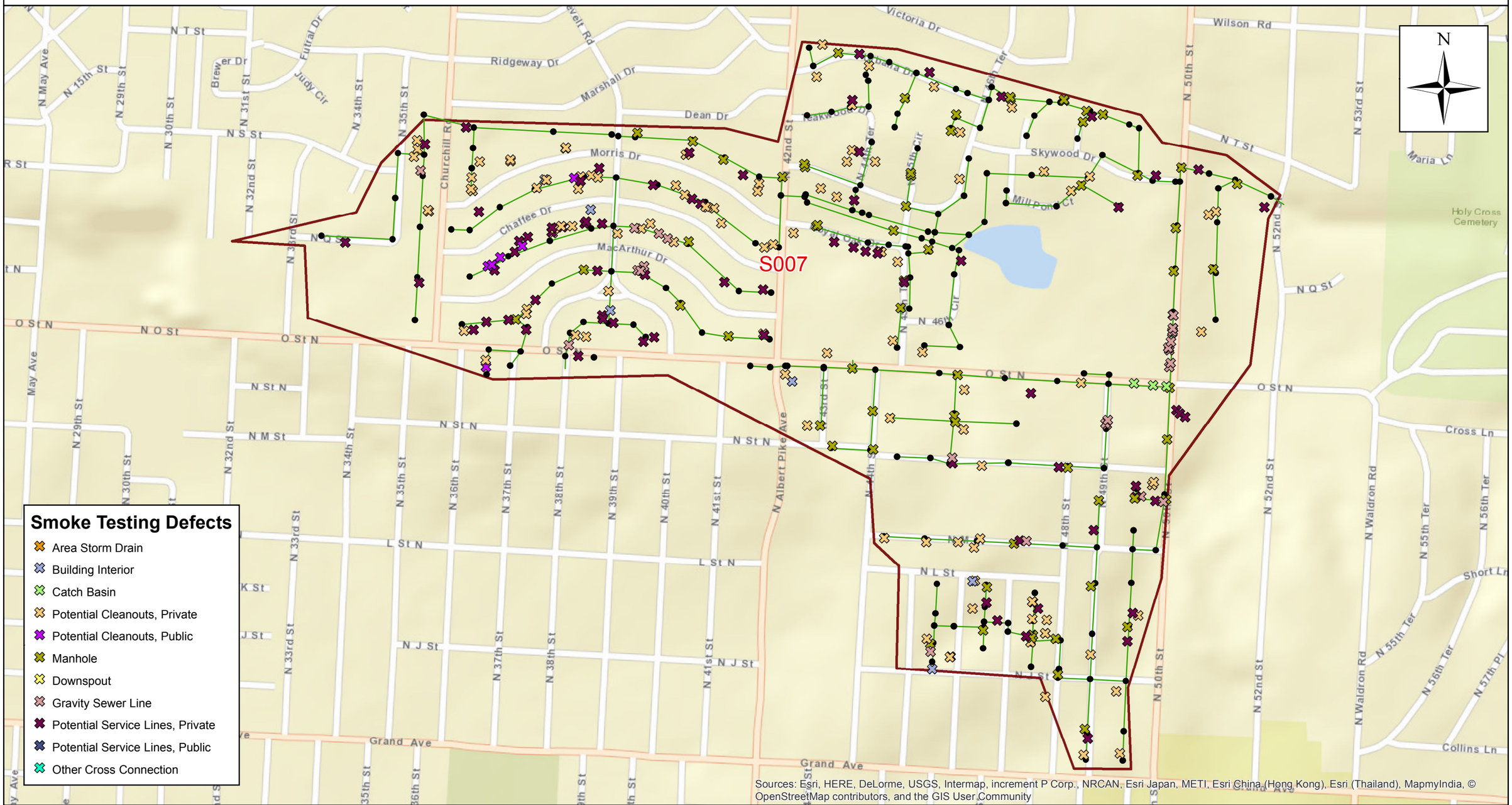
• Manholes — Gravity Sewer Lines ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 13
Smoke Testing Defects
Sub-Basin S006

City of Fort Smith, AR



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• Manholes — Gravity Sewer Lines ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 14
Smoke Testing Defects
Sub-Basin S007

CLEANING AND TELEVISING OF SANITARY SEWERS

A total of 326,316 linear feet of gravity sewer lines were cleaned. A portion of this total includes plastic lines installed after 1995 from the 2015 SSA. Table 8 outlines the footage cleaned in each sub-basin. All non-plastic sanitary lines, along with plastic lines installed prior to 1995 were televised. Within the six sub-basins studied in 2016, 269,132 linear feet (51miles) was cleaned. Of which 13,064 linear feet and 256,068 linear feet were large (≥ 24") and small diameter respectively. A total of 246,088 linear feet (46.6miles) was televised. Of the 246,088 linear feet televised, 10,748 linear feet and 235,340 linear feet were of large (≥ 24") and small diameter respectively. Figure 15 depicts all lines that were cleaned and televised and a detailed list is provided in Appendix E. NASSCO PACP defect grades were used to generate scores for all sewer lines. The peak defect grade was utilized to provide an overall score for each sewer line. Scores were on a scale of 1 to 5 with a score of 5 assigned to the sewer lines in the worst condition. A total of 146,293 linear feet from the 2016 SSA received a score of 4 or 5. The total linear footage of each sub-basin can be seen in Table 9. A list of the NASSCO PACP score for every sewer line is provided in Appendix F. Figures 16 to 21 show the distribution of scores for every sewer line.

Table 8
2016 SSA Cleaning

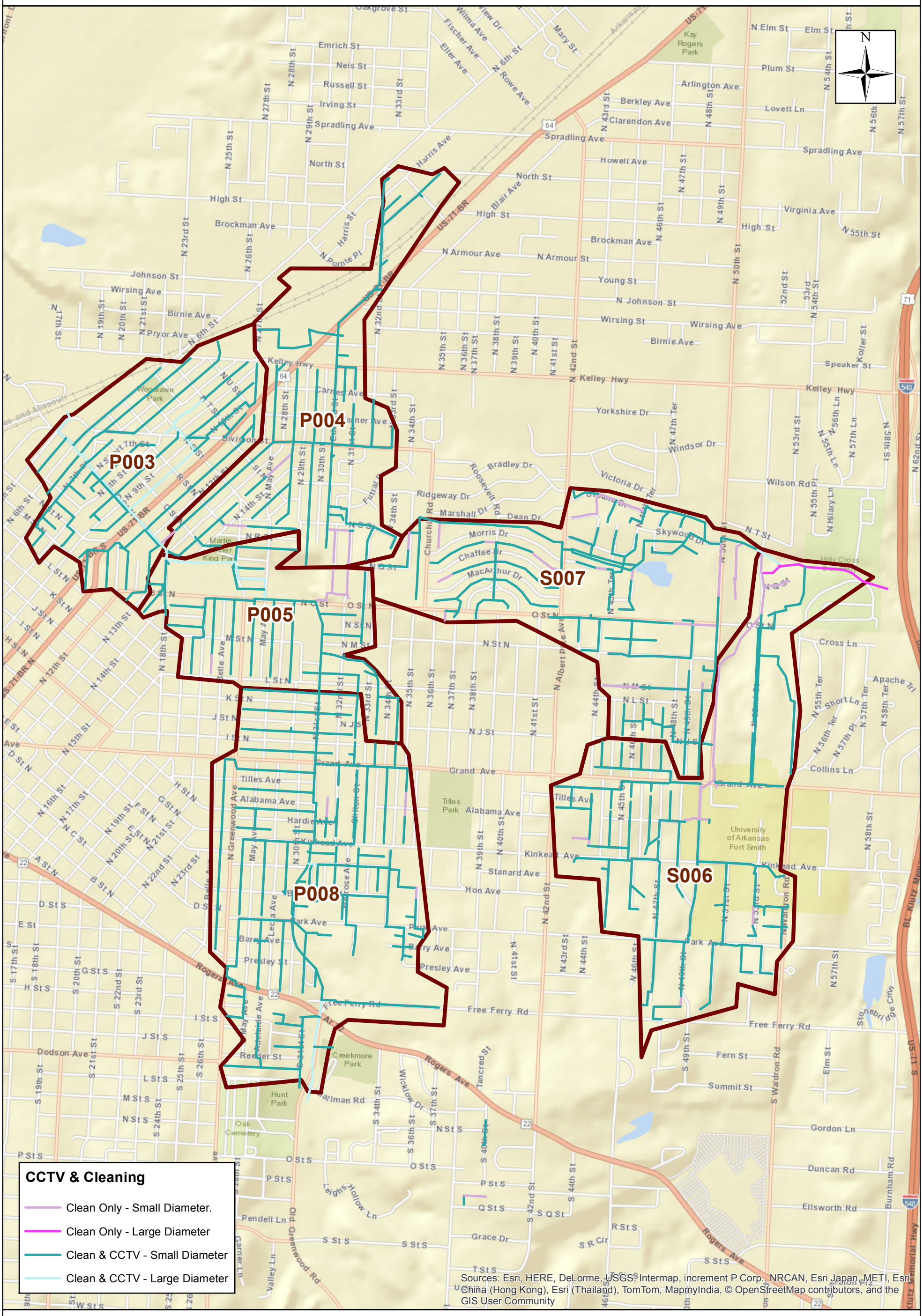
Sub-Basin	Footage
P003	36,783
P004	34,839
P005	28,000
P008	66,889
S006	52,174
S007	50,447
Total	**269,132**

Table 9

NASSCO PACP SCORE SUMMARY

Sub-Basin	No Defects	NASSCO Score (linear feet)					Total
		1	2	3	4	5	
P003	7,403	0	3,032	6,181	3,947	16,220	**36,783**
P004	3,206	984	3,029	6,010	6,488	12,668	**32,385**
P005	4,424	554	1,474	4,302	3,686	11,189	**25,629**
P008	7,941	652	5,044	9,266	8,103	34,951	**65,957**
S006	7,028	1,509	2,671	8,364	8,817	14,146	**42,535**
S007	3,613	745	3,877	8,486	7,345	18,733	**42,799**
Total	**33,615**	**4,444**	**19,127**	**42,609**	**38,386**	**107,907**	**246,088**

City of Fort Smith, AR



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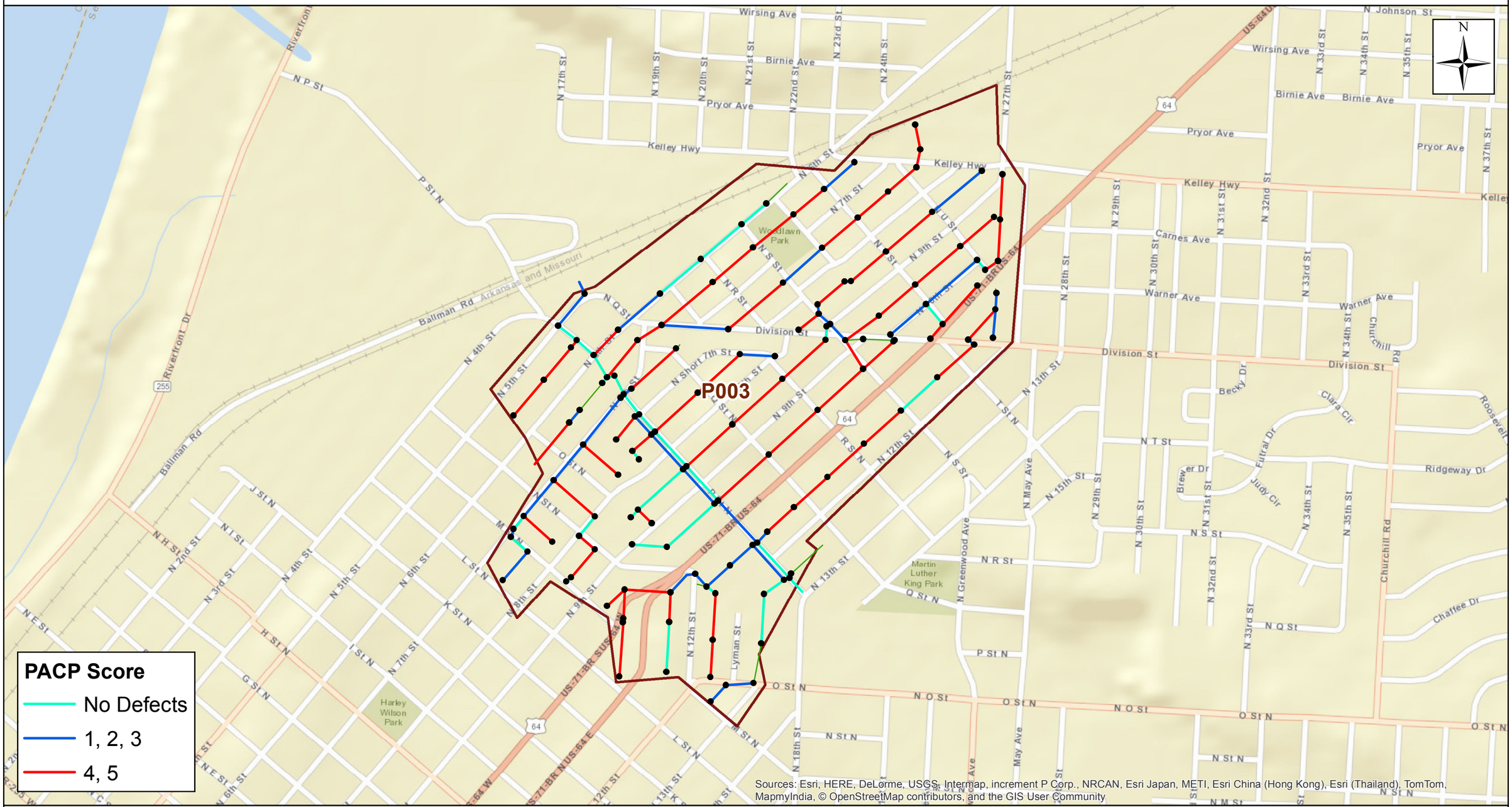
Fort Smith ARKANSAS

Figure 15
Sewer Lines Cleaned and Televised

City of Fort Smith, AR



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• Manholes — Plastic - Post 1995 ▭ Basin Boundary

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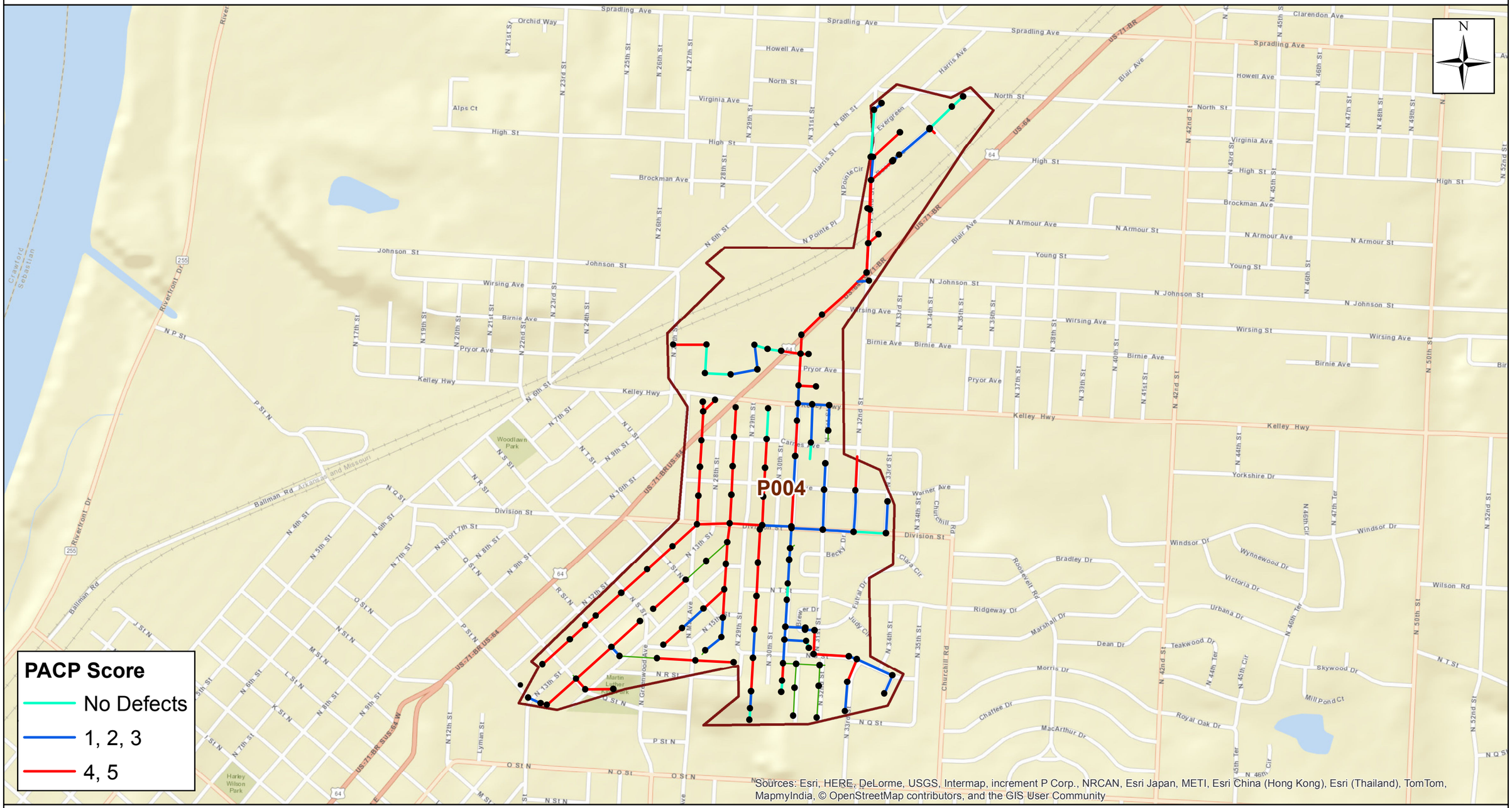
Figure 16
NASSCO Scores
Sub-Basin P003

City of Fort Smith, AR



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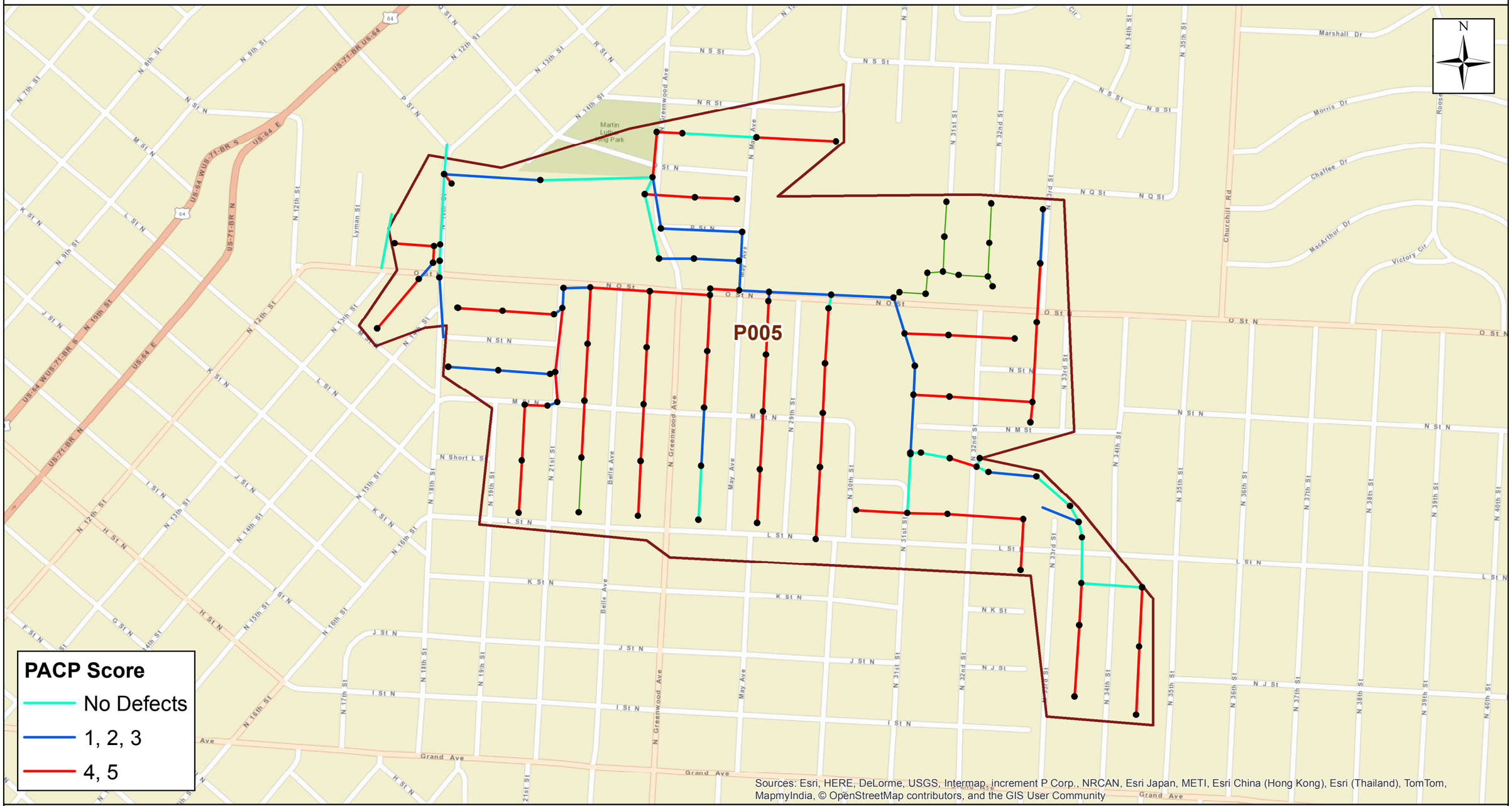
• Manholes — Plastic - Post 1995 ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 17
NASSCO Scores
Sub-Basin P004

City of Fort Smith, AR



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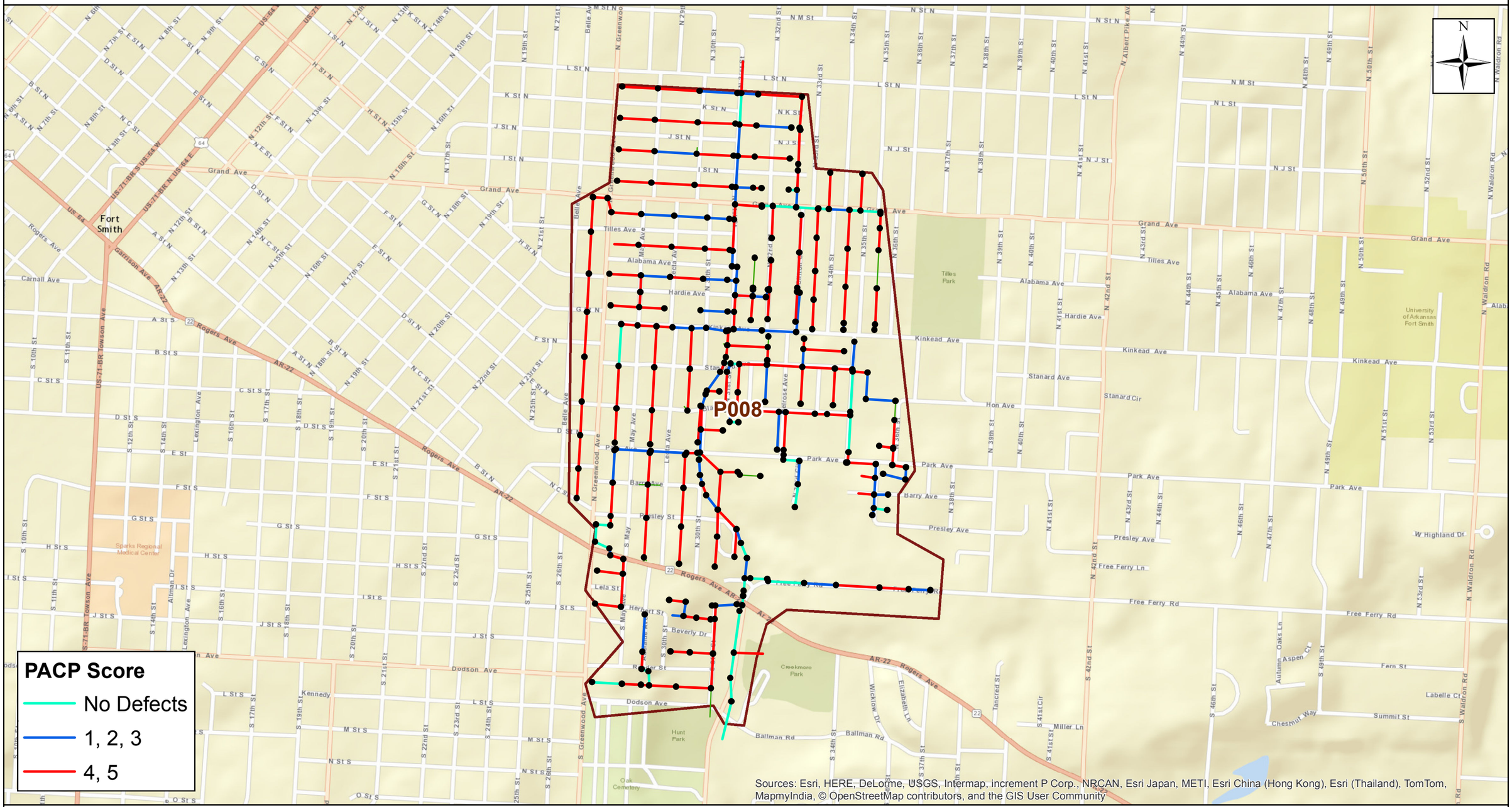
• Manholes — Plastic - Post 1995 ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 18
NASSCO Scores
Sub-Basin P005

City of Fort Smith, AR



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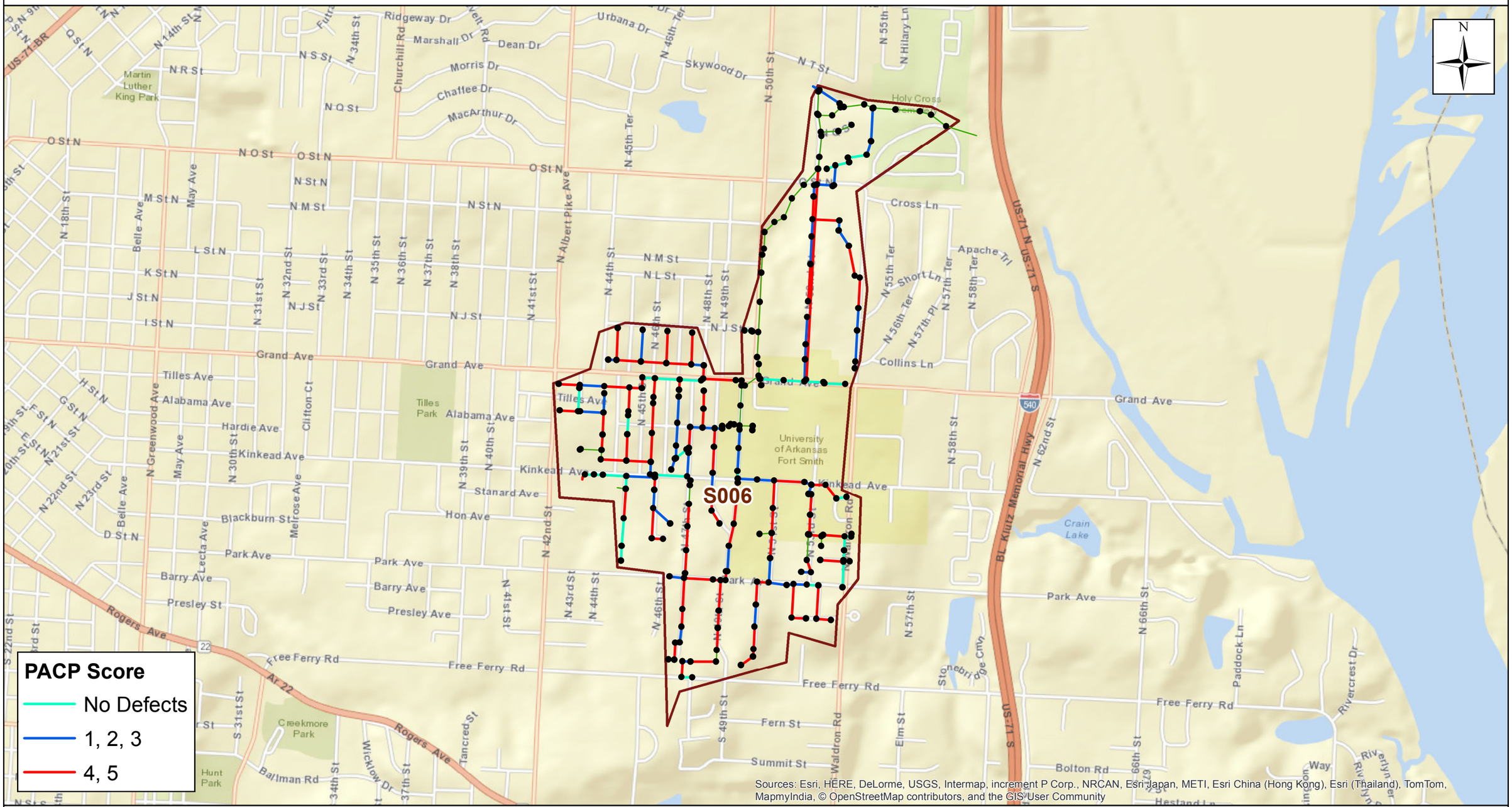
• Manholes — Plastic - Post 1995 ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 19
NASSCO Scores
Sub-Basin P008

City of Fort Smith, AR



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• Manholes — Plastic - Post 1995 ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 20
NASSCO Scores
Sub-Basin S006

City of Fort Smith, AR

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• Manholes — Plastic - Post 1995 ▭ Basin Boundary

Fort Smith ARKANSAS

Figure 21
NASSCO Scores
Sub-Basin S007

DYED WATER FLOODING

A total of 33 dye tests were performed within 11,807 linear feet of small diameter pipe within the six sub-basins. Defects dye tested consisted of potential gravity sewer lines and potential cross-connections with the storm water system. Potential gravity sewer line leaks on line segments that had a NASSCO score of 4 or 5 from the CCTV condition assessment were not tested. A breakdown of positive and negative tests per sub-basin can be found in Table 10. Several lines had multiple tests conducted at various locations. Table 11 contains the number of tests and not the number of line segments tested. Four dye tests could not be performed, two due to defective fire hydrants, one due to an odd shaped storm pipe that could not be plugged and the other could not be tested due to poor ground surface conditions required for dye water flooding. Dye test results did not identify any direct discharges of flow to or from the sanitary sewer system. The defects tested are identified as indirect sources. Results from dye testing are shown in Table 12.

Table 10

DYE TEST RESULTS SUMMARY

Sub-Basin	Positive[1/]	Negative[1/]	Could Not Test
P003	5	7	2
P004	10	1	0
P005	2	1	1
P008	2	0	0
S006	2	1	1
S007	1	1	0
Total	**22**	**11**	**4**

1/ 'Positive'= Dye observed at Downstream manhole, 'Negative' = No dye observed at Downstream manhole

Table 11

DYE TEST RESULTS SUMMARY

Type of Test	Positive[1/]	Negative[1/]	Could Not Test
Catch Basin	15	4	3
Gravity Sewer Line	7	7	0
Storm Manhole	0	0	1
Total	**22**	**11**	**4**

1/ 'Positive' = Dye observed at Downstream manhole, 'Negative' = No dye observed at Downstream manhole.

Table 12

DYE TEST RESULTS

Sub-Basin	Upstream Manhole Number	Downstream Manhole Number	Type of Test	Test Result
P003	P003-0110	P003-0100	Catch Basin	Negative
P003	P003-0380	P003-0370	Gravity Sewer Line	Positive
P003	P003-0400	P003-0390	Gravity Sewer Line	Negative
P003	P003-0405	P003-0400	Catch Basin	Negative
P003	P003-0420	P003-0390	Gravity Sewer Line	Negative
P003	P003-0430	P003-0420	Gravity Sewer Line	Positive
P003	P003-0790	P003-0750	Catch Basin	Unable to test[1/]
P003	P003-0930	P003-0920	Catch Basin	Unable to test[2/]
P003	P003-0950	P003-0940	Catch Basin	Negative
P003	P003-1040	P003-1030	Catch Basin	Negative
P003	P003-1040	P003-1040	Catch Basin	Positive
P003	P003-1130	P003-1120	Catch Basin	Positive
P003	P003-1140	P003-1130	Catch Basin	Positive
P003	P003-1140	P003-1130	Gravity Sewer Line	Negative
P003	P003-1180	P003-1170	Gravity Sewer Line	Negative
P004	P004-0185	P004-0180	Gravity Sewer Line	Negative
P004	P004-0260	P004-0250	Gravity Sewer Line	Positive
P004	P004-0270	P004-0260	Catch Basin	Positive
P004	P004-0450	P004-0440	Gravity Sewer Line	Positive
P004	P004-0470	P004-0300	Catch Basin	Positive
P004	P004-0570	P004-0560	Gravity Sewer Line	Positive
P004	P004-0710	P004-0590	Catch Basin	Positive
P004	P004-0870	P004-0860	Catch Basin	Positive
P004	P004-1060	P004-1040	Gravity Sewer Line	Positive
P004	P004-1110	P004-1100	Catch Basin	Positive
P004	P004-2200	P004-2190	Gravity Sewer Line	Positive
P005	P005-0010	P004-0010	Storm Manhole	Unable to test[1/]
P005	P005-0080	P005-0010	Gravity Sewer Line	Negative
P005	P005-0320	P005-0310	Catch Basin	Positive
P008	P008-1155	P008-1150	Catch Basin	Positive
P008	P008-1380	P008-1370	Catch Basin	Positive
S006	S006-1500	S006-1490	Catch Basin	Unable to test[3/]
S006	S006-1520	S006-1505	Catch Basin	Positive
S006	S006-1570	S006-1511	Catch Basin	Positive
S006	S006-1790	S006-1780	Catch Basin	Positive
S007	S007-0890	S007-0880	Gravity Sewer Line	Negative
S007	S007-1070	S007-1060	Catch Basin	Positive

1/ Unable to test due to defective fire hydrant

2/ Unable to test due to the lack of proper surface conditions required for dye water flooding

3/ Unable to plug storm line

NIGHT FLOW ISOLATIONS

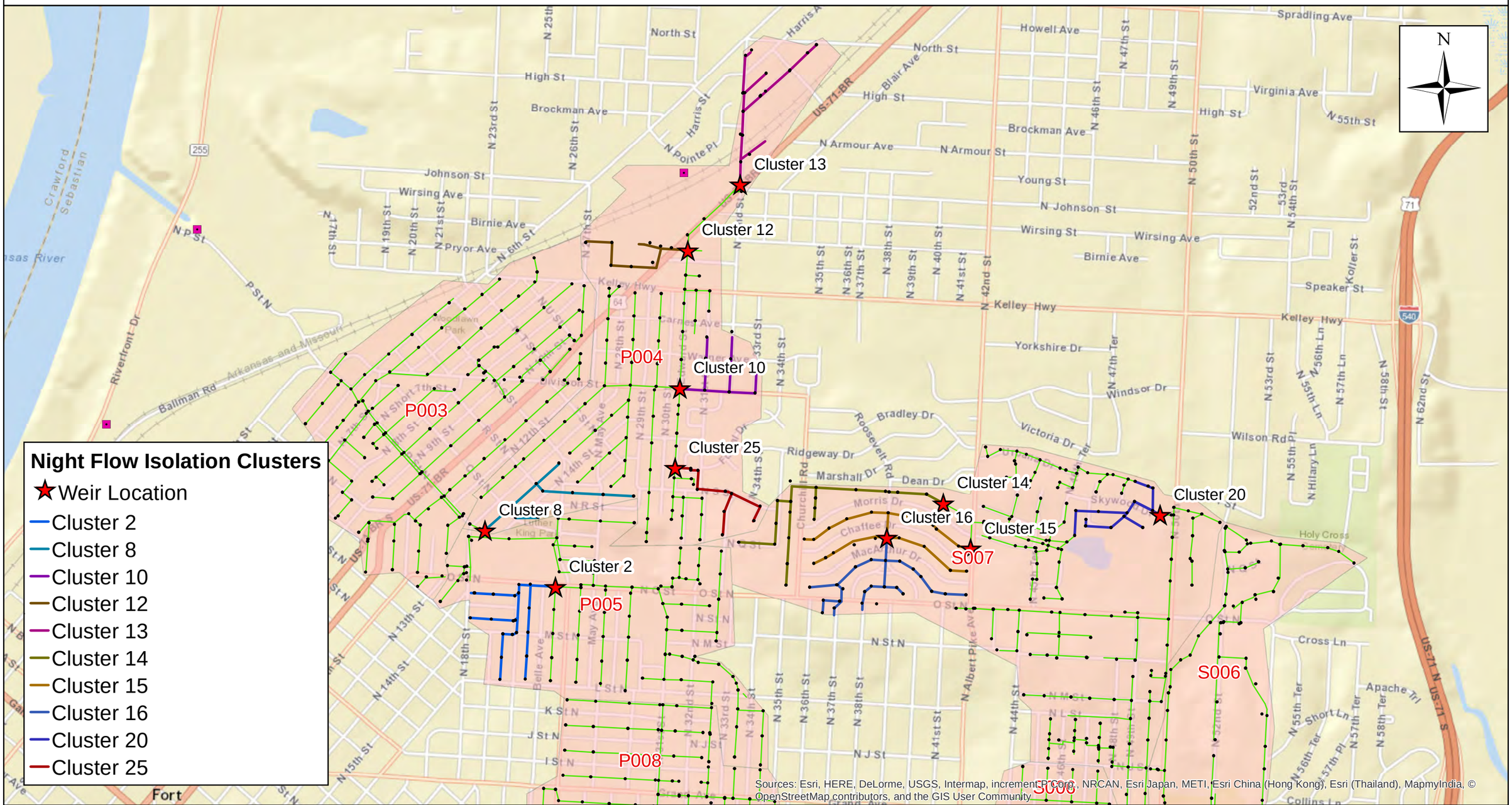
A total of ten (10) night flow isolations were performed within 37,347 linear feet of small diameter pipe in the six (6) sub-basins during 2016. Night flow isolations are commonly used to identify excessive peak infiltration that enters the sewer system. This is completed in areas where infiltration is determined to be greater than 5,000 gpd/idm. The flow monitoring indicated four of the six sub-basins exhibited excessive infiltration and these four sub-basins (P004, P005, S006 and S007) were tested. Flow measurements were taken between 12:00 am and 5:00 am, this is generally the period when the base flow is at its minimum and an assumed 90% of flow is infiltration. A total of 26 clusters were identified for night flow isolations within the six sub-basins. However, due to a dry summer and fall season not all clusters were able to be isolated. Measurements not conducted during the 2016 SSA will be conducted during the 2017 SSA. Several sub-basins had multiple tests conducted at various locations. Results from night flow isolations are shown in Table 13. Figure 22 shows the locations of each cluster.

Table 13

NIGHT FLOW ISOLATIONS SUMMARY

Weir Site			Weir		
Cluster	Manhole	Pipe Size (in)	Reading (gpd)	Scaled Length (lf)	Average (gpd/idm)
Cluster 02	P005-0200	10	16,280	4,409	2,373
Cluster 08	P004-0030	8	23,170	3,069	4,983
Cluster 10	P004-0590	8	5,473	2,747	1,555
Cluster 12	P004-1040A	8	13,460	2,493	3,561
Cluster 13	P004-1130	8	1,450	3,864	281
Cluster 14	S007-0680	8	15,730	5,318	1,959
Cluster 15	S007-0520	12	31,790	5,225	3,552
Cluster 16	S007-0780	8	37,550	4,650	5,795
Cluster 20	S007-0080	18	81,130	3,360	10,591
Cluster 25	P004-0820	8	9,243	2,212	3,682
Total				**37,347**	

City of Fort Smith, AR



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Manholes
Gravity Sewer Lines
Sewer Lift Stations
Study Basins

Fort Smith ARKANSAS

Figure 22
Night Flow Isolations
Fort Smith, AR

RESULTS SUMMARY

The sanitary sewer assessment conducted during the 2016 SSA included the study of 1,188 manholes, smoke testing 272,626 linear feet of sanitary sewer line, cleaning and televising 246,088 (46.6 miles) linear feet of sanitary sewer line, performing 33 dye tests in the study area and measuring eight (8) night flow isolation clusters. Table 14 summarizes the number of manholes and linear feet of sewer line that had a NASSCO grade 4 or 5 broken down by sub-basin.

Table 14
NASSCO SCORE 4 & 5 SUMMARY

Sub-Basin	Manholes	Sewer Lines (linear feet)
P003	45	20,167
P004	59	19,156
P005	49	14,875
P008	104	43,054
S006	65	22,078
S007	56	25,987
Total	**378**	**146,293**

APPENDICES

APPENDIX A

MANHOLE INSPECTION STATUS

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P003-0010	Level 2	Inspected	
P003-0020	Level 2	Inspected	
P003-0030	Level 2	Inspected	
P003-0040	Level 2	Inspected	
P003-0050	Level 2	Inspected	
P003-0060	Level 2	Not Found	
P003-0070	Level 2	Inspected	
P003-0080	Level 2	Inspected	
P003-0090	Level 2	Inspected	
P003-0100	Level 2	Inspected	
P003-0110	Level 2	Inspected	
P003-0120	Level 2	Inspected	
P003-0130	Level 2	Inspected	
P003-0140	Level 2	Inspected	
P003-0150	Level 2	Inspected	
P003-0150A	Level 2	Inspected	
P003-0160	Level 2	Inspected	
P003-0170	Level 2	Inspected	
P003-0180	Level 2	Inspected	
P003-0180A	Level 2	Inspected	
P003-0200	Level 2	Inspected	
P003-0210	Level 2	Inspected	
P003-0220	Level 2	Inspected	
P003-0230	Level 2	Not Found	
P003-0240	Level 2	Inspected	
P003-0250	Level 2	Not Opened	Seized
P003-0260	Level 2	Inspected	
P003-0270	Level 2	Surcharged/Debris	
P003-0280	Level 2	Buried or Marked	Under asphalt
P003-0282	Level 2	Inspected	
P003-0290	Level 2	Inspected	
P003-0295	Level 2	Not Found	Looked inside school yard, Howard Elementary School, could not find
P003-0300	Level 2	Inspected	
P003-0310	Level 2	Inspected	
P003-0320	Level 2	Inspected	
P003-0330	Level 2	Inspected	
P003-0340	Level 2	Inspected	
P003-0350	Level 2	No Access	Manhole located in fenced area, no access
P003-0360	Level 2	Not Found	
P003-0370	Level 2	Inspected	
P003-0380	Level 2	Not Found	Location of where map shows manhole to be has been used as a dump site for commercial materials
P003-0385	Level 2	Not Found	Location where map shows manhole to be has been used as a dump site for commercial materials
P003-0390	Level 2	Inspected	
P003-0400	Level 2	Inspected	
P003-0405	Level 2	Not Found	Too much metal in ground, cannot find
P003-0410	Level 2	Inspected	
P003-0420	Level 2	Inspected	
P003-0430	Level 2	Not Found	Possibly covered with fill dirt, cannot find

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P003-0440	Level 2	Not Found	Too much metal in concrete, cannot find
P003-0450	Level 2	Inspected	
P003-0460	Level 2	Inspected	
P003-0470	Level 2	Inspected	
P003-0480	Level 2	Inspected	
P003-0490	Level 2	Inspected	
P003-0500	Level 2	Inspected	
P003-0510	Level 2	Inspected	
P003-0520	Level 2	Inspected	
P003-0523	Level 2	Not Found	Manhole possibly does not exist
P003-0530	Level 2	Inspected	
P003-0540	Level 2	Inspected	
P003-0550	Level 2	Inspected	
P003-0560	Level 2	Inspected	
P003-0570	Level 2	Inspected	
P003-0580	Level 2	Inspected	
P003-0590	Level 2	Inspected	
P003-0600	Level 2	Inspected	
P003-0610	Level 2	Inspected	
P003-0620	Level 2	Inspected	
P003-0630	Level 2	Inspected	
P003-0640	Level 2	Inspected	
P003-0650	Level 2	Not Found	Could not locate with metal detector
P003-0660	Level 2	Inspected	
P003-0670	Level 2	Not Opened	Seized
P003-0680	Level 2	Not Found	Too much metal in area, could not locate
P003-0690	Level 2	Not Found	Recent dirt work in area, manhole possibly covered
P003-0700	Level 2	Inspected	
P003-0710	Level 2	Inspected	
P003-0720	Level 2	Not Found	Too much metal in the ground, cannot find
P003-0730	Level 2	Inspected	
P003-0740	Level 2	Inspected	
P003-0750	Level 2	Inspected	
P003-0760	Level 2	Inspected	
P003-0770	Level 2	Not Found	Too much metal in the ground, cannot find
P003-0780	Level 2	Not Found	Too much metal in area, cannot find
P003-0790	Level 2	Inspected	
P003-0800	Level 2	Inspected	
P003-0810	Level 2	Inspected	
P003-0820	Level 2	Not Found	Could not find
P003-0830	Level 2	Inspected	
P003-0840	Level 2	Inspected	
P003-0850	Level 2	Inspected	
P003-0860	Level 2	Inspected	
P003-0870	Level 2	Not Found	Unable to use metal detector, too much metal near concrete patio
P003-0880	Level 2	Inspected	
P003-0890	Level 2	Inspected	
P003-0900	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P003-0910	Level 2	Inspected	
P003-0920	Level 2	Inspected	
P003-0930	Level 2	Inspected	
P003-0940	Level 2	Inspected	
P003-0950	Level 2	Inspected	
P003-0960	Level 2	Not Found	
P003-0970	Level 2	Inspected	
P003-0980	Level 2	Inspected	
P003-0990	Level 2	Inspected	
P003-1000	Level 2	Inspected	
P003-1010	Level 2	Inspected	
P003-1020	Level 2	Inspected	
P003-1020A	Level 2	Inspected	
P003-1020B	Level 2	Not Opened	Cover is seized to frame, frame is loose but cannot be removed from asphalt
P003-1030	Level 2	Inspected	
P003-1040	Level 2	Inspected	
P003-1050	Level 2	Inspected	
P003-1060	Level 2	Inspected	
P003-1070	Level 2	Not Found	Used metal detector and probing rod, could not find
P003-1080	Level 2	Inspected	
P003-1085	Level 2	Inspected	
P003-1090	Level 2	Inspected	
P003-1100	Level 2	Inspected	
P003-1110	Level 2	Inspected	
P003-1120	Level 2	Inspected	
P003-1130	Level 2	Inspected	
P003-1140	Level 2	Inspected	
P003-1150	Level 2	Inspected	
P003-1160	Level 2	No Access	
P003-1170	Level 2	No Access	
P003-1180	Level 2	Inspected	
P003-1190	Level 2	Inspected	
P003-1200	Level 2	Inspected	
P003-1210	Level 2	Inspected	
P003-1220	Level 2	Inspected	
P003-1230	Level 2	No Access	Manhole located on old industrial property, locked gate
P003-1240	Level 2	No Access	Manhole located on old industrial property, locked gate, Merit Steel, nearest address
P003-1250	Level 2	Inspected	
P003-1260	Level 2	Inspected	
P003-1270	Level 2	Inspected	
P003-1280	Level 2	Inspected	
P003-1290	Level 2	Inspected	
P004-0010	Level 2	Inspected	
P004-0020	Level 2	Inspected	
P004-0030	Level 2	Inspected	
P004-0040	Level 2	Inspected	
P004-0050	Level 2	Inspected	
P004-0060	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P004-0100	Level 2	Inspected	
P004-0105	Level 2	Not Found	
P004-0110	Level 2	Inspected	
P004-0120	Level 2	Inspected	
P004-0130	Level 2	Inspected	
P004-0140	Level 2	Not Found	
P004-0150	Level 2	Inspected	
P004-0160	Level 2	Not Opened	
P004-0170	Level 2	Inspected	
P004-0180	Level 2	Inspected	
P004-0185	Level 2	Inspected	
P004-0190	Level 2	Not Found	Too much metal in the area, cannot find
P004-0200	Level 2	Inspected	
P004-0210	Level 2	Inspected	
P004-0220	Level 2	Inspected	
P004-0230	Level 2	Inspected	
P004-0240	Level 2	Inspected	
P004-0250	Level 2	Inspected	
P004-0260	Level 2	Inspected	
P004-0270	Level 2	Inspected	
P004-0280	Level 2	Inspected	
P004-0290	Level 2	Inspected	
P004-0300	Level 2	Inspected	
P004-0310	Level 2	Inspected	
P004-0320	Level 2	Inspected	
P004-0330	Level 2	Inspected	
P004-0340	Level 2	Inspected	
P004-0350	Level 2	Inspected	
P004-0360	Level 2	Inspected	
P004-0370	Level 2	Inspected	
P004-0380	Level 2	Not Found	Too much metal in concrete, cannot find
P004-0390	Level 2	Inspected	
P004-0400	Level 2	Inspected	
P004-0410	Level 2	Inspected	
P004-0420	Level 2	Surcharged/Debris	
P004-0430	Level 2	Inspected	
P004-0440	Level 2	Inspected	
P004-0450	Level 2	Inspected	
P004-0460	Level 2	Inspected	
P004-0470	Level 2	Inspected	
P004-0480	Level 2	Inspected	
P004-0490	Level 2	Inspected	
P004-0500	Level 2	Inspected	
P004-0510	Level 2	Surcharged/Debris	
P004-0520	Level 2	Inspected	
P004-0530	Level 2	Inspected	
P004-0540	Level 2	Inspected	
P004-0550	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P004-0560	Level 2	Inspected	
P004-0570	Level 2	Inspected	
P004-0575	Level 2	Not Found	
P004-0580	Level 2	Not Found	
P004-0590	Level 2	Inspected	
P004-0600	Level 2	Inspected	
P004-0610	Level 2	Inspected	
P004-0620	Level 2	Inspected	
P004-0630	Level 2	Inspected	
P004-0640	Level 2	Inspected	
P004-0645	Level 2	Not Found	Possibly does not exist
P004-0660	Level 2	Inspected	
P004-0665	Level 2	Inspected	
P004-0670	Level 2	Inspected	
P004-0680	Level 2	Inspected	
P004-0710	Level 2	Inspected	
P004-0760	Level 2	Inspected	
P004-0770	Level 2	Inspected	
P004-0800	Level 2	Inspected	
P004-0820	Level 2	Inspected	
P004-0825	Level 2	Inspected	
P004-0830	Level 2	Inspected	
P004-0850	Level 2	Inspected	
P004-0860	Level 2	Inspected	
P004-0870	Level 2	Inspected	
P004-0880	Level 2	Inspected	
P004-0890	Level 2	No Access	Need 40% of bush removed before manhole can be inspected
P004-0900	Level 2	Inspected	
P004-0910	Level 2	Inspected	
P004-0920	Level 2	Inspected	
P004-0930	Level 2	Inspected	
P004-0940	Level 2	Inspected	
P004-0950	Level 2	Not Found	
P004-0970	Level 2	Inspected	
P004-0975	Level 2	Inspected	
P004-0980	Level 2	Inspected	
P004-0990	Level 2	Inspected	
P004-1000	Level 2	Inspected	
P004-1010	Level 2	Inspected	
P004-1015	Level 2	No Access	
P004-1020	Level 2	Inspected	
P004-1030	Level 2	Not Found	Cannot find
P004-1040	Level 2	Inspected	
P004-1050	Level 2	Inspected	
P004-1060	Level 2	Inspected	
P004-1066	Level 2	Inspected	
P004-1070	Level 2	Surcharged/Debris	
P004-1080	Level 2	Not Found	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P004-1090	Level 2	Inspected	
P004-1100	Level 2	Inspected	
P004-1110	Level 2	Inspected	
P004-1120	Level 2	Inspected	
P004-1125	Level 2	Inspected	
P004-1130	Level 2	No Access	
P004-1140	Level 2	Inspected	
P004-1145	Level 2	Not Found	
P004-1150	Level 2	Inspected	
P004-1150A	Level 2	Inspected	
P004-1160	Level 2	Inspected	
P004-1160A	Level 2	Not Found	Unable to locate
P004-1160B	Level 2	Not Found	Unable to locate
P004-1170	Level 2	Inspected	
P004-1172	Level 2	Inspected	
P004-1180	Level 2	Inspected	
P004-1190	Level 2	Inspected	
P004-1200	Level 2	Inspected	
P004-1210	Level 2	Not Found	
P004-1210A	Level 2	Inspected	
P004-1220	Level 2	Not Found	
P004-2080	Level 2	Inspected	
P004-2090	Level 2	Not Found	
P004-2100	Level 2	Not Found	
P004-2110	Level 2	Inspected	
P004-2120	Level 2	Inspected	
P004-2130	Level 2	Inspected	
P004-2140	Level 2	Buried or Marked	Buried in front yard
P004-2150	Level 2	Inspected	
P004-2160	Level 2	Inspected	
P004-2170	Level 2	No Access	
P004-2180	Level 2	Inspected	
P004-2190	Level 2	No Access	
P004-2200	Level 2	Inspected	
P004-2210	Level 2	Inspected	
P004-2220	Level 2	Inspected	
P005-0010	Level 2	Inspected	
P005-0020	Level 2	Inspected	
P005-0050	Level 2	Inspected	
P005-0060	Level 2	Inspected	
P005-0070	Level 2	Not Found	Cannot find
P005-0080	Level 2	Inspected	
P005-0090	Level 2	Inspected	
P005-0100	Level 2	Inspected	
P005-0110	Level 2	Inspected	
P005-0120	Level 2	Inspected	
P005-0140	Level 2	Inspected	
P005-0150	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P005-0160	Level 2	Inspected	
P005-0170	Level 2	Inspected	
P005-0180	Level 2	Inspected	
P005-0190	Level 2	Inspected	
P005-0200	Level 2	Inspected	
P005-0210	Level 2	Inspected	
P005-0220	Level 2	Inspected	
P005-0230	Level 2	Inspected	
P005-0240	Level 2	Inspected	
P005-0250	Level 2	Inspected	
P005-0260	Level 2	Inspected	
P005-0270	Level 2	Inspected	
P005-0280	Level 2	Inspected	
P005-0290	Level 2	Inspected	
P005-0300	Level 2	Inspected	
P005-0310	Level 2	Inspected	
P005-0320	Level 2	Inspected	
P005-0330	Level 2	Inspected	
P005-0330A	Level 2	Inspected	
P005-0340	Level 2	Inspected	
P005-0350	Level 2	Inspected	
P005-0360	Level 2	Inspected	
P005-0370	Level 2	Inspected	
P005-0380	Level 2	Inspected	
P005-0390	Level 2	Inspected	
P005-0400	Level 2	Inspected	
P005-0410	Level 2	Inspected	
P005-0420	Level 2	Inspected	
P005-0430	Level 2	Buried or Marked	Under asphalt
P005-0440	Level 2	Inspected	
P005-0450	Level 2	Inspected	
P005-0460	Level 2	Inspected	
P005-0470	Level 2	Inspected	
P005-0480	Level 2	Inspected	
P005-0490	Level 2	Inspected	
P005-0500	Level 2	Inspected	
P005-0510	Level 2	Inspected	
P005-0520	Level 2	Not Found	Could not find with detector
P005-0530	Level 2	Inspected	
P005-0540	Level 2	Inspected	
P005-0550	Level 2	Not Found	Could not find with detector
P005-0560	Level 2	Inspected	
P005-0570	Level 2	Inspected	
P005-0580	Level 2	Inspected	
P005-0590	Level 2	Not Found	
P005-0600	Level 2	Inspected	
P005-0610	Level 2	Inspected	
P005-0617	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P005-0620	Level 2	Inspected	
P005-0630	Level 2	Inspected	
P005-0640	Level 2	Buried or Marked	Buried in alley, dug 6 inches, too deep to unearth
P005-0650	Level 2	Inspected	
P005-0660	Level 2	Inspected	
P005-0670	Level 2	Inspected	
P005-0680	Level 2	Inspected	
P005-0690	Level 2	Inspected	
P005-0700	Level 2	Not Found	Could not find, too much metal in area
P005-0710	Level 2	Inspected	
P005-0720	Level 2	Inspected	
P005-0730	Level 2	Inspected	
P005-0760	Level 2	Inspected	
P005-0770	Level 2	No Access	Had to dig up manhole, dug 6 inches, found what appears to be a concrete slab on top of the manhole
P005-0775	Level 2	Not Found	Cannot find
P005-0780	Level 2	Inspected	
P005-0790	Level 2	Not Found	Cannot find
P005-0795	Level 2	Inspected	
P005-0800	Level 2	Inspected	
P005-0805	Level 2	Inspected	
P005-0820	Level 2	Inspected	
P005-0830	Level 2	Inspected	
P005-3000	Level 2	Inspected	
P005-3010	Level 2	Inspected	
P005-3020	Level 2	Inspected	
P005-3030	Level 2	Inspected	
P005-3040	Level 2	Inspected	
P005-3050	Level 2	Inspected	
P005-3060	Level 2	Inspected	
P005-3070	Level 2	Inspected	
P005-3080	Level 2	Inspected	
P005-3090	Level 2	Inspected	
P005-3100	Level 2	Inspected	
P005-3110	Level 2	Inspected	
P005-3120	Level 2	No Access	Manhole located in drainage canal, no gates to gain accessGps point placed northeast of manhole approximately 40 feet
P005-3130	Level 2	Inspected	
P005-3140	Level 2	Inspected	
P005-3340	Level 2	Inspected	
P005-3350	Level 2	Inspected	
P005-3360	Level 2	Inspected	
P005-3370	Level 2	Inspected	
P005-3380	Level 2	Inspected	
P005-3390	Level 2	Inspected	
P005-3400	Level 2	Inspected	
P005-3410	Level 2	Inspected	
P005-3420	Level 2	Inspected	
P005-3430	Level 2	Inspected	
P005-3440	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P005-3450	Level 2	Inspected	
P005-3460	Level 2	Buried or Marked	Buried in front yard, new construction
P005-3470	Level 2	Inspected	
P005-3480	Level 2	Inspected	
P005-3490	Level 2	Inspected	
P008-0010	Level 2	Inspected	
P008-0020	Level 2	Inspected	
P008-0030	Level 2	Inspected	
P008-0040	Level 2	Inspected	
P008-0050	Level 2	Inspected	
P008-0060	Level 2	Inspected	
P008-0070	Level 2	Inspected	
P008-0080	Level 2	Inspected	
P008-0090	Level 2	Inspected	
P008-0100	Level 2	Inspected	
P008-0110	Level 2	Inspected	
P008-0115	Level 2	Inspected	
P008-0120	Level 2	No Access	
P008-0130	Level 2	No Access	Manhole possibly does not exist, address is approximate
P008-0140	Level 2	No Access	
P008-0144	Level 2	No Access	
P008-0145	Level 2	No Access	
P008-0150	Level 2	Not Found	Unable to locate, possibly buried under concrete parking lot, too much metal in concrete to find manhole, wheel footage
P008-0160	Level 2	No Access	
P008-0210	Level 2	No Access	
P008-0213	Level 2	No Access	
P008-0220	Level 2	Inspected	
P008-0230	Level 2	Inspected	
P008-0240	Level 2	Inspected	
P008-0250	Level 2	Not Found	Cannot find
P008-0260	Level 2	No Access	
P008-0270	Level 2	Inspected	
P008-0280	Level 2	No Access	
P008-0290	Level 2	Inspected	
P008-0300	Level 2	Inspected	
P008-0310	Level 2	Not Opened	Cover is seized to frame, frame is loose but cannot be removed from asphalt
P008-0315	Level 2	Not Found	Cannot find
P008-0320	Level 2	No Access	
P008-0330	Level 2	Inspected	
P008-0340	Level 2	No Access	
P008-0343	Level 2	Inspected	
P008-0350	Level 2	Inspected	
P008-0360	Level 2	Inspected	
P008-0370	Level 2	Inspected	
P008-0380	Level 2	Inspected	
P008-0385	Level 2	Not Found	Cannot find
P008-0390	Level 2	Inspected	
P008-0400	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P008-0410	Level 2	Inspected	
P008-0420	Level 2	Inspected	
P008-0430	Level 2	Inspected	
P008-0440	Level 2	Inspected	
P008-0450	Level 2	Inspected	
P008-0460	Level 2	Inspected	
P008-0470	Level 2	Inspected	
P008-0480	Level 2	Inspected	
P008-0490	Level 2	Inspected	
P008-0500	Level 2	Inspected	
P008-0510	Level 2	Inspected	
P008-0520	Level 2	Inspected	
P008-0530	Level 2	Inspected	
P008-0540	Level 2	Inspected	
P008-0543	Level 2	Buried or Marked	Buried
P008-0550	Level 2	Inspected	
P008-0560	Level 2	Buried or Marked	Buried under loose and solid asphalt
P008-0570	Level 2	Inspected	
P008-0580	Level 2	Inspected	
P008-0590	Level 2	Inspected	
P008-0600	Level 2	Inspected	
P008-0610	Level 2	Inspected	
P008-0620	Level 2	Inspected	
P008-0630	Level 2	Inspected	
P008-0640	Level 2	Inspected	
P008-0650	Level 2	No Access	
P008-0660	Level 2	No Access	
P008-0670	Level 2	Inspected	
P008-0680	Level 2	Inspected	
P008-0690	Level 2	Inspected	
P008-0700	Level 2	Buried or Marked	Dug down 4 inches and through rock and fill dirt, did not uncover
P008-0710	Level 2	Inspected	
P008-0720	Level 2	Inspected	
P008-0730	Level 2	Inspected	
P008-0740	Level 2	Inspected	
P008-0750	Level 2	Inspected	
P008-0760	Level 2	Inspected	
P008-0770	Level 2	Inspected	
P008-0780	Level 2	Inspected	
P008-0790	Level 2	Inspected	
P008-0800	Level 2	Not Found	Could not find
P008-0810	Level 2	Inspected	
P008-0820	Level 2	Inspected	
P008-0830	Level 2	Inspected	
P008-0840	Level 2	Inspected	
P008-0850	Level 2	Inspected	
P008-0860	Level 2	Inspected	
P008-0870	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P008-0880	Level 2	Inspected	
P008-0890	Level 2	Inspected	
P008-0900	Level 2	Inspected	
P008-0910	Level 2	Buried or Marked	Under asphalt
P008-0920	Level 2	Buried or Marked	Buried, possible Deeper than 6 inches
P008-0930	Level 2	Buried or Marked	Appears to be under asphalt, possible does not exist
P008-0940	Level 2	Not Found	Metal detected, could not locate
P008-0950	Level 2	Inspected	
P008-0960	Level 2	Inspected	
P008-0970	Level 2	Inspected	
P008-0980	Level 2	Inspected	
P008-0990	Level 2	Not Found	Could not find
P008-1000	Level 2	Surcharged/Debris	
P008-1010	Level 2	Inspected	
P008-1020	Level 2	Inspected	
P008-1030	Level 2	Inspected	
P008-1040	Level 2	Inspected	
P008-1050	Level 2	Inspected	
P008-1060	Level 2	Inspected	
P008-1070	Level 2	Inspected	
P008-1080	Level 2	Inspected	
P008-1085	Level 2	Not Found	Could not verify location, too much metal in area
P008-1090	Level 2	Inspected	
P008-1100	Level 2	Inspected	
P008-1110	Level 2	Surcharged/Debris	
P008-1120	Level 2	Surcharged/Debris	
P008-1130	Level 2	Inspected	
P008-1140	Level 2	Inspected	
P008-1150	Level 2	Inspected	
P008-1155	Level 2	Inspected	
P008-1160	Level 2	Inspected	
P008-1170	Level 2	Inspected	
P008-1180	Level 2	Inspected	
P008-1190	Level 2	Inspected	
P008-1200	Level 2	Inspected	
P008-1210	Level 2	Inspected	
P008-1220	Level 2	Inspected	
P008-1230	Level 2	Inspected	
P008-1240	Level 2	Inspected	
P008-1250	Level 2	Inspected	
P008-1260	Level 2	Inspected	
P008-1270	Level 2	Not Found	
P008-1280	Level 2	Inspected	
P008-1290	Level 2	Inspected	
P008-1290A	Level 2	Inspected	
P008-1300	Level 2	Inspected	
P008-1310	Level 2	Inspected	
P008-1320	Level 2	Not Found	Address is approximate at 3105 Blackburn

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P008-1330	Level 2	Inspected	
P008-1340	Level 2	Inspected	
P008-1350	Level 2	Inspected	
P008-1360	Level 2	Inspected	
P008-1370	Level 2	Inspected	
P008-1375	Level 2	Inspected	
P008-1380	Level 2	Inspected	
P008-1390	Level 2	Not Found	Cannot find
P008-1400	Level 2	Inspected	
P008-1410	Level 2	Inspected	
P008-1420	Level 2	Inspected	
P008-1430	Level 2	Inspected	
P008-1440	Level 2	Inspected	
P008-1450	Level 2	Inspected	
P008-1460	Level 2	Inspected	
P008-1460A	Level 2	Inspected	
P008-1470	Level 2	Inspected	
P008-1480	Level 2	Inspected	
P008-1490	Level 2	Inspected	
P008-1500	Level 2	Inspected	
P008-1510	Level 2	Inspected	
P008-1520	Level 2	Inspected	
P008-1540	Level 2	Inspected	
P008-1550	Level 2	Not Found	Cannot find, too much metal in area
P008-1570	Level 2	Inspected	
P008-1575	Level 2	Inspected	
P008-1580	Level 2	Not Found	Could not find
P008-1590	Level 2	Inspected	
P008-1600	Level 2	Inspected	
P008-1610	Level 2	Not Found	Possibly does not exist
P008-1615	Level 2	Inspected	
P008-1615A	Level 2	Inspected	
P008-1620	Level 2	Not Found	
P008-1630	Level 2	Inspected	
P008-1640	Level 2	Inspected	
P008-1650	Level 2	Inspected	
P008-1660	Level 2	Inspected	
P008-1670	Level 2	Inspected	
P008-1680	Level 2	Inspected	
P008-1690	Level 2	Inspected	
P008-1700	Level 2	Inspected	
P008-1710	Level 2	Inspected	
P008-1720	Level 2	Inspected	
P008-1730	Level 2	Inspected	
P008-1740	Level 2	Inspected	
P008-1750	Level 2	Inspected	
P008-1760	Level 2	Inspected	
P008-1770	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P008-1780	Level 2	Inspected	
P008-1780A	Level 2	Inspected	
P008-1790	Level 2	Not Found	
P008-1800	Level 2	Inspected	
P008-1810	Level 2	Inspected	
P008-1820	Level 2	Buried or Marked	Buried in alley
P008-1830	Level 2	Not Found	
P008-1840	Level 2	Inspected	
P008-1850	Level 2	Inspected	
P008-1850A	Level 2	Not Found	Unable to locate
P008-1855	Level 2	Inspected	
P008-1860	Level 2	Inspected	
P008-1870	Level 2	Inspected	
P008-1880	Level 2	Inspected	
P008-1890	Level 2	Inspected	
P008-1900	Level 2	Not Found	Spoke with home owner, she stated city did work several years ago and may have removed the manhole, was once elevated
P008-1910	Level 2	Inspected	
P008-1920	Level 2	Inspected	
P008-1925	Level 2	Inspected	
P008-1925A	Level 2	Inspected	
P008-1925B	Level 2	Inspected	
P008-1930	Level 2	Inspected	
P008-1940	Level 2	Inspected	
P008-1950	Level 2	Buried or Marked	
P008-1960	Level 2	Inspected	
P008-1960A	Level 2	Not Found	Unable to locate
P008-1970	Level 2	Buried or Marked	
P008-2000	Level 2	Inspected	
P008-2000A	Level 2	Not Found	Unable to locate
P008-2060	Level 2	Inspected	
P008-2070	Level 2	Inspected	
P008-2080	Level 2	Buried or Marked	
P008-2100	Level 2	Not Found	Unable to locate
P008-2120	Level 2	Inspected	
P008-2130	Level 2	Inspected	
P008-2130A	Level 2	Inspected	
P008-2140	Level 2	Inspected	
P008-2150	Level 2	Inspected	
P008-2160	Level 2	Inspected	
P008-2170	Level 2	Inspected	
P008-2180	Level 2	Inspected	
P008-2190	Level 2	No Access	
P008-2200	Level 2	Inspected	
P008-2210	Level 2	Inspected	
P008-2221	Level 2	Inspected	
P008-2231	Level 2	No Access	
P008-2233	Level 2	Inspected	
P008-2240	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P008-2250	Level 2	Inspected	
P008-2260	Level 2	Inspected	
P008-2270	Level 2	Inspected	
P008-2280	Level 2	Inspected	
P008-2290	Level 2	Inspected	
P008-2300	Level 2	Inspected	
P008-2310	Level 2	Inspected	
P008-2320	Level 2	Inspected	
P008-2330	Level 2	Inspected	
P008-2340	Level 2	Not Opened	Vented cover, 19 holes, cover siezed
P008-2350	Level 2	Inspected	
P008-2360	Level 2	Inspected	
P008-2366	Level 2	Not Found	
P008-2370	Level 2	Not Found	
P008-2380	Level 2	Inspected	
P008-2390	Level 2	Inspected	
P008-2405	Level 2	Inspected	
P008-2408	Level 2	Inspected	
P008-2410	Level 2	Inspected	
P008-2420	Level 2	Inspected	
P008-3480	Level 2	Inspected	
P008-3490	Level 2	Inspected	
P008-3500	Level 2	Inspected	
P008-3510	Level 2	Inspected	
P008-3520	Level 2	Inspected	
P008-3530	Level 2	Not Found	Possibly does not exist
P008-3550	Level 2	Inspected	
P008-3560	Level 2	Inspected	
P008-3570	Level 2	Inspected	
P008-3580	Level 2	Inspected	
P008-3590	Level 2	Inspected	
P008-3610	Level 2	Inspected	
P008-3620	Level 2	Inspected	
P008-3630	Level 2	Inspected	
P008-3640	Level 2	Inspected	
P008-3644	Level 2	Inspected	
P008-3646	Level 2	Inspected	
P008-3648	Level 2	Inspected	
P008-3650	Level 2	Inspected	
P008-3660	Level 2	No Access	Heavy traffic, located on AR HWY 22
P008-3670	Level 2	No Access	Heavy traffic, located on AR HWY 22
P008-3680	Level 2	Inspected	
P008-3700	Level 2	Inspected	
P008-3710	Level 2	Inspected	
P008-3730	Level 2	Inspected	
P008-4000	Level 2	Inspected	
P008-4010	Level 2	Inspected	
P008-4020	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
P008-4020A	Level 2	Inspected	
P008-4030	Level 2	Inspected	
P008-4040	Level 2	Inspected	
P008-4050	Level 2	Inspected	
P008-4060	Level 2	Inspected	
P008-4070	Level 2	Inspected	
P008-4200	Level 2	Inspected	
P008-4210	Level 2	Inspected	
P008-4490	Level 2	Inspected	
P008-4500	Level 2	Inspected	
P008-4510	Level 2	Inspected	
P008-4520	Level 2	Inspected	
S006-0035	Level 2	Inspected	
S006-0070	Level 2	Not Found	
S006-0080	Level 2	Inspected	
S006-0090	Level 2	Inspected	
S006-0100	Level 2	No Access	5323 N O St Gates locked, left letter for resident
S006-0110	Level 2	Inspected	
S006-0120	Level 2	Inspected	
S006-0130	Level 2	Inspected	
S006-0140	Level 2	Inspected	
S006-0150	Level 2	Inspected	
S006-0150A	Level 2	Inspected	
S006-0160	Level 2	Inspected	
S006-0160A	Level 2	Inspected	
S006-0170	Level 2	Inspected	
S006-0180	Level 2	Inspected	
S006-0190	Level 2	Inspected	
S006-0200	Level 2	Inspected	
S006-0210	Level 2	Inspected	
S006-0220	Level 2	Inspected	
S006-0230	Level 2	Inspected	
S006-0240	Level 2	Inspected	
S006-0250	Level 2	Inspected	
S006-0260	Level 2	Inspected	
S006-0270	Level 2	Inspected	
S006-0275	Level 2	Inspected	
S006-0450	Level 2	No Access	Heavy traffic, will need specialized traffic control, will have to shut down lane
S006-0460	Level 2	No Access	Heavy traffic, will need specialized traffic control, will have to shut down lane
S006-0470	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut down lane and intersection
S006-0480	Level 2	Inspected	
S006-0490	Level 2	Inspected	
S006-0500	Level 2	Inspected	
S006-0520	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut lane down
S006-0530	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut down lane
S006-0533	Level 2	Inspected	
S006-0540	Level 2	Inspected	
S006-0560	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S006-0570	Level 2	Inspected	
S006-0580	Level 2	Inspected	
S006-0590	Level 2	Inspected	
S006-0600	Level 2	Inspected	
S006-0610	Level 2	Inspected	
S006-0620	Level 2	Inspected	
S006-0630	Level 2	Inspected	
S006-0640	Level 2	Inspected	
S006-0650	Level 2	Inspected	
S006-0660	Level 2	Inspected	
S006-0670	Level 2	Inspected	
S006-0680	Level 2	Inspected	
S006-0690	Level 2	Inspected	
S006-0700	Level 2	Inspected	
S006-0710	Level 2	Inspected	
S006-0720	Level 2	Inspected	
S006-0730	Level 2	Inspected	
S006-0740	Level 2	Inspected	
S006-0744	Level 2	Inspected	
S006-0748	Level 2	Inspected	
S006-0750	Level 2	Inspected	
S006-0770	Level 2	No Access	Unable to open cover without taking the chance of breaking it, located on university campus next to sidewalk, cover concrete
S006-0780	Level 2	Inspected	
S006-0785	Level 2	Inspected	
S006-0802	Level 2	Inspected	
S006-0803	Level 2	Inspected	
S006-0804	Level 2	Inspected	
S006-0806	Level 2	Inspected	
S006-0808	Level 2	Inspected	
S006-0810	Level 2	Inspected	
S006-0820	Level 2	Inspected	
S006-0830	Level 2	Inspected	
S006-0840	Level 2	Inspected	
S006-0850	Level 2	Inspected	
S006-0860	Level 2	Inspected	
S006-0870	Level 2	Inspected	
S006-0880	Level 2	Inspected	
S006-0890	Level 2	Inspected	
S006-0900	Level 2	Surcharged/Debris	
S006-0907	Level 2	Inspected	
S006-0908	Level 2	Inspected	
S006-0910	Level 2	Inspected	
S006-0920	Level 2	Inspected	
S006-0930	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S006-0940	Level 2	Inspected	
S006-0940A	Level 2	Inspected	
S006-0950	Level 2	Inspected	
S006-0960	Level 2	Inspected	
S006-0970	Level 2	Not Found	Could not find
S006-0980	Level 2	Not Found	Cannot find
S006-0990	Level 2	Inspected	
S006-1000	Level 2	Inspected	
S006-1010	Level 2	Buried or Marked	Metal detected manhole
S006-1020	Level 2	Buried or Marked	Under sidewalk
S006-1030	Level 2	Inspected	
S006-1040	Level 2	Inspected	
S006-1050	Level 2	Inspected	
S006-1055	Level 2	Inspected	
S006-1056	Level 2	Inspected	
S006-1070	Level 2	Inspected	
S006-1080	Level 2	Inspected	
S006-1090	Level 2	Inspected	
S006-1100	Level 2	Inspected	
S006-1110	Level 2	Inspected	
S006-1120	Level 2	Inspected	
S006-1130	Level 2	Inspected	
S006-1140	Level 2	Inspected	
S006-1150	Level 2	Inspected	
S006-1160	Level 2	Inspected	
S006-1170	Level 2	Inspected	
S006-1174	Level 2	Inspected	
S006-1176	Level 2	Inspected	
S006-1180	Level 2	Inspected	
S006-1190	Level 2	Inspected	
S006-1195	Level 2	Inspected	
S006-1200	Level 2	Inspected	
S006-1210	Level 2	Inspected	
S006-1220	Level 2	Inspected	
S006-1230	Level 2	Inspected	
S006-1240	Level 2	Inspected	
S006-1240A	Level 2	Inspected	
S006-1250	Level 2	Inspected	
S006-1260	Level 2	Inspected	
S006-1270	Level 2	Inspected	
S006-1280	Level 2	Inspected	
S006-1290	Level 2	Inspected	
S006-1300	Level 2	Inspected	
S006-1310	Level 2	Inspected	
S006-1320	Level 2	Inspected	
S006-1325	Level 2	Inspected	
S006-1330	Level 2	Inspected	
S006-1340	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S006-1350	Level 2	Inspected	
S006-1360	Level 2	Inspected	
S006-1370	Level 2	Inspected	
S006-1380	Level 2	Inspected	
S006-1390	Level 2	Inspected	
S006-1400	Level 2	Inspected	
S006-1410	Level 2	Inspected	
S006-1420	Level 2	Inspected	
S006-1430	Level 2	Inspected	
S006-1440	Level 2	Inspected	
S006-1450	Level 2	Inspected	
S006-1460	Level 2	Inspected	
S006-1470	Level 2	Inspected	
S006-1480	Level 2	Inspected	
S006-1490	Level 2	Inspected	
S006-1500	Level 2	Inspected	
S006-1505	Level 2	Inspected	
S006-1507	Level 2	Inspected	
S006-1510	Level 2	Inspected	
S006-1511	Level 2	Inspected	
S006-1520	Level 2	Inspected	
S006-1530	Level 2	Not Found	Possibly does not exist
S006-1540	Level 2	Not Found	Possibly does not exist
S006-1570	Level 2	Inspected	
S006-1580	Level 2	Inspected	
S006-1585	Level 2	Inspected	
S006-1590	Level 2	Inspected	
S006-1600	Level 2	Inspected	
S006-1610	Level 2	No Access	Address is 407A N 53rd St
S006-1620	Level 2	Inspected	
S006-1620A	Level 2	No Access	Manhole is partially under a chain link fence and is surrounded by small trees and brush, trees need to be removed to access manhole
S006-1630	Level 2	Inspected	
S006-1640	Level 2	Inspected	
S006-1642	Level 2	Inspected	
S006-1644	Level 2	Inspected	
S006-1646	Level 2	Inspected	
S006-1648	Level 2	Inspected	
S006-1650	Level 2	Inspected	
S006-1652	Level 2	Not Found	Cannot find
S006-1655	Level 2	Inspected	
S006-1660	Level 2	Not Found	Unable to locate
S006-1670	Level 2	Inspected	
S006-1680	Level 2	Inspected	
S006-1680A	Level 2	Inspected	
S006-1690	Level 2	Inspected	
S006-1700	Level 2	Inspected	
S006-1705	Level 2	Buried or Marked	Buried
S006-1710	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S006-1720	Level 2	Inspected	
S006-1730	Level 2	Inspected	
S006-1740	Level 2	Inspected	
S006-1742	Level 2	Not Found	Recent dirt work in area, manhole possibly covered
S006-1744	Level 2	Not Found	Address is approximate at 5005 Free Ferry Rd
S006-1750	Level 2	Inspected	
S006-1760	Level 2	Inspected	
S006-1770	Level 2	Inspected	
S006-1780	Level 2	Inspected	
S006-1790	Level 2	Inspected	
S006-1800	Level 2	Inspected	
S006-1810	Level 2	Inspected	
S006-2000	Level 2	Inspected	
S006-2010	Level 2	Inspected	
S006-2020	Level 2	Inspected	
S006-2100	Level 2	Inspected	
S006-2110	Level 2	Inspected	
S006-2120	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut lane down
S006-2130	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut down lane
S006-2140	Level 2	No Access	Unable to locate, cannot physically see manhole, possibly beneath street pavement, heavy traffic area
S006-2150	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut lane down
S006-2300	Level 2	Inspected	
S006-2310	Level 2	Not Found	Used metal detector and probing rod
S006-2320	Level 2	Inspected	
S006-2330	Level 2	Inspected	
S006-2340	Level 2	Inspected	
S006-2350	Level 2	No Access	Manhole located on side of drainage canal, not able to access to do inspection, gps placed on other side of drainage canal approximately 15 feet north
S006-2500	Level 2	Inspected	
S006-2510	Level 2	Buried or Marked	Buried in front yard, too deep to dig down
S006-2520	Level 2	Inspected	
S006-2530	Level 2	Inspected	
S006-2540	Level 2	Inspected	
S006-2550	Level 2	Inspected	
S006-2560	Level 2	Inspected	
S006-2570	Level 2	Inspected	
S006-2580	Level 2	Inspected	
S006-2590	Level 2	Inspected	
S006-2600	Level 2	Inspected	
S006-2610	Level 2	Inspected	
S006-2620	Level 2	Inspected	
S006-2630	Level 2	Inspected	
S006-2635	Level 2	Inspected	
S006-2640	Level 2	Inspected	
S006-2650	Level 2	Inspected	
S006-2660	Level 2	Inspected	
S006-2670	Level 2	Inspected	
S006-2680	Level 2	Inspected	
S006-2690	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S006-2700	Level 2	Inspected	
S006-2710	Level 2	Inspected	
S006-2720	Level 2	Inspected	
S006-2730	Level 2	Inspected	
S006-2740	Level 2	Inspected	
S006-2750	Level 2	Inspected	
S006-2760	Level 2	Inspected	
S006-2770	Level 2	Inspected	
S006-2780	Level 2	Inspected	
S006-2790	Level 2	Inspected	
S006-2800	Level 2	Inspected	
S006-2810	Level 2	Inspected	
S006-2811	Level 2	Inspected	
S006-2812	Level 2	Inspected	
S006-2813	Level 2	Inspected	
S006-2820	Level 2	Inspected	
S006-2830	Level 2	Inspected	
S006-2840	Level 2	Inspected	
S006-2850	Level 2	No Access	Heavy traffic, 35 mph road, need specialized traffic control, will have to shut down lane
S006-2851	Level 2	Inspected	
S006-2860	Level 2	Inspected	
S006-2870	Level 2	Inspected	
S006-2880	Level 2	No Access	Heavy traffic, need specialized traffic control, will have to shut lane down
S006-2890	Level 2	Inspected	
S006-2900	Level 2	Inspected	
S006-2910	Level 2	Inspected	
S006-2920	Level 2	Inspected	
S006-2930	Level 2	Inspected	
S007-0010	Level 2	Inspected	
S007-0020	Level 2	Inspected	
S007-0040	Level 2	Inspected	
S007-0050	Level 2	Inspected	
S007-0060	Level 2	Inspected	
S007-0070	Level 2	Inspected	
S007-0080	Level 2	Inspected	
S007-0085	Level 2	Inspected	
S007-0090	Level 2	Inspected	
S007-0100	Level 2	No Access	
S007-0110	Level 2	Inspected	
S007-0120	Level 2	Inspected	
S007-0130	Level 2	Inspected	
S007-0140	Level 2	Inspected	
S007-0150	Level 2	Inspected	
S007-0155	Level 2	Inspected	
S007-0160	Level 2	Inspected	
S007-0170	Level 2	Inspected	
S007-0180	Level 2	Inspected	
S007-0190	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S007-0200	Level 2	Inspected	
S007-0210	Level 2	Not Found	Approximate address is 4420 Skywood Dr
S007-0210A	Level 2	No Access	Address is 4408 Skywood Dr, behind fence, gate locked, no access
S007-0220	Level 2	Inspected	
S007-0230	Level 2	Inspected	
S007-0240	Level 2	Inspected	
S007-0250	Level 2	Inspected	
S007-0260	Level 2	Inspected	
S007-0270	Level 2	Inspected	
S007-0280	Level 2	Inspected	
S007-0290	Level 2	Inspected	
S007-0300	Level 2	Inspected	
S007-0310	Level 2	Inspected	
S007-0320	Level 2	Inspected	
S007-0330	Level 2	Inspected	
S007-0335	Level 2	Inspected	
S007-0340	Level 2	Inspected	
S007-0350	Level 2	Inspected	
S007-0360	Level 2	Inspected	
S007-0370	Level 2	Inspected	
S007-0380	Level 2	Inspected	
S007-0390	Level 2	Inspected	
S007-0400	Level 2	Inspected	
S007-0410	Level 2	Inspected	
S007-0420	Level 2	Inspected	
S007-0430	Level 2	Inspected	
S007-0432	Level 2	Inspected	
S007-0435	Level 2	Inspected	
S007-0440	Level 2	Inspected	
S007-0450	Level 2	Inspected	
S007-0460	Level 2	Inspected	
S007-0470	Level 2	Not Found	Approximate address is 4300 Skywood Dr
S007-0480	Level 2	Inspected	
S007-0490	Level 2	Inspected	
S007-0500	Level 2	Inspected	
S007-0510	Level 2	Inspected	
S007-0520	Level 2	Inspected	
S007-0530	Level 2	Inspected	
S007-0530A	Level 2	Inspected	
S007-0540	Level 2	Inspected	
S007-0545	Level 2	Inspected	
S007-0550	Level 2	No Access	Builders have locked gates on privacy fence, left letter on door, address is 3721 Morris Dr
S007-0570	Level 2	Inspected	
S007-0575	Level 2	Inspected	
S007-0576	Level 2	Inspected	
S007-0580	Level 2	Inspected	
S007-0590	Level 2	Inspected	
S007-0600	Level 2	Not Found	Second visit, not found

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S007-0605	Level 2	Not Found	Second visit, not found
S007-0610	Level 2	Inspected	
S007-0620	Level 2	Inspected	
S007-0630	Level 2	Inspected	
S007-0640	Level 2	Inspected	
S007-0650	Level 2	Not Found	Second visit, not found
S007-0660	Level 2	Not Found	Second visit
S007-0670	Level 2	Not Found	Second visit
S007-0680	Level 2	Inspected	
S007-0690	Level 2	Inspected	
S007-0698	Level 2	Inspected	
S007-0700	Level 2	Inspected	
S007-0710	Level 2	Inspected	
S007-0720	Level 2	Inspected	
S007-0730	Level 2	Inspected	
S007-0740	Level 2	Inspected	
S007-0750	Level 2	Inspected	
S007-0760	Level 2	Inspected	
S007-0770	Level 2	Inspected	
S007-0780	Level 2	Inspected	
S007-0790	Level 2	Inspected	
S007-0800	Level 2	Inspected	
S007-0810	Level 2	Inspected	
S007-0820	Level 2	Inspected	
S007-0830	Level 2	Inspected	
S007-0840	Level 2	Inspected	
S007-0840A	Level 2	Inspected	
S007-0850	Level 2	Inspected	
S007-0860	Level 2	Inspected	
S007-0870	Level 2	Inspected	
S007-0880	Level 2	Inspected	
S007-0890	Level 2	Not Found	Looked behind approximate address 3921 Victory Cir
S007-0900	Level 2	Inspected	
S007-0910	Level 2	Inspected	
S007-0920	Level 2	Inspected	
S007-0930	Level 2	Inspected	
S007-0940	Level 2	Inspected	
S007-0950	Level 2	Inspected	
S007-0960	Level 2	Inspected	
S007-0960A	Level 2	Buried or Marked	
S007-0970	Level 2	Inspected	
S007-0980	Level 2	Inspected	
S007-0990	Level 2	Inspected	
S007-1000	Level 2	Inspected	
S007-1020	Level 2	Surcharged/Debris	
S007-1030	Level 2	Inspected	
S007-1040	Level 2	Inspected	
S007-1050	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S007-1054	Level 2	Inspected	
S007-1055	Level 2	Inspected	
S007-1060	Level 2	Inspected	
S007-1070	Level 2	Inspected	
S007-1071	Level 2	Inspected	
S007-1072	Level 2	Inspected	
S007-1080	Level 2	Inspected	
S007-1090	Level 2	Inspected	
S007-1100	Level 2	Inspected	
S007-1105	Level 2	Inspected	
S007-1110	Level 2	Inspected	
S007-1120	Level 2	Inspected	
S007-1130	Level 2	Inspected	
S007-1130A	Level 2	Inspected	
S007-1140	Level 2	Inspected	
S007-1150	Level 2	Not Found	Approximate address is 4701 N N St
S007-1160	Level 2	Not Found	Address is approximate at 4401 N N St
S007-1170	Level 2	Inspected	
S007-1180	Level 2	Inspected	
S007-1190	Level 2	Not Found	Could not locate anything metallic, may not exist, swept 100 foot area with detector
S007-1195	Level 2	Not Found	Could not find
S007-1200	Level 2	Inspected	
S007-1210	Level 2	Inspected	
S007-1210A	Level 2	Inspected	
S007-1220	Level 2	Inspected	
S007-1223	Level 2	Not Found	Does not exist
S007-1230	Level 2	Inspected	
S007-1240	Level 2	Inspected	
S007-1250	Level 2	Inspected	
S007-1260	Level 2	Inspected	
S007-1280	Level 2	Inspected	
S007-1290	Level 2	Inspected	
S007-1300	Level 2	Inspected	
S007-1310	Level 2	Inspected	
S007-1320	Level 2	Not Found	Cannot locate any metallic objects
S007-1330	Level 2	Inspected	
S007-1340	Level 2	Inspected	
S007-1350	Level 2	Inspected	
S007-1360	Level 2	Inspected	
S007-1370	Level 2	Inspected	
S007-1380	Level 2	Inspected	
S007-1390	Level 2	Inspected	
S007-1400	Level 2	Not Found	Could not find any metallic objects
S007-1410	Level 2	Inspected	
S007-1420	Level 2	Inspected	
S007-1425	Level 2	Inspected	
S007-1430	Level 2	Inspected	
S007-1440	Level 2	Inspected	

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S007-1450	Level 2	Not Found	Too much metal in area to use detector
S007-1460	Level 2	Not Found	Could not find, too much metal in area
S007-1470	Level 2	Not Found	Could not find, too much metal in area
S007-1480	Level 2	Buried or Marked	Buried, possible does not exist, other water lines near fire hydrant, metal detected
S007-1490	Level 2	Inspected	
S007-1500	Level 2	Inspected	
S007-1510	Level 2	Inspected	
S007-1520	Level 2	Inspected	
S007-1530	Level 2	Inspected	
S007-1540	Level 2	Inspected	
S007-1550	Level 2	Inspected	
S007-1560	Level 2	Inspected	
S007-1560A	Level 2	Inspected	
S007-1570	Level 2	Inspected	
S007-1570A	Level 2	Inspected	
S007-1580	Level 2	Inspected	
S007-1580A	Level 2	Inspected	
S007-1580B	Level 2	Inspected	
S007-1590	Level 2	Inspected	
S007-1600	Level 2	Inspected	
S007-1610	Level 2	Inspected	
S007-1620	Level 2	Inspected	
S007-1630	Level 2	Inspected	
S007-1640	Level 2	Inspected	
S007-1650	Level 2	Inspected	
S007-1660	Level 2	Inspected	
S007-1665	Level 2	Inspected	
S007-1670	Level 2	Inspected	
S007-1680	Level 2	Inspected	
S007-1690	Level 2	Not Found	Does not exist, no pipe connection in S007-1700 leading to this structure
S007-1700	Level 2	Inspected	
S007-1710	Level 2	Inspected	
S007-1720	Level 2	Inspected	
S007-1730	Level 2	Inspected	
S007-1740	Level 2	Inspected	
S007-1750	Level 2	Inspected	
S007-2000	Level 2	Inspected	
S007-2010	Level 2	Inspected	
S007-2020	Level 2	Inspected	
S007-2030	Level 2	Inspected	
S007-2040	Level 2	Surcharged/Debris	
S007-2200	Level 2	Inspected	
S007-2200A	Level 2	Not Found	Unable to locate
S007-2210	Level 2	Inspected	
S007-2220	Level 2	Inspected	
S007-2991	Level 2	Inspected	
S007-2993	Level 2	No Access	
S007-2995	Level 2	Not Found	Possibly buried in flower bed at address is 1820 N 50th St

Manhole Inspection Status

Manhole Number	NASSCO Inspection Level	Inspection Status	Additional Information
S007-2997	Level 2	Inspected	
S007-3000	Level 2	Inspected	
S007-3010	Level 2	Buried or Marked	Buried in backyard of 3715 Victory Cir
S007-3020	Level 2	Inspected	
S007-3030	Level 2	Buried or Marked	Too deep to dig
S007-3040	Level 2	Inspected	
S007-3040A	Level 2	Inspected	
S007-3050	Level 2	Inspected	
S007-3060	Level 2	Inspected	
S007-3070	Level 2	Inspected	
S007-3080	Level 2	Inspected	
S007-3090	Level 2	Inspected	
S007-3100	Level 2	Inspected	
S007-3110	Level 2	Inspected	
S007-3120	Level 2	Not Opened	Manhole is underneath tree in a resident yard
S007-3130	Level 2	Inspected	
S007-3140	Level 2	Inspected	
S007-3150	Level 2	Inspected	
S007-3160	Level 2	Inspected	
S007-3170	Level 2	Inspected	
S007-3180	Level 2	Inspected	
S007-3190	Level 2	Inspected	
S007-3195	Level 2	Inspected	
S007-3200	Level 2	Inspected	
S007-3210	Level 2	Inspected	
S007-3220	Level 2	Inspected	
S007-3230	Level 2	Inspected	
S007-3240	Level 2	Inspected	
S007-3250	Level 2	Inspected	
S007-3260	Level 2	Inspected	
S007-3265	Level 2	Inspected	
S007-3270	Level 2	Inspected	
S007-3280	Level 2	Inspected	
S007-3285	Level 2	Inspected	
S007-3290	Level 2	Inspected	
S007-3300	Level 2	Inspected	
S007-3310	Level 2	Inspected	
S007-3320	Level 2	Inspected	
S007-3330	Level 2	Inspected	
S007-3340	Level 2	Inspected	

APPENDIX B

NASSCO MACP SCORES

NASSCO MACP Scores

Manhole Number	MACP Score
P003-0010	2
P003-0020	No Scorable Defect
P003-0030	No Scorable Defect
P003-0040	No Scorable Defect
P003-0050	No Scorable Defect
P003-0060	Not Inspected
P003-0070	3
P003-0080	3
P003-0090	No Scorable Defect
P003-0100	5
P003-0110	2
P003-0120	2
P003-0130	5
P003-0140	No Scorable Defect
P003-0150	2
P003-0150A	5
P003-0160	No Scorable Defect
P003-0170	3
P003-0180	5
P003-0180A	4
P003-0200	No Scorable Defect
P003-0210	2
P003-0220	4
P003-0230	Not Inspected
P003-0240	3
P003-0250	Not Inspected
P003-0260	5
P003-0270	No Scorable Defect
P003-0280	Not Inspected
P003-0282	4
P003-0290	No Scorable Defect
P003-0295	Not Inspected
P003-0300	No Scorable Defect
P003-0310	1
P003-0320	2
P003-0330	2
P003-0340	2
P003-0350	Not Inspected
P003-0360	Not Inspected
P003-0370	3
P003-0380	Not Inspected
P003-0385	Not Inspected
P003-0390	5
P003-0400	3
P003-0405	Not Inspected
P003-0410	No Scorable Defect
P003-0420	3
P003-0430	Not Inspected
P003-0440	Not Inspected
P003-0450	4
P003-0460	3
P003-0470	5
P003-0480	3
P003-0490	4
P003-0500	4
P003-0510	5
P003-0520	5
P003-0523	Not Inspected
P003-0530	5
P003-0540	3
P003-0550	No Scorable Defect
P003-0560	4
P003-0570	5
P003-0580	4
P003-0590	2
P003-0600	1
P003-0610	5
P003-0620	4

NASSCO MACP Scores

Manhole Number	MACP Score
P003-0630	4
P003-0640	2
P003-0650	Not Inspected
P003-0660	No Scorable Defect
P003-0670	Not Inspected
P003-0680	Not Inspected
P003-0690	Not Inspected
P003-0700	5
P003-0710	2
P003-0720	Not Inspected
P003-0730	No Scorable Defect
P003-0740	No Scorable Defect
P003-0750	4
P003-0760	3
P003-0770	Not Inspected
P003-0780	Not Inspected
P003-0790	4
P003-0800	No Scorable Defect
P003-0810	5
P003-0820	Not Inspected
P003-0830	5
P003-0840	5
P003-0850	5
P003-0860	4
P003-0870	Not Inspected
P003-0880	2
P003-0890	2
P003-0900	2
P003-0910	3
P003-0920	5
P003-0930	3
P003-0940	1
P003-0950	No Scorable Defect
P003-0960	Not Inspected
P003-0970	3
P003-0980	1
P003-0990	1
P003-1000	4
P003-1010	3
P003-1020	5
P003-1020A	5
P003-1020B	Not Inspected
P003-1030	No Scorable Defect
P003-1040	4
P003-1050	3
P003-1060	No Scorable Defect
P003-1070	Not Inspected
P003-1080	4
P003-1085	No Scorable Defect
P003-1090	5
P003-1100	2
P003-1110	5
P003-1120	No Scorable Defect
P003-1130	5
P003-1140	3
P003-1150	5
P003-1160	Not Inspected
P003-1170	Not Inspected
P003-1180	No Scorable Defect
P003-1190	4
P003-1200	3
P003-1210	5
P003-1220	3
P003-1230	Not Inspected
P003-1240	Not Inspected
P003-1250	2
P003-1260	5
P003-1270	No Scorable Defect

NASSCO MACP Scores

Manhole Number	MACP Score
P003-1280	5
P003-1290	5
P004-0010	4
P004-0020	4
P004-0030	4
P004-0040	5
P004-0050	5
P004-0060	3
P004-0100	4
P004-0105	Not Inspected
P004-0110	No Scorable Defect
P004-0120	1
P004-0130	4
P004-0140	Not Inspected
P004-0150	3
P004-0160	Not Inspected
P004-0170	1
P004-0180	3
P004-0185	5
P004-0190	Not Inspected
P004-0200	5
P004-0210	3
P004-0220	5
P004-0230	4
P004-0240	5
P004-0250	5
P004-0260	No Scorable Defect
P004-0270	5
P004-0280	2
P004-0290	No Scorable Defect
P004-0300	5
P004-0310	4
P004-0320	3
P004-0330	4
P004-0340	4
P004-0350	5
P004-0360	3
P004-0370	5
P004-0380	Not Inspected
P004-0390	5
P004-0400	5
P004-0410	3
P004-0420	2
P004-0430	5
P004-0440	5
P004-0450	No Scorable Defect
P004-0460	4
P004-0470	5
P004-0480	3
P004-0490	5
P004-0500	3
P004-0510	1
P004-0520	3
P004-0530	3
P004-0540	5
P004-0550	5
P004-0560	3
P004-0570	No Scorable Defect
P004-0575	Not Inspected
P004-0580	Not Inspected
P004-0590	3
P004-0600	5
P004-0610	5
P004-0620	5
P004-0630	5
P004-0640	5
P004-0645	Not Inspected
P004-0660	5

NASSCO MACP Scores

Manhole Number	MACP Score
P004-0665	5
P004-0670	5
P004-0680	4
P004-0710	No Scorable Defect
P004-0760	No Scorable Defect
P004-0770	No Scorable Defect
P004-0800	No Scorable Defect
P004-0820	3
P004-0825	4
P004-0830	4
P004-0850	5
P004-0860	2
P004-0870	2
P004-0880	2
P004-0890	Not Inspected
P004-0900	2
P004-0910	4
P004-0920	3
P004-0930	No Scorable Defect
P004-0940	No Scorable Defect
P004-0950	Not Inspected
P004-0970	No Scorable Defect
P004-0975	No Scorable Defect
P004-0980	No Scorable Defect
P004-0990	5
P004-1000	5
P004-1010	3
P004-1015	Not Inspected
P004-1020	3
P004-1030	Not Inspected
P004-1040	4
P004-1050	5
P004-1060	No Scorable Defect
P004-1066	2
P004-1070	5
P004-1080	Not Inspected
P004-1090	2
P004-1100	4
P004-1110	No Scorable Defect
P004-1120	4
P004-1125	No Scorable Defect
P004-1130	Not Inspected
P004-1140	5
P004-1145	Not Inspected
P004-1150	5
P004-1150A	5
P004-1160	5
P004-1160A	Not Inspected
P004-1160B	Not Inspected
P004-1170	No Scorable Defect
P004-1172	3
P004-1180	No Scorable Defect
P004-1190	No Scorable Defect
P004-1200	2
P004-1210	Not Inspected
P004-1210A	2
P004-1220	Not Inspected
P004-2080	5
P004-2090	Not Inspected
P004-2100	Not Inspected
P004-2110	4
P004-2120	5
P004-2130	5
P004-2140	Not Inspected
P004-2150	5
P004-2160	5
P004-2170	Not Inspected
P004-2180	2

NASSCO MACP Scores

Manhole Number	MACP Score
P004-2190	Not Inspected
P004-2200	1
P004-2210	No Scorable Defect
P004-2220	No Scorable Defect
P005-0010	3
P005-0020	5
P005-0050	2
P005-0060	4
P005-0070	Not Inspected
P005-0080	No Scorable Defect
P005-0090	3
P005-0100	No Scorable Defect
P005-0110	3
P005-0120	2
P005-0140	5
P005-0150	1
P005-0160	5
P005-0170	5
P005-0180	2
P005-0190	No Scorable Defect
P005-0200	1
P005-0210	5
P005-0220	5
P005-0230	5
P005-0240	1
P005-0250	5
P005-0260	5
P005-0270	4
P005-0280	5
P005-0290	1
P005-0300	2
P005-0310	5
P005-0320	5
P005-0330	4
P005-0330A	No Scorable Defect
P005-0340	5
P005-0350	2
P005-0360	5
P005-0370	3
P005-0380	3
P005-0390	5
P005-0400	4
P005-0410	5
P005-0420	4
P005-0430	Not Inspected
P005-0440	3
P005-0450	3
P005-0460	No Scorable Defect
P005-0470	5
P005-0480	4
P005-0490	4
P005-0500	No Scorable Defect
P005-0510	2
P005-0520	Not Inspected
P005-0530	4
P005-0540	2
P005-0550	Not Inspected
P005-0560	No Scorable Defect
P005-0570	3
P005-0580	No Scorable Defect
P005-0590	Not Inspected
P005-0600	4
P005-0610	2
P005-0617	No Scorable Defect
P005-0620	5
P005-0630	5
P005-0640	Not Inspected
P005-0650	5

NASSCO MACP Scores

Manhole Number	MACP Score
P005-0660	No Scorable Defect
P005-0670	5
P005-0680	5
P005-0690	2
P005-0700	Not Inspected
P005-0710	2
P005-0720	4
P005-0730	5
P005-0760	3
P005-0770	Not Inspected
P005-0775	Not Inspected
P005-0780	5
P005-0790	Not Inspected
P005-0795	5
P005-0800	5
P005-0805	5
P005-0820	5
P005-0830	1
P005-3000	No Scorable Defect
P005-3010	No Scorable Defect
P005-3020	1
P005-3030	No Scorable Defect
P005-3040	5
P005-3050	5
P005-3060	5
P005-3070	No Scorable Defect
P005-3080	No Scorable Defect
P005-3090	No Scorable Defect
P005-3100	3
P005-3110	5
P005-3120	Not Inspected
P005-3130	No Scorable Defect
P005-3140	5
P005-3340	5
P005-3350	2
P005-3360	2
P005-3370	No Scorable Defect
P005-3380	No Scorable Defect
P005-3390	No Scorable Defect
P005-3400	No Scorable Defect
P005-3410	No Scorable Defect
P005-3420	3
P005-3430	No Scorable Defect
P005-3440	5
P005-3450	5
P005-3460	Not Inspected
P005-3470	4
P005-3480	4
P005-3490	4
P008-0010	3
P008-0020	3
P008-0030	5
P008-0040	2
P008-0050	3
P008-0060	4
P008-0070	3
P008-0080	5
P008-0090	4
P008-0100	5
P008-0110	No Scorable Defect
P008-0115	5
P008-0120	Not Inspected
P008-0130	Not Inspected
P008-0140	Not Inspected
P008-0144	Not Inspected
P008-0145	Not Inspected
P008-0150	Not Inspected
P008-0160	Not Inspected

NASSCO MACP Scores

Manhole Number	MACP Score
P008-0210	Not Inspected
P008-0213	Not Inspected
P008-0220	4
P008-0230	5
P008-0240	5
P008-0250	Not Inspected
P008-0260	Not Inspected
P008-0270	4
P008-0280	Not Inspected
P008-0290	5
P008-0300	5
P008-0310	Not Inspected
P008-0315	Not Inspected
P008-0320	Not Inspected
P008-0330	5
P008-0340	Not Inspected
P008-0343	No Scorable Defect
P008-0350	2
P008-0360	3
P008-0370	4
P008-0380	3
P008-0385	Not Inspected
P008-0390	2
P008-0400	No Scorable Defect
P008-0410	No Scorable Defect
P008-0420	5
P008-0430	5
P008-0440	5
P008-0450	5
P008-0460	2
P008-0470	No Scorable Defect
P008-0480	No Scorable Defect
P008-0490	4
P008-0500	5
P008-0510	5
P008-0520	4
P008-0530	5
P008-0540	5
P008-0543	Not Inspected
P008-0550	5
P008-0560	Not Inspected
P008-0570	5
P008-0580	4
P008-0590	No Scorable Defect
P008-0600	3
P008-0610	5
P008-0620	3
P008-0630	3
P008-0640	No Scorable Defect
P008-0650	Not Inspected
P008-0660	Not Inspected
P008-0670	1
P008-0680	2
P008-0690	2
P008-0700	Not Inspected
P008-0710	3
P008-0720	4
P008-0730	4
P008-0740	4
P008-0750	2
P008-0760	2
P008-0770	3
P008-0780	3
P008-0790	4
P008-0800	Not Inspected
P008-0810	5
P008-0820	4
P008-0830	3

NASSCO MACP Scores

Manhole Number	MACP Score
P008-0840	4
P008-0850	2
P008-0860	2
P008-0870	4
P008-0880	5
P008-0890	3
P008-0900	4
P008-0910	Not Inspected
P008-0920	Not Inspected
P008-0930	Not Inspected
P008-0940	Not Inspected
P008-0950	No Scorable Defect
P008-0960	No Scorable Defect
P008-0970	5
P008-0980	3
P008-0990	Not Inspected
P008-1000	3
P008-1010	3
P008-1020	3
P008-1030	3
P008-1040	4
P008-1050	3
P008-1060	5
P008-1070	5
P008-1080	5
P008-1085	Not Inspected
P008-1090	2
P008-1100	2
P008-1110	2
P008-1120	5
P008-1130	3
P008-1140	3
P008-1150	2
P008-1155	5
P008-1160	3
P008-1170	4
P008-1180	2
P008-1190	4
P008-1200	5
P008-1210	No Scorable Defect
P008-1220	2
P008-1230	5
P008-1240	1
P008-1250	5
P008-1260	5
P008-1270	Not Inspected
P008-1280	2
P008-1290	3
P008-1290A	3
P008-1300	4
P008-1310	No Scorable Defect
P008-1320	Not Inspected
P008-1330	5
P008-1340	No Scorable Defect
P008-1350	1
P008-1360	4
P008-1370	No Scorable Defect
P008-1375	5
P008-1380	4
P008-1390	Not Inspected
P008-1400	4
P008-1410	2
P008-1420	2
P008-1430	3
P008-1440	4
P008-1450	3
P008-1460	5
P008-1460A	5

NASSCO MACP Scores

Manhole Number	MACP Score
P008-1470	5
P008-1480	5
P008-1490	4
P008-1500	3
P008-1510	5
P008-1520	3
P008-1540	4
P008-1550	Not Inspected
P008-1570	1
P008-1575	2
P008-1580	Not Inspected
P008-1590	3
P008-1600	5
P008-1610	Not Inspected
P008-1615	3
P008-1615A	5
P008-1620	Not Inspected
P008-1630	5
P008-1640	2
P008-1650	3
P008-1660	No Scorable Defect
P008-1670	No Scorable Defect
P008-1680	3
P008-1690	3
P008-1700	3
P008-1710	2
P008-1720	No Scorable Defect
P008-1730	3
P008-1740	3
P008-1750	No Scorable Defect
P008-1760	5
P008-1770	2
P008-1780	2
P008-1780A	3
P008-1790	Not Inspected
P008-1800	5
P008-1810	3
P008-1820	Not Inspected
P008-1830	Not Inspected
P008-1840	1
P008-1850	3
P008-1850A	Not Inspected
P008-1855	No Scorable Defect
P008-1860	1
P008-1870	5
P008-1880	4
P008-1890	4
P008-1900	Not Inspected
P008-1910	3
P008-1920	2
P008-1925	1
P008-1925A	No Scorable Defect
P008-1925B	1
P008-1930	2
P008-1940	5
P008-1950	Not Inspected
P008-1960	No Scorable Defect
P008-1960A	Not Inspected
P008-1970	Not Inspected
P008-2000	No Scorable Defect
P008-2000A	Not Inspected
P008-2060	4
P008-2070	No Scorable Defect
P008-2080	Not Inspected
P008-2100	Not Inspected
P008-2120	4
P008-2130	No Scorable Defect
P008-2130A	No Scorable Defect

NASSCO MACP Scores

Manhole Number	MACP Score
P008-2140	4
P008-2150	No Scorable Defect
P008-2160	No Scorable Defect
P008-2170	No Scorable Defect
P008-2180	1
P008-2190	Not Inspected
P008-2200	No Scorable Defect
P008-2210	4
P008-2221	No Scorable Defect
P008-2231	Not Inspected
P008-2233	No Scorable Defect
P008-2240	5
P008-2250	3
P008-2260	5
P008-2270	3
P008-2280	No Scorable Defect
P008-2290	No Scorable Defect
P008-2300	4
P008-2310	5
P008-2320	5
P008-2330	5
P008-2340	Not Inspected
P008-2350	4
P008-2360	3
P008-2366	Not Inspected
P008-2370	Not Inspected
P008-2380	No Scorable Defect
P008-2390	No Scorable Defect
P008-2405	3
P008-2408	No Scorable Defect
P008-2410	5
P008-2420	2
P008-3480	4
P008-3490	4
P008-3500	1
P008-3510	5
P008-3520	5
P008-3530	Not Inspected
P008-3550	2
P008-3560	2
P008-3570	3
P008-3580	3
P008-3590	5
P008-3610	2
P008-3620	3
P008-3630	2
P008-3640	3
P008-3644	3
P008-3646	1
P008-3648	1
P008-3650	No Scorable Defect
P008-3660	Not Inspected
P008-3670	Not Inspected
P008-3680	4
P008-3700	No Scorable Defect
P008-3710	5
P008-3730	5
P008-4000	5
P008-4010	4
P008-4020	4
P008-4020A	4
P008-4030	5
P008-4040	5
P008-4050	5
P008-4060	5
P008-4070	5
P008-4200	5
P008-4210	2

NASSCO MACP Scores

Manhole Number	MACP Score
P008-4490	2
P008-4500	No Scorable Defect
P008-4510	No Scorable Defect
P008-4520	No Scorable Defect
S006-0035	5
S006-0070	Not Inspected
S006-0080	2
S006-0090	No Scorable Defect
S006-0100	Not Inspected
S006-0110	No Scorable Defect
S006-0120	No Scorable Defect
S006-0130	No Scorable Defect
S006-0140	5
S006-0150	3
S006-0150A	5
S006-0160	No Scorable Defect
S006-0160A	No Scorable Defect
S006-0170	1
S006-0180	5
S006-0190	3
S006-0200	No Scorable Defect
S006-0210	3
S006-0220	3
S006-0230	1
S006-0240	2
S006-0250	2
S006-0260	No Scorable Defect
S006-0270	3
S006-0275	5
S006-0450	Not Inspected
S006-0460	Not Inspected
S006-0470	Not Inspected
S006-0480	2
S006-0490	No Scorable Defect
S006-0500	5
S006-0520	Not Inspected
S006-0530	Not Inspected
S006-0533	No Scorable Defect
S006-0540	4
S006-0560	No Scorable Defect
S006-0570	4
S006-0580	1
S006-0590	5
S006-0600	5
S006-0610	3
S006-0620	4
S006-0630	5
S006-0640	3
S006-0650	No Scorable Defect
S006-0660	5
S006-0670	1
S006-0680	5
S006-0690	2
S006-0700	3
S006-0710	2
S006-0720	5
S006-0730	5
S006-0740	5
S006-0744	2
S006-0748	2
S006-0750	5
S006-0770	Not Inspected
S006-0780	No Scorable Defect
S006-0785	2
S006-0802	2
S006-0803	No Scorable Defect
S006-0804	No Scorable Defect
S006-0806	No Scorable Defect

NASSCO MACP Scores

Manhole Number	MACP Score
S006-0808	No Scorable Defect
S006-0810	2
S006-0820	No Scorable Defect
S006-0830	1
S006-0840	3
S006-0850	5
S006-0860	2
S006-0870	4
S006-0880	5
S006-0890	No Scorable Defect
S006-0900	3
S006-0907	1
S006-0908	3
S006-0910	4
S006-0920	2
S006-0930	3
S006-0940	5
S006-0940A	5
S006-0950	4
S006-0960	4
S006-0970	Not Inspected
S006-0980	Not Inspected
S006-0990	2
S006-1000	2
S006-1010	Not Inspected
S006-1020	Not Inspected
S006-1030	No Scorable Defect
S006-1040	5
S006-1050	5
S006-1055	5
S006-1056	5
S006-1070	1
S006-1080	No Scorable Defect
S006-1090	No Scorable Defect
S006-1100	2
S006-1110	5
S006-1120	5
S006-1130	5
S006-1140	No Scorable Defect
S006-1150	2
S006-1160	No Scorable Defect
S006-1170	No Scorable Defect
S006-1174	No Scorable Defect
S006-1176	No Scorable Defect
S006-1180	2
S006-1190	4
S006-1195	No Scorable Defect
S006-1200	2
S006-1210	5
S006-1220	1
S006-1230	3
S006-1240	5
S006-1240A	3
S006-1250	3
S006-1260	3
S006-1270	5
S006-1280	5
S006-1290	4
S006-1300	1
S006-1310	3
S006-1320	3
S006-1325	No Scorable Defect
S006-1330	No Scorable Defect
S006-1340	3

NASSCO MACP Scores

Manhole Number	MACP Score
S006-1350	4
S006-1360	3
S006-1370	5
S006-1380	4
S006-1390	5
S006-1400	5
S006-1410	2
S006-1420	No Scorable Defect
S006-1430	4
S006-1440	No Scorable Defect
S006-1450	No Scorable Defect
S006-1460	No Scorable Defect
S006-1470	1
S006-1480	No Scorable Defect
S006-1490	5
S006-1500	3
S006-1505	5
S006-1507	3
S006-1510	5
S006-1511	3
S006-1520	2
S006-1530	Not Inspected
S006-1540	Not Inspected
S006-1570	4
S006-1580	1
S006-1585	1
S006-1590	No Scorable Defect
S006-1600	5
S006-1610	Not Inspected
S006-1620	3
S006-1620A	Not Inspected
S006-1630	No Scorable Defect
S006-1640	2
S006-1642	1
S006-1644	No Scorable Defect
S006-1646	No Scorable Defect
S006-1648	2
S006-1650	1
S006-1652	Not Inspected
S006-1655	No Scorable Defect
S006-1660	Not Inspected
S006-1670	2
S006-1680	No Scorable Defect
S006-1680A	No Scorable Defect
S006-1690	5
S006-1700	5
S006-1705	Not Inspected
S006-1710	3
S006-1720	5
S006-1730	5
S006-1740	5
S006-1742	Not Inspected
S006-1744	Not Inspected
S006-1750	1
S006-1760	2
S006-1770	4
S006-1780	5
S006-1790	3
S006-1800	1
S006-1810	5
S006-2000	5
S006-2010	5
S006-2020	3
S006-2100	No Scorable Defect
S006-2110	No Scorable Defect
S006-2120	Not Inspected
S006-2130	Not Inspected
S006-2140	Not Inspected

NASSCO MACP Scores

Manhole Number	MACP Score
S006-2150	Not Inspected
S006-2300	No Scorable Defect
S006-2310	Not Inspected
S006-2320	4
S006-2330	5
S006-2340	No Scorable Defect
S006-2350	Not Inspected
S006-2500	No Scorable Defect
S006-2510	Not Inspected
S006-2520	2
S006-2530	No Scorable Defect
S006-2540	4
S006-2550	5
S006-2560	No Scorable Defect
S006-2570	2
S006-2580	No Scorable Defect
S006-2590	No Scorable Defect
S006-2600	No Scorable Defect
S006-2610	No Scorable Defect
S006-2620	No Scorable Defect
S006-2630	2
S006-2635	2
S006-2640	No Scorable Defect
S006-2650	No Scorable Defect
S006-2660	No Scorable Defect
S006-2670	No Scorable Defect
S006-2680	3
S006-2690	3
S006-2700	No Scorable Defect
S006-2710	5
S006-2720	No Scorable Defect
S006-2730	No Scorable Defect
S006-2740	No Scorable Defect
S006-2750	No Scorable Defect
S006-2760	No Scorable Defect
S006-2770	No Scorable Defect
S006-2780	2
S006-2790	No Scorable Defect
S006-2800	No Scorable Defect
S006-2810	No Scorable Defect
S006-2811	No Scorable Defect
S006-2812	1
S006-2813	No Scorable Defect
S006-2820	2
S006-2830	No Scorable Defect
S006-2840	No Scorable Defect
S006-2850	Not Inspected
S006-2851	No Scorable Defect
S006-2860	No Scorable Defect
S006-2870	No Scorable Defect
S006-2880	Not Inspected
S006-2890	No Scorable Defect
S006-2900	2
S006-2910	2
S006-2920	2
S006-2930	3
S007-0010	No Scorable Defect
S007-0020	2
S007-0040	3
S007-0050	1
S007-0060	2
S007-0070	5
S007-0080	2
S007-0085	1
S007-0090	No Scorable Defect
S007-0100	Not Inspected
S007-0110	No Scorable Defect
S007-0120	No Scorable Defect

NASSCO MACP Scores

Manhole Number	MACP Score
S007-0130	5
S007-0140	No Scorable Defect
S007-0150	2
S007-0155	No Scorable Defect
S007-0160	No Scorable Defect
S007-0170	2
S007-0180	No Scorable Defect
S007-0190	3
S007-0200	No Scorable Defect
S007-0210	Not Inspected
S007-0210A	Not Inspected
S007-0220	No Scorable Defect
S007-0230	2
S007-0240	2
S007-0250	2
S007-0260	4
S007-0270	2
S007-0280	2
S007-0290	5
S007-0300	2
S007-0310	3
S007-0320	5
S007-0330	3
S007-0335	No Scorable Defect
S007-0340	No Scorable Defect
S007-0350	4
S007-0360	5
S007-0370	No Scorable Defect
S007-0380	3
S007-0390	2
S007-0400	3
S007-0410	2
S007-0420	1
S007-0430	2
S007-0432	5
S007-0435	2
S007-0440	5
S007-0450	2
S007-0460	2
S007-0470	Not Inspected
S007-0480	No Scorable Defect
S007-0490	No Scorable Defect
S007-0500	2
S007-0510	5
S007-0520	No Scorable Defect
S007-0530	1
S007-0530A	5
S007-0540	5
S007-0545	5
S007-0550	Not Inspected
S007-0570	No Scorable Defect
S007-0575	No Scorable Defect
S007-0576	No Scorable Defect
S007-0580	No Scorable Defect
S007-0590	No Scorable Defect
S007-0600	Not Inspected
S007-0605	Not Inspected
S007-0610	2
S007-0620	2
S007-0630	3
S007-0640	4
S007-0650	Not Inspected
S007-0660	Not Inspected
S007-0670	Not Inspected
S007-0680	No Scorable Defect
S007-0690	No Scorable Defect
S007-0698	No Scorable Defect
S007-0700	No Scorable Defect

NASSCO MACP Scores

Manhole Number	MACP Score
S007-0710	2
S007-0720	No Scorable Defect
S007-0730	No Scorable Defect
S007-0740	5
S007-0750	No Scorable Defect
S007-0760	No Scorable Defect
S007-0770	No Scorable Defect
S007-0780	1
S007-0790	4
S007-0800	4
S007-0810	2
S007-0820	4
S007-0830	No Scorable Defect
S007-0840	No Scorable Defect
S007-0840A	No Scorable Defect
S007-0850	No Scorable Defect
S007-0860	No Scorable Defect
S007-0870	2
S007-0880	No Scorable Defect
S007-0890	Not Inspected
S007-0900	5
S007-0910	2
S007-0920	2
S007-0930	No Scorable Defect
S007-0940	2
S007-0950	No Scorable Defect
S007-0960	No Scorable Defect
S007-0960A	Not Inspected
S007-0970	No Scorable Defect
S007-0980	2
S007-0990	2
S007-1000	5
S007-1020	2
S007-1030	2
S007-1040	3
S007-1050	3
S007-1054	2
S007-1055	2
S007-1060	No Scorable Defect
S007-1070	1
S007-1071	4
S007-1072	2
S007-1080	2
S007-1090	2
S007-1100	2
S007-1105	No Scorable Defect
S007-1110	No Scorable Defect
S007-1120	5
S007-1130	No Scorable Defect
S007-1130A	No Scorable Defect
S007-1140	No Scorable Defect
S007-1150	Not Inspected
S007-1160	Not Inspected
S007-1170	5
S007-1180	No Scorable Defect
S007-1190	Not Inspected
S007-1195	Not Inspected
S007-1200	3
S007-1210	3
S007-1210A	1
S007-1220	3
S007-1223	Not Inspected
S007-1230	1
S007-1240	1
S007-1250	3
S007-1260	2
S007-1280	4
S007-1290	5

NASSCO MACP Scores

Manhole Number	MACP Score
S007-1300	5
S007-1310	4
S007-1320	Not Inspected
S007-1330	3
S007-1340	No Scorable Defect
S007-1350	2
S007-1360	5
S007-1370	4
S007-1380	4
S007-1390	No Scorable Defect
S007-1400	Not Inspected
S007-1410	2
S007-1420	4
S007-1425	4
S007-1430	3
S007-1440	2
S007-1450	Not Inspected
S007-1460	Not Inspected
S007-1470	Not Inspected
S007-1480	Not Inspected
S007-1490	2
S007-1500	5
S007-1510	4
S007-1520	No Scorable Defect
S007-1530	1
S007-1540	1
S007-1550	2
S007-1560	2
S007-1560A	3
S007-1570	3
S007-1570A	5
S007-1580	5
S007-1580A	3
S007-1580B	2
S007-1590	5
S007-1600	2
S007-1610	3
S007-1620	5
S007-1630	5
S007-1640	2
S007-1650	5
S007-1660	5
S007-1665	5
S007-1670	5
S007-1680	2
S007-1690	Not Inspected
S007-1700	5
S007-1710	4
S007-1720	1
S007-1730	5
S007-1740	5
S007-1750	5
S007-2000	No Scorable Defect
S007-2010	2
S007-2020	2
S007-2030	2
S007-2040	1
S007-2200	1
S007-2200A	Not Inspected
S007-2210	2
S007-2220	No Scorable Defect
S007-2991	No Scorable Defect
S007-2993	Not Inspected
S007-2995	Not Inspected
S007-2997	No Scorable Defect
S007-3000	No Scorable Defect
S007-3010	Not Inspected
S007-3020	2

NASSCO MACP Scores

Manhole Number	MACP Score
S007-3030	Not Inspected
S007-3040	4
S007-3040A	5
S007-3050	2
S007-3060	5
S007-3070	3
S007-3080	3
S007-3090	No Scorable Defect
S007-3100	No Scorable Defect
S007-3110	2
S007-3120	Not Inspected
S007-3130	No Scorable Defect
S007-3140	5
S007-3150	3
S007-3160	2
S007-3170	No Scorable Defect
S007-3180	5
S007-3190	No Scorable Defect
S007-3195	4
S007-3200	3
S007-3210	No Scorable Defect
S007-3220	2
S007-3230	No Scorable Defect
S007-3240	3
S007-3250	3
S007-3260	No Scorable Defect
S007-3265	No Scorable Defect
S007-3270	4
S007-3280	3
S007-3285	2
S007-3290	2
S007-3300	2
S007-3310	5
S007-3320	No Scorable Defect
S007-3330	1
S007-3340	2

APPENDIX C

SEWER LINES SMOKE TESTED

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P003	EOL	P003-0120	137
P003	EOL	P003-0210	39
P003	EOL	P003-0640	39
P003	EOL	P003-0750	59
P003	P003-0010	P002-0050	80
P003	P003-0020	P003-0010	312
P003	P003-0030	P003-0020	178
P003	P003-0040	P003-0030	70
P003	P003-0050	P003-0040	315
P003	P003-0060	P003-0050	336
P003	P003-0070	P003-0030	170
P003	P003-0080	P003-0070	268
P003	P003-0090	P003-0080	417
P003	P003-0100	P003-0090	403
P003	P003-0110	P003-0100	400
P003	P003-0120	P003-0110	242
P003	P003-0130	P003-0070	200
P003	P003-0140	P003-0130	41
P003	P003-0150	P003-0150A	253
P003	P003-0150A	P003-0140	387
P003	P003-0160	P003-0150	100
P003	P003-0170	P003-0130	41
P003	P003-0180	P003-0170	160
P003	P003-0180A	P003-0180	76
P003	P003-0200	P003-0180	59
P003	P003-0210	P003-0200	453
P003	P003-0220	P003-0180A	412
P003	P003-0230	P003-0220	346
P003	P003-0240	P003-0220	350
P003	P003-0250	P003-0240	413
P003	P003-0260	P003-0250	189
P003	P003-0270	P003-0260	158
P003	P003-0280	P003-0270	275
P003	P003-0282	P003-0280	37
P003	P003-0290	P003-0240	360
P003	P003-0295	P003-0290	275
P003	P003-0300	P003-0290	131
P003	P003-0310	P003-0300	57
P003	P003-0320	P003-0310	167
P003	P003-0330	P003-0320	291
P003	P003-0340	P003-0180	191
P003	P003-0350	P003-0340	40
P003	P003-0360	P003-0350	226
P003	P003-0370	P003-0350	192
P003	P003-0380	P003-0370	190
P003	P003-0385	P003-0380	80
P003	P003-0390	P003-0370	355
P003	P003-0400	P003-0390	446
P003	P003-0405	P003-0400	145
P003	P003-0410	P003-0400	88
P003	P003-0420	P003-0390	350
P003	P003-0430	P003-0420	481
P003	P003-0440	P003-0430	262
P003	P003-0450	P003-0340	175
P003	P003-0460	P003-0450	441
P003	P003-0470	P003-0460	433
P003	P003-0480	P003-0470	258
P003	P003-0490	P003-0450	355
P003	P003-0500	P003-0490	464
P003	P003-0510	P003-0500	506
P003	P003-0520	P003-0510	438
P003	P003-0523	P003-0520	67
P003	P003-0530	P003-0490	350
P003	P003-0540	P003-0530	433
P003	P003-0550	P003-0540	112
P003	P003-0560	P003-0550	270
P003	P003-0570	P003-0560	339

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P003	P003-0580	P003-0570	371
P003	P003-0590	P003-0580	371
P003	P003-0600	P003-0590	375
P003	P003-0610	P003-0600	366
P003	P003-0620	P003-0610	60
P003	P003-0630	P003-0620	307
P003	P003-0640	P003-0630	123
P003	P003-0650	P003-0630	209
P003	P003-0660	P003-0540	358
P003	P003-0660	P004-0010	139
P003	P003-0670	P003-0660	44
P003	P003-0680	P003-0670	182
P003	P003-0690	P003-0680	370
P003	P003-0700	P003-0690	305
P003	P003-0710	P003-0700	209
P003	P003-0720	P003-0710	161
P003	P003-0730	P003-0670	360
P003	P003-0740	P003-0730	303
P003	P003-0750	P003-0740	236
P003	P003-0760	P003-0750	93
P003	P003-0770	P003-0760	342
P003	P003-0780	P003-0770	286
P003	P003-0790	P003-0750	127
P003	P003-0800	P003-0790	67
P003	P003-0810	P003-0800	178
P003	P003-0820	P003-0810	375
P003	P003-0830	P003-0820	250
P003	P003-0840	P003-0810	346
P003	P003-0850	P003-0840	179
P003	P003-0860	P003-0840	246
P003	P003-0870	P003-0860	437
P003	P003-0880	P003-0530	511
P003	P003-0890	P003-0880	495
P003	P003-0900	P003-0890	463
P003	P003-0910	P003-0900	253
P003	P003-0920	P003-0910	111
P003	P003-0930	P003-0920	353
P003	P003-0940	P003-0930	231
P003	P003-0950	P003-0940	391
P003	P003-0960	P003-0940	143
P003	P003-0970	P003-0930	507
P003	P003-0980	P003-0970	97
P003	P003-0990	P003-0980	111
P003	P003-1000	P003-0990	312
P003	P003-1010	P003-1000	342
P003	P003-1020	P003-0900	308
P003	P003-1020A	P003-1020B	237
P003	P003-1020B	P003-1020	116
P003	P003-1030	P003-1020	306
P003	P003-1040	P003-1030	360
P003	P003-1050	P003-1040	443
P003	P003-1060	P003-1050	337
P003	P003-1070	P003-1020	186
P003	P003-1080	P003-1070	120
P003	P003-1085	P003-1080	193
P003	P003-1090	P003-1080	77
P003	P003-1100	P003-1090	267
P003	P003-1110	P003-1100	47
P003	P003-1120	P003-1110	342
P003	P003-1130	P003-1120	481
P003	P003-1140	P003-1130	481
P003	P003-1150	P003-0130	366
P003	P003-1160	P003-1150	200
P003	P003-1170	P003-1160	481
P003	P003-1180	P003-1170	530
P003	P003-1190	P003-1180	393
P003	P003-1200	P003-1190	351

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P003	P003-1210	P003-1200	302
P003	P003-1220	P003-1210	282
P003	P003-1230	P003-1220	120
P003	P003-1240	P003-1230	189
P003	P003-1250	P003-1160	499
P003	P003-1260	P003-1250	311
P003	P003-1270	P003-1260	397
P003	P003-1280	P003-1270	300
P003	P003-1290	P003-1280	303
P003	P003-1300	P003-1290	377
P004	EOL	P004-0040	54
P004	EOL	P004-0460	56
P004	EOL	P004-0710	55
P004	EOL	P004-2120	54
P004	EOL	P004-2180	168
P004	EOL	P004-2200	99
P004	EOL	P004-2220	40
P004	P004-0020	P004-0010	158
P004	P004-0030	P004-0020	85
P004	P004-0040	P004-0030	415
P004	P004-0050	P004-0040	144
P004	P004-0060	P004-0050	292
P004	P004-0100	P004-0040	497
P004	P004-0105	P004-0100	66
P004	P004-0110	P004-0105	56
P004	P004-0120	P004-0110	408
P004	P004-0130	P004-0120	403
P004	P004-0140	P004-0130	401
P004	P004-0150	P004-0100	404
P004	P004-0160	P003-0660	35
P004	P004-0170	P004-0160	298
P004	P004-0180	P004-0170	383
P004	P004-0185	P004-0180	266
P004	P004-0190	P004-0185	150
P004	P004-0200	P004-0190	359
P004	P004-0210	P004-0200	370
P004	P004-0220	P004-0210	351
P004	P004-0230	P004-0220	350
P004	P004-0240	P004-0230	301
P004	P004-0250	P004-0240	302
P004	P004-0260	P004-0250	280
P004	P004-0270	P004-0260	310
P004	P004-0280	P004-0270	99
P004	P004-0290	P004-0270	176
P004	P004-0300	P004-0230	345
P004	P004-0310	P004-0300	302
P004	P004-0320	P004-0310	302
P004	P004-0330	P004-0320	311
P004	P004-0340	P004-0330	307
P004	P004-0350	P004-0300	200
P004	P004-0360	P004-0350	300
P004	P004-0370	P004-0360	294
P004	P004-0380	P004-0370	453
P004	P004-0390	P004-0350	232
P004	P004-0400	P004-0390	268
P004	P004-0410	P004-0400	300
P004	P004-0420	P004-0410	383
P004	P004-0430	P004-0420	339
P004	P004-0440	P004-0400	300
P004	P004-0450	P004-0440	178
P004	P004-0460	P004-0450	245
P004	P004-0470	P004-0300	320
P004	P004-0480	P004-0470	302
P004	P004-0490	P004-0480	302
P004	P004-0500	P004-0490	303
P004	P004-0510	P004-0500	320
P004	P004-0520	P004-0470	49

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P004	P004-0530	P004-0520	352
P004	P004-0540	P004-0530	352
P004	P004-0550	P004-0540	352
P004	P004-0560	P004-0550	302
P004	P004-0570	P004-0560	350
P004	P004-0575	P004-0570	125
P004	P004-0580	P004-0575	175
P004	P004-0590	P004-0470	231
P004	P004-0600	P004-0590	12
P004	P004-0610	P004-0600	325
P004	P004-0620	P004-0610	420
P004	P004-0630	P004-0620	280
P004	P004-0640	P004-0610	325
P004	P004-0645	P004-0640	375
P004	P004-0660	P004-0645	55
P004	P004-0665	P004-0660	357
P004	P004-0670	P004-0640	341
P004	P004-0680	P004-0670	336
P004	P004-0710	P004-0590	128
P004	P004-0760	P004-0710	120
P004	P004-0770	P004-0760	248
P004	P004-0800	P004-0770	170
P004	P004-0820	P004-0800	280
P004	P004-0825	P004-0820	213
P004	P004-0830	P004-0825	21
P004	P004-0850	P004-0830	98
P004	P004-0860	P004-0850	248
P004	P004-0870	P004-0860	371
P004	P004-0880	P004-0870	87
P004	P004-0890	P004-0880	412
P004	P004-0900	P004-0890	208
P004	P004-0910	P004-0880	259
P004	P004-0920	P004-0910	304
P004	P004-0930	P004-0820	134
P004	P004-0940	P004-0930	227
P004	P004-0950	P004-0940	75
P004	P004-0970	P004-0930	246
P004	P004-0975	P004-0970	185
P004	P004-0980	P004-0975	118
P004	P004-0990	P004-0590	373
P004	P004-1000	P004-0990	372
P004	P004-1010	P004-1000	371
P004	P004-1015	P004-1010	170
P004	P004-1020	P004-1015	197
P004	P004-1030	P004-1020	183
P004	P004-1040	P004-1020	335
P004	P004-1050	P004-1040	82
P004	P004-1060	P004-1040	202
P004	P004-1066	P004-1060	148
P004	P004-1070	P004-1066	115
P004	P004-1080	P004-1070	350
P004	P004-1090	P004-1080	340
P004	P004-1100	P004-1040	200
P004	P004-1110	P004-1100	303
P004	P004-1120	P004-1110	303
P004	P004-1125	MIDLINE	132
P004	P004-1130	P004-1120	324
P004	P004-1140	P004-1130	302
P004	P004-1145	P004-1140	400
P004	P004-1150	P004-1140	362
P004	P004-1150A	P004-1150	26
P004	P004-1160	P004-1150	280
P004	P004-1170	P004-1160	242
P004	P004-1172	P004-1170	15
P004	P004-1180	P004-1170	382
P004	P004-1190	P004-1160	347
P004	P004-1200	P004-1190	400

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P004	P004-1210	P004-1210A	322
P004	P004-1210A	P004-1200	22
P004	P004-1220	P004-1210	158
P004	P004-2080	P004-1060	254
P004	P004-2090	P004-2080	272
P004	P004-2090	P004-2100	268
P004	P004-2100	P004-1080	300
P004	P004-2110	P004-0970	187
P004	P004-2120	P004-2110	247
P004	P004-2130	P004-2120	215
P004	P004-2140	P004-2130	333
P004	P004-2150	P004-2110	248
P004	P004-2160	P004-2150	289
P004	P004-2170	P004-1015	170
P004	P004-2180	P004-2170	356
P004	P004-2190	P004-2170	177
P004	P004-2200	P004-2190	268
P004	P004-2210	P004-1172	492
P004	P004-2220	P004-2210	73
P005	EOL	P005-3070	70
P005	P005-0010	P004-0010	169
P005	P005-0020	P005-0010	69
P005	P005-0050	P005-0090	105
P005	P005-0060	P005-0050	276
P005	P005-0070	P005-0060	235
P005	P005-0080	P005-0010	535
P005	P005-0090	P005-0080	623
P005	P005-0100	P005-0090	290
P005	P005-0110	P005-0100	448
P005	P005-0120	P005-0110	321
P005	P005-0140	P005-0120	159
P005	P005-0150	P005-0140	40
P005	P005-0160	P005-0150	313
P005	P005-0170	P005-0160	315
P005	P005-0180	P005-0170	324
P005	P005-0190	P005-0180	301
P005	P005-0200	P005-0150	338
P005	P005-0210	P005-0200	314
P005	P005-0220	P005-0210	314
P005	P005-0230	P005-0220	316
P005	P005-0240	P005-0230	305
P005	P005-0250	P005-0200	330
P005	P005-0260	P005-0250	305
P005	P005-0270	P005-0260	316
P005	P005-0280	P005-0270	319
P005	P005-0290	P005-0280	302
P005	P005-0300	P005-0250	153
P005	P005-0310	P005-0300	153
P005	P005-0320	P005-0310	26
P005	P005-0330	P005-0320	284
P005	P005-0330A	P005-0330	254
P005	P005-0340	P005-0330A	47
P005	P005-0350	P005-0310	330
P005	P005-0360	P005-0350	30
P005	P005-0370	P005-0360	288
P005	P005-0380	P005-0370	278
P005	P005-0390	P005-0350	168
P005	P005-0400	P005-0390	36
P005	P005-0410	P005-0400	127
P005	P005-0420	P005-0410	311
P005	P005-0430	P005-0420	288
P005	P005-0440	P005-0120	166
P005	P005-0450	P005-0440	51
P005	P005-0460	P005-0450	298
P005	P005-0470	P005-0460	317
P005	P005-0480	P005-0470	320
P005	P005-0490	P005-0480	298

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P005	P005-0500	P005-0440	343
P005	P005-0510	P005-0500	80
P005	P005-0520	P005-0510	306
P005	P005-0530	P005-0520	345
P005	P005-0540	P005-0530	297
P005	P005-0550	P005-0540	333
P005	P005-0560	P005-0500	342
P005	P005-0570	P005-0560	208
P005	P005-0580	P005-0570	243
P005	P005-0590	P005-0580	368
P005	P005-0600	P005-0570	187
P005	P005-0610	P005-0600	158
P005	P005-0617	P005-0610	321
P005	P005-0620	P005-0610	198
P005	P005-0630	P005-0620	457
P005	P005-0640	P005-0630	118
P005	P005-0650	P005-0630	432
P005	P005-0660	P005-0650	328
P005	P005-0670	P005-0660	299
P005	P005-0680	P005-0617	8
P005	P005-0690	P005-0680	327
P005	P005-0700	P005-0690	224
P005	P005-0710	P005-0700	407
P005	P005-0720	P005-0710	304
P005	P005-0730	P005-0010	393
P005	P005-0760	P005-0050	310
P005	P005-0770	P005-0760	194
P005	P005-0775	P005-0770	250
P005	P005-0780	P005-0730	36
P005	P005-0790	P005-0780	215
P005	P005-0795	P005-0780	90
P005	P005-0800	P005-0795	119
P005	P005-0805	P005-0800	373
P005	P005-0820	P005-0730	88
P005	P005-0830	P005-0820	125
P005	P005-0840	P005-0830	303
P005	P005-3000	P005-0617	58
P005	P005-3010	P005-3000	163
P005	P005-3020	P005-3010	156
P005	P005-3030	P005-3020	55
P005	P005-3040	P005-3020	72
P005	P005-3050	P005-3040	266
P005	P005-3060	P005-3050	250
P005	P005-3070	P005-3060	100
P005	P005-3080	P005-3070	87
P005	P005-3090	P005-3080	264
P005	P005-3100	P005-3090	261
P005	P005-3110	P005-3100	357
P005	P005-3120	P005-3090	335
P005	P005-3130	P005-3120	359
P005	P005-3140	P005-3130	360
P005	P005-3340	P005-0690	281
P005	P005-3350	P005-0090	256
P005	P005-3360	P005-3350	136
P005	P005-3370	P005-3360	411
P005	P005-3380	P005-3370	410
P005	P005-3390	P005-0560	41
P005	P005-3400	P005-3390	148
P005	P005-3410	P005-3400	114
P005	P005-3420	P005-3410	86
P005	P005-3430	P005-3420	90
P005	P005-3440	P005-3430	161
P005	P005-3450	P005-3440	189
P005	P005-3460	P005-3450	220
P005	P005-3470	P005-3420	192
P005	P005-3480	P005-3470	195
P005	P005-3490	P005-3440	61

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P005	P007-0010	P005-3030	564
P005	P008-0010	P005-0690	335
P008	EOL	P008-0480	37
P008	EOL	P008-0500	64
P008	EOL	P008-1155	34
P008	EOL	P008-1260	43
P008	EOL	P008-1520	139
P008	EOL	P008-1540	161
P008	EOL	P008-2290	116
P008	EOL	P008-4070	45
P008	P008-0020	P008-0010	40
P008	P008-0030	P008-0020	359
P008	P008-0040	P008-0030	384
P008	P008-0050	P008-0040	341
P008	P008-0060	P008-0010	182
P008	P008-0070	P008-0060	481
P008	P008-0080	P008-0070	327
P008	P008-0090	P008-0080	376
P008	P008-0100	P008-0120	184
P008	P008-0110	P008-0100	88
P008	P008-0115	P008-0100	209
P008	P008-0120	P008-0130	94
P008	P008-0130	P008-0140	145
P008	P008-0140	P008-0144	116
P008	P008-0144	P008-0145	12
P008	P008-0145	P008-0160	283
P008	P008-0150	P008-0140	338
P008	P008-0160	P008-0530	181
P008	P008-0210	P008-0120	233
P008	P008-0213	P008-0210	9
P008	P008-0220	P008-0213	300
P008	P008-0230	P008-0220	251
P008	P008-0240	P008-0230	303
P008	P008-0250	P008-0240	317
P008	P008-0260	P008-0210	110
P008	P008-0270	P008-0260	397
P008	P008-0280	P008-0260	222
P008	P008-0290	P008-0280	407
P008	P008-0300	P008-0290	400
P008	P008-0310	P008-0300	400
P008	P008-0315	P008-0310	50
P008	P008-0320	P008-0280	119
P008	P008-0330	P008-0320	389
P008	P008-0340	P008-0320	211
P008	P008-0343	P008-0340	22
P008	P008-0350	P008-0343	154
P008	P008-0360	P008-0350	234
P008	P008-0370	P008-0360	399
P008	P008-0380	P008-0370	390
P008	P008-0385	P008-0380	49
P008	P008-0390	P008-0010	329
P008	P008-0400	P008-0390	179
P008	P008-0410	P008-0400	370
P008	P008-0420	P008-0390	43
P008	P008-0430	P008-0420	396
P008	P008-0440	P008-0430	454
P008	P008-0450	P008-0440	357
P008	P008-0460	P008-0390	334
P008	P008-0470	P008-0460	184
P008	P008-0480	P008-0470	370
P008	P008-0490	P008-0460	44
P008	P008-0500	P008-0490	344
P008	P008-0510	P008-0500	452
P008	P008-0520	P008-0510	365
P008	P008-0530	P008-0460	330
P008	P008-0540	P008-0530	182
P008	P008-0543	P008-0540	88

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P008	P008-0550	P008-0530	43
P008	P008-0560	P008-0550	395
P008	P008-0570	P008-0560	458
P008	P008-0580	P008-0570	357
P008	P008-0590	P008-0160	160
P008	P008-0600	P008-0590	48
P008	P008-0610	P008-0600	237
P008	P008-0620	P008-0610	346
P008	P008-0630	P008-0620	346
P008	P008-0640	P008-0630	313
P008	P008-0650	P008-0640	154
P008	P008-0660	P008-0650	158
P008	P008-0670	P008-0660	361
P008	P008-0680	P008-0670	445
P008	P008-0690	P008-0680	403
P008	P008-0700	P008-0690	474
P008	P008-0710	P008-0700	477
P008	P008-0720	P008-0710	355
P008	P008-0730	P008-0720	350
P008	P008-0740	P008-0730	310
P008	P008-0750	P008-0590	335
P008	P008-0760	P008-0750	30
P008	P008-0770	P008-0760	263
P008	P008-0780	P008-0770	351
P008	P008-0790	P008-0780	351
P008	P008-0800	P008-0790	257
P008	P008-0810	P008-0750	158
P008	P008-0820	P008-0810	52
P008	P008-0830	P008-0820	150
P008	P008-0840	P008-0830	91
P008	P008-0850	P008-0840	254
P008	P008-0860	P008-0850	248
P008	P008-0870	P008-0860	308
P008	P008-0880	P008-0870	325
P008	P008-0890	P008-0870	171
P008	P008-0900	P008-0890	160
P008	P008-0910	P008-0900	300
P008	P008-0920	P008-0900	267
P008	P008-0930	P008-0830	103
P008	P008-0940	P008-1060	182
P008	P008-0950	P008-0980	68
P008	P008-0960	P008-0950	22
P008	P008-0970	P008-0960	320
P008	P008-0980	P008-0940	18
P008	P008-0990	P008-0980	253
P008	P008-1000	P008-0980	142
P008	P008-1010	P008-1000	78
P008	P008-1020	P008-1010	15
P008	P008-1030	P008-1020	306
P008	P008-1040	P008-1010	15
P008	P008-1050	P008-1040	309
P008	P008-1060	P008-0930	45
P008	P008-1070	P008-1060	178
P008	P008-1080	P008-1070	68
P008	P008-1085	P008-1080	36
P008	P008-1090	P008-1085	229
P008	P008-1100	P008-1070	181
P008	P008-1110	P008-1100	56
P008	P008-1120	P008-1110	21
P008	P008-1130	P008-1120	216
P008	P008-1140	P008-1130	152
P008	P008-1150	P008-1140	426
P008	P008-1155	P008-1150	445
P008	P008-1160	P008-1140	204
P008	P008-1170	P008-1160	170
P008	P008-1180	P008-1170	430
P008	P008-1190	P008-1180	457

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P008	P008-1200	P008-1190	359
P008	P008-1210	P008-1170	197
P008	P008-1220	P008-1210	170
P008	P008-1230	P008-1220	442
P008	P008-1240	P008-1230	451
P008	P008-1250	P008-1240	362
P008	P008-1260	P008-1110	157
P008	P008-1270	P008-1260	200
P008	P008-1280	P008-1260	120
P008	P008-1290	P008-1280	63
P008	P008-1290A	P008-1290	69
P008	P008-1300	P008-1290A	87
P008	P008-1310	P008-1300	298
P008	P008-1320	P008-1310	139
P008	P008-1330	P008-4210	52
P008	P008-1340	P008-1330	130
P008	P008-1350	P008-1340	96
P008	P008-1360	P008-1330	124
P008	P008-1370	P008-1360	468
P008	P008-1375	P008-1370	397
P008	P008-1380	P008-1370	71
P008	P008-1390	P008-1380	224
P008	P008-1400	P008-1390	176
P008	P008-1410	P008-1400	46
P008	P008-1420	P008-1410	50
P008	P008-1430	P008-1420	168
P008	P008-1440	P008-1430	247
P008	P008-1450	P008-1440	239
P008	P008-1460	P008-1380	308
P008	P008-1460A	P008-1460	135
P008	P008-1470	P008-1460A	238
P008	P008-1480	P008-1470	388
P008	P008-1490	P008-1480	106
P008	P008-1500	P008-1490	12
P008	P008-1510	P008-1490	302
P008	P008-1520	P008-1510	149
P008	P008-1540	P008-1520	173
P008	P008-1550	P008-1540	152
P008	P008-1570	P008-1540	142
P008	P008-1575	P008-1570	142
P008	P008-1580	P008-1570	98
P008	P008-1590	P008-1300	293
P008	P008-1600	P008-1590	400
P008	P008-1610	P008-1590	0
P008	P008-1610	P008-1615	140
P008	P008-1615	P008-1620	130
P008	P008-1615A	P008-1615	116
P008	P008-1620	P008-1270	101
P008	P008-1630	P008-1590	376
P008	P008-1640	P008-1630	388
P008	P008-1650	P008-1630	197
P008	P008-1660	P008-1650	94
P008	P008-1670	P008-1650	436
P008	P008-1680	P008-1630	340
P008	P008-1690	P008-1680	387
P008	P008-1700	P008-1680	185
P008	P008-1710	P008-1700	292
P008	P008-1720	P008-1700	24
P008	P008-1730	P008-1720	428
P008	P008-1740	P008-1720	164
P008	P008-1750	P008-1740	284
P008	P008-1760	P008-1750	310
P008	P008-1770	P008-1760	206
P008	P008-1780	P008-1770	291
P008	P008-1780A	P008-1780	22
P008	P008-1790	P008-1780	150
P008	P008-1800	P008-1780A	157

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P008	P008-1810	P008-1800	161
P008	P008-1820	P008-1810	132
P008	P008-1830	P008-1820	232
P008	P008-1840	P008-1290	105
P008	P008-1850	P008-1840	243
P008	P008-1855	P008-1850	118
P008	P008-1860	P008-1850	174
P008	P008-1870	P008-1860	53
P008	P008-1880	P008-1870	351
P008	P008-1890	P008-1860	236
P008	P008-1900	P008-1890	234
P008	P008-1910	P008-1890	246
P008	P008-1920	P008-1910	301
P008	P008-1925	P008-1920	175
P008	P008-1930	P008-1920	396
P008	P008-1940	P008-1930	300
P008	P008-1950	P008-1940	300
P008	P008-1960	P008-1930	280
P008	P008-1970	P008-1960	287
P008	P008-2000	P008-1910	67
P008	P008-2060	P008-2000	215
P008	P008-2070	P008-2060	179
P008	P008-2080	P008-2070	176
P008	P008-2100	P008-2080	316
P008	P008-2120	P008-2100	315
P008	P008-2130	P008-2120	209
P008	P008-2140	P008-2130	56
P008	P008-2150	P008-2140	183
P008	P008-2160	P008-2150	19
P008	P008-2170	P008-2160	380
P008	P008-2180	P008-2170	337
P008	P008-2190	P008-2180	457
P008	P008-2200	P008-2190	310
P008	P008-2210	P008-2200	228
P008	P008-2221	P008-2130	181
P008	P008-2231	P008-2221	101
P008	P008-2233	P008-2231	53
P008	P008-2240	P008-2233	224
P008	P008-2250	P008-2240	40
P008	P008-2260	P008-2240	108
P008	P008-2270	P008-2260	40
P008	P008-2280	P008-2270	155
P008	P008-2290	P008-2280	139
P008	P008-2300	P008-2290	153
P008	P008-2310	P008-2300	175
P008	P008-2320	P008-2260	365
P008	P008-2330	P008-2320	250
P008	P008-2340	P008-2330	206
P008	P008-2350	P008-2320	366
P008	P008-2360	P008-2350	367
P008	P008-2366	P008-2360	289
P008	P008-2370	P008-2366	87
P008	P008-2380	P008-2370	200
P008	P008-2390	P008-2380	314
P008	P008-2405	P008-2366	148
P008	P008-2408	P008-2405	70
P008	P008-2410	P008-2408	184
P008	P008-2420	P008-2410	348
P008	P008-2460	P008-4500	310
P008	P008-2920	P008-2910	25
P008	P008-2930	P008-2920	405
P008	P008-3020	P008-3010	149
P008	P008-3030	P008-3010	371
P008	P008-3480	P008-1910	25
P008	P008-3490	P008-3480	112
P008	P008-3500	P008-3490	25
P008	P008-3510	P008-3500	350

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
P008	P008-3520	P008-3510	408
P008	P008-3530	P008-3520	396
P008	P008-3550	P008-3490	378
P008	P008-3560	P008-3550	23
P008	P008-3570	P008-3560	335
P008	P008-3580	P008-3570	348
P008	P008-3590	P008-3580	417
P008	P008-3610	P008-3550	355
P008	P008-3620	P008-3610	20
P008	P008-3630	P008-3620	340
P008	P008-3640	P008-3630	350
P008	P008-3644	P008-3640	96
P008	P008-3646	P008-3644	148
P008	P008-3648	P008-3646	181
P008	P008-3650	P008-3648	167
P008	P008-3660	P008-3650	71
P008	P008-3670	P008-3660	143
P008	P008-3680	P008-3670	157
P008	P008-3700	P008-3680	670
P008	P008-3710	P008-3680	355
P008	P008-3730	P008-3710	260
P008	P008-4000	P008-1100	299
P008	P008-4010	P008-4000	363
P008	P008-4020	P008-4020A	29
P008	P008-4020A	P008-4010	400
P008	P008-4030	P008-4020	15
P008	P008-4040	P008-4030	325
P008	P008-4050	P008-4020	39
P008	P008-4060	P008-4050	372
P008	P008-4070	P008-4060	398
P008	P008-4200	P008-1290A	101
P008	P008-4210	P008-4200	391
P008	P008-4490	P008-2231	60
P008	P008-4500	P008-4490	441
P008	P008-4510	P008-4500	269
P008	P008-4520	P008-4510	247
P009	P009-0021	P008-4520	390
S006	EOL	S006-0590	5
S006	EOL	S006-1040	99
S006	EOL	S006-1090	18
S006	EOL	S006-1160	22
S006	S006-0035	S006-2600	12
S006	S006-0070	S006-2635	163
S006	S006-0080	S006-0070	159
S006	S006-0090	S006-0035	433
S006	S006-0100	S006-0090	190
S006	S006-0110	S006-0100	245
S006	S006-0120	S006-0110	40
S006	S006-0130	S006-0120	158
S006	S006-0140	S006-0130	133
S006	S006-0150	S006-0130	264
S006	S006-0160	S006-0150	228
S006	S006-0160A	S006-0160	12
S006	S006-0170	S006-0160	44
S006	S006-0180	S006-0170	146
S006	S006-0190	S006-0180	304
S006	S006-0200	S006-0190	375
S006	S006-0210	S006-0200	123
S006	S006-0220	S006-0210	300
S006	S006-0230	S006-0220	287
S006	S006-0240	S006-0230	70
S006	S006-0250	S006-0240	406
S006	S006-0260	S006-0250	300
S006	S006-0270	S006-0260	415
S006	S006-0275	S006-0270	87
S006	S006-0450	S006-2850	9
S006	S006-0460	S006-0450	316

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S006	S006-0470	S006-0460	276
S006	S006-0480	S006-0470	294
S006	S006-0490	S006-0480	199
S006	S006-0500	S006-0490	372
S006	S006-0520	S006-2880	80
S006	S006-0530	S006-0520	432
S006	S006-0533	S006-0530	34
S006	S006-0540	S006-0530	179
S006	S006-0560	S006-0540	168
S006	S006-0570	S006-0560	421
S006	S006-0580	S006-0560	331
S006	S006-0590	S006-0580	427
S006	S006-0600	S006-0580	328
S006	S006-0610	S006-0600	419
S006	S006-0620	S006-0600	325
S006	S006-0630	S006-0620	425
S006	S006-0640	S006-0620	108
S006	S006-0650	S006-0533	283
S006	S006-0660	S006-0650	114
S006	S006-0670	S006-0650	329
S006	S006-0680	S006-0670	234
S006	S006-0690	S006-0670	164
S006	S006-0700	S006-0690	143
S006	S006-0710	S006-0700	162
S006	S006-0720	S006-0710	317
S006	S006-0730	S006-0710	331
S006	S006-0740	S006-0730	324
S006	S006-0744	S006-0740	44
S006	S006-0748	S006-0744	300
S006	S006-0750	S006-0740	283
S006	S006-0770	S006-2910	54
S006	S006-0780	S006-2900	49
S006	S006-0785	S006-0780	60
S006	S006-0802	S006-0780	97
S006	S006-0803	S006-0802	46
S006	S006-0804	S006-0803	33
S006	S006-0806	S006-0804	89
S006	S006-0808	S006-0806	32
S006	S006-0810	S006-0808	95
S006	S006-0820	S006-0810	250
S006	S006-0830	S006-0820	344
S006	S006-0840	S006-0830	300
S006	S006-0850	S006-0840	201
S006	S006-0860	S006-0850	201
S006	S006-0870	S006-0810	161
S006	S006-0880	S006-0870	261
S006	S006-0890	S006-0880	268
S006	S006-0900	S006-0870	165
S006	S006-0907	S006-0900	275
S006	S006-0908	S006-0907	37
S006	S006-0910	S006-0908	49
S006	S006-0920	S006-0910	314
S006	S006-0930	S006-0920	68
S006	S006-0940	S006-0940A	245
S006	S006-0940A	S006-0930	68
S006	S006-0950	S006-0940	296
S006	S006-0960	S006-0950	318
S006	S006-0970	S006-0960	300
S006	S006-0980	S006-0920	169
S006	S006-0990	S006-0980	263
S006	S006-1000	S006-0990	63
S006	S006-1010	S006-2500	37
S006	S006-1020	S006-1010	289

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S006	S006-1030	S006-1020	23
S006	S006-1040	S006-1030	170
S006	S006-1050	S006-1040	393
S006	S006-1055	S006-1050	354
S006	S006-1056	S006-1055	193
S006	S006-1070	S006-1030	330
S006	S006-1080	S006-1070	221
S006	S006-1090	S006-1080	69
S006	S006-1100	S006-1000	172
S006	S006-1110	S006-1100	384
S006	S006-1120	S006-1110	394
S006	S006-1130	S006-1100	323
S006	S006-1140	S006-1130	357
S006	S006-1150	S006-1140	249
S006	S006-1160	S006-1130	361
S006	S006-1170	S006-1160	123
S006	S006-1174	S006-1170	289
S006	S006-1176	S006-1174	14
S006	S006-1180	S006-1170	199
S006	S006-1190	S006-1180	326
S006	S006-1195	S006-1190	262
S006	S006-1200	S006-1190	311
S006	S006-1210	S006-0748	240
S006	S006-1220	S006-0785	189
S006	S006-1230	S006-1220	300
S006	S006-1240	S006-1240A	245
S006	S006-1240A	S006-1470	53
S006	S006-1250	S006-1240	294
S006	S006-1260	S006-1250	349
S006	S006-1270	S006-1260	340
S006	S006-1280	S006-1270	18
S006	S006-1290	S006-1280	119
S006	S006-1300	S006-1290	68
S006	S006-1310	S006-1300	100
S006	S006-1320	S006-1310	381
S006	S006-1325	S006-1320	198
S006	S006-1330	S006-1320	422
S006	S006-1340	S006-1330	214
S006	S006-1350	S006-1340	213
S006	S006-1360	S006-1350	64
S006	S006-1370	S006-1360	238
S006	S006-1380	S006-1370	80
S006	S006-1390	S006-1300	403
S006	S006-1400	S006-1390	234
S006	S006-1410	S006-1400	299
S006	S006-1420	S006-1410	150
S006	S006-1430	S006-1420	343
S006	S006-1440	S006-1430	106
S006	S006-1450	S006-1440	210
S006	S006-1460	S006-1450	144
S006	S006-1470	S006-1230	103
S006	S006-1480	S006-1470	257
S006	S006-1490	S006-1480	233
S006	S006-1500	S006-1490	404
S006	S006-1505	S006-1500	66
S006	S006-1507	S006-1505	130
S006	S006-1511	S006-1507	30
S006	S006-1520	S006-1505	217
S006	S006-1530	S006-1520	226
S006	S006-1540	S006-1530	133
S006	S006-1570	S006-1511	289
S006	S006-1580	S006-1570	244
S006	S006-1585	S006-1580	10
S006	S006-1590	S006-1585	338
S006	S006-1600	S006-1590	173
S006	S006-1610	S006-1600	143
S006	S006-1620	S006-1580	170

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S006	S006-1630	S006-1620	25
S006	S006-1640	S006-1630	288
S006	S006-1642	S006-1640	87
S006	S006-1644	S006-1642	35
S006	S006-1646	S006-1640	184
S006	S006-1648	S006-1646	134
S006	S006-1650	S006-1648	16
S006	S006-1652	S006-1650	91
S006	S006-1655	S006-1650	343
S006	S006-1660	S006-1650	300
S006	S006-1670	S006-1490	400
S006	S006-1680	S006-1670	330
S006	S006-1680A	S006-1680	154
S006	S006-1690	S006-1680	328
S006	S006-1700	S006-1690	327
S006	S006-1705	S006-1700	243
S006	S006-1710	S006-1700	166
S006	S006-1720	S006-1710	300
S006	S006-1730	S006-1720	290
S006	S006-1740	S006-1730	300
S006	S006-1742	S006-1740	75
S006	S006-1744	S006-1742	205
S006	S006-1750	S006-1705	101
S006	S006-1760	S006-1750	425
S006	S006-1770	S006-1760	190
S006	S006-1780	S006-1750	180
S006	S006-1790	S006-1780	149
S006	S006-1800	S006-1790	446
S006	S006-1810	S006-1800	194
S006	S006-2000	S006-0190	225
S006	S006-2010	S006-2000	368
S006	S006-2020	S006-2010	497
S006	S006-2100	S006-0470	34
S006	S006-2110	S006-2100	342
S006	S006-2120	S006-0470	259
S006	S006-2130	S006-2120	14
S006	S006-2140	S006-2130	62
S006	S006-2150	S006-2140	326
S006	S006-2300	S006-0908	181
S006	S006-2310	S006-2300	162
S006	S006-2320	S006-2310	292
S006	S006-2330	S006-2320	327
S006	S006-2340	S006-2300	13
S006	S006-2350	S006-2340	163
S006	S006-2500	S006-0990	33
S006	S006-2510	S006-2500	204
S006	S006-2520	S006-2510	408
S006	S006-2530	S006-2520	132
S006	S006-2540	S006-2520	196
S006	S006-2550	S006-2540	148
S006	S006-2560	S002-1425	416
S006	S006-2570	S006-2560	251
S006	S006-2580	S006-2570	154
S006	S006-2590	S006-2580	325
S006	S006-2600	S006-2590	290
S006	S006-2610	S006-2600	130
S006	S006-2620	S006-2610	275
S006	S006-2630	S006-2620	42
S006	S006-2635	S006-2630	52
S006	S006-2640	S006-2630	155
S006	S006-2650	S006-2640	185
S006	S006-2660	S006-2650	19
S006	S006-2670	S006-2660	293
S006	S006-2680	S006-2650	230
S006	S006-2690	S006-2680	49
S006	S006-2700	S006-2690	285
S006	S006-2710	S006-2700	156

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S006	S006-2720	S006-2710	287
S006	S006-2730	S006-2720	235
S006	S006-2740	S006-2730	233
S006	S006-2750	S006-2740	143
S006	S006-2760	S006-2750	182
S006	S006-2770	S006-2760	222
S006	S006-2780	S006-2770	86
S006	S006-2790	S006-2780	236
S006	S006-2800	S006-2790	389
S006	S006-2810	S006-2800	400
S006	S006-2811	S006-2810	81
S006	S006-2812	S006-2811	14
S006	S006-2813	S006-2812	87
S006	S006-2820	S006-2810	335
S006	S006-2830	S006-2820	90
S006	S006-2840	S006-2830	155
S006	S006-2850	S006-2840	44
S006	S006-2851	S006-2850	85
S006	S006-2860	S006-2840	225
S006	S006-2870	S006-2860	47
S006	S006-2880	S006-2870	51
S006	S006-2890	S006-2870	262
S006	S006-2900	S006-2890	264
S006	S006-2910	S006-2900	171
S006	S006-2920	S006-2680	232
S006	S006-2930	S006-2920	193
S007	EOL	S007-0190	32
S007	EOL	S007-0250	34
S007	EOL	S007-1000	38
S007	EOL	S007-1040	92
S007	EOL	S007-1210A	55
S007	EOL	S007-1260	42
S007	EOL	S007-1560	46
S007	EOL	S007-1570A	38
S007	EOL	S007-1665	15
S007	S007-0010	S006-0080	100
S007	S007-0020	S007-0010	262
S007	S007-0040	S007-0020	181
S007	S007-0050	S007-0040	195
S007	S007-0060	S007-0050	101
S007	S007-0070	S007-0060	28
S007	S007-0080	S007-0070	151
S007	S007-0085	S007-0080	108
S007	S007-0090	S007-0085	265
S007	S007-0100	S007-0090	178
S007	S007-0110	S007-0100	375
S007	S007-0120	S007-0110	299
S007	S007-0130	S007-0120	328
S007	S007-0140	S007-0130	130
S007	S007-0150	S007-0140	140
S007	S007-0155	S007-0150	138
S007	S007-0160	S007-0155	68
S007	S007-0170	S007-0160	193
S007	S007-0180	S007-0170	606
S007	S007-0190	S007-0140	230
S007	S007-0200	S007-0190	42
S007	S007-0210	S007-0200	252
S007	S007-0220	S007-0210	273
S007	S007-0230	S007-0220	136
S007	S007-0240	S007-0230	41
S007	S007-0250	S007-0240	386
S007	S007-0260	S007-0240	300
S007	S007-0270	S007-0190	123
S007	S007-0280	S007-0270	213
S007	S007-0290	S007-0280	250
S007	S007-0300	S007-0270	220
S007	S007-0310	S007-0300	211

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S007	S007-0320	S007-0310	189
S007	S007-0330	S007-0155	50
S007	S007-0335	S007-0150	45
S007	S007-0340	S007-0335	166
S007	S007-0350	S007-0340	345
S007	S007-0360	S007-0350	166
S007	S007-0370	S007-0360	237
S007	S007-0380	S007-0330	142
S007	S007-0390	S007-0380	160
S007	S007-0400	S007-0390	208
S007	S007-0410	S007-0400	55
S007	S007-0420	S007-0410	265
S007	S007-0430	S007-0380	44
S007	S007-0432	S007-0430	16
S007	S007-0435	S007-0432	114
S007	S007-0440	S007-0435	139
S007	S007-0450	S007-0440	360
S007	S007-0460	S007-0450	112
S007	S007-0470	S007-0220	241
S007	S007-0480	S007-0180	40
S007	S007-0490	S007-0480	158
S007	S007-0500	S007-0490	120
S007	S007-0510	S007-0500	149
S007	S007-0520	S007-0510	262
S007	S007-0530	S007-0520	244
S007	S007-0530A	S007-0530	380
S007	S007-0540	S007-0530A	113
S007	S007-0545	S007-0540	45
S007	S007-0550	S007-0545	388
S007	S007-0570	S007-0550	529
S007	S007-0575	S007-0570	150
S007	S007-0576	S007-0575	133
S007	S007-0580	S007-0576	137
S007	S007-0590	S007-0570	320
S007	S007-0600	S007-0590	198
S007	S007-0605	S007-0600	141
S007	S007-0610	S007-0600	174
S007	S007-0620	S007-0610	298
S007	S007-0630	S007-0620	275
S007	S007-0640	S007-0630	472
S007	S007-0650	S007-0605	339
S007	S007-0660	S007-0650	337
S007	S007-0670	S007-0660	285
S007	S007-0680	S007-0490	347
S007	S007-0690	S007-0680	158
S007	S007-0698	S007-0690	370
S007	S007-0700	S007-0698	62
S007	S007-0710	S007-0700	337
S007	S007-0720	S007-0710	280
S007	S007-0730	S007-0720	217
S007	S007-0740	S007-0730	336
S007	S007-0750	S007-0740	262
S007	S007-0760	S007-0750	250
S007	S007-0770	S007-0760	125
S007	S007-0780	S007-0720	319
S007	S007-0790	S007-0780	161
S007	S007-0800	S007-0790	349
S007	S007-0810	S007-0800	461
S007	S007-0820	S007-0810	213
S007	S007-0830	S007-0780	153
S007	S007-0840	S007-0830	294
S007	S007-0840A	S007-0840	300
S007	S007-0850	S007-0840A	118
S007	S007-0860	S007-0850	173
S007	S007-0870	S007-0780	302
S007	S007-0880	S007-0870	190
S007	S007-0890	S007-0880	203

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S007	S007-0900	S007-0890	139
S007	S007-0910	S007-0900	240
S007	S007-0920	S007-0910	181
S007	S007-0930	S007-0920	269
S007	S007-0940	S007-0870	183
S007	S007-0950	S007-0940	215
S007	S007-0960	S007-0950	341
S007	S007-0970	S007-0960	366
S007	S007-0980	S007-0870	352
S007	S007-0990	S007-0980	166
S007	S007-1000	S007-0990	114
S007	S007-1020	S007-0980	165
S007	S007-1030	S007-1020	114
S007	S007-1040	S007-1030	155
S007	S007-1050	S007-0060	291
S007	S007-1054	S007-1050	289
S007	S007-1055	S007-1054	288
S007	S007-1060	S007-1055	502
S007	S007-1070	S007-1060	410
S007	S007-1071	S007-1070	61
S007	S007-1072	S007-1071	165
S007	S007-1080	S007-1070	300
S007	S007-1090	S007-1080	262
S007	S007-1100	S007-1090	245
S007	S007-1105	S007-1100	393
S007	S007-1110	S007-1070	342
S007	S007-1120	S007-1110	348
S007	S007-1130	S007-1120	326
S007	S007-1130A	S007-1130	261
S007	S007-1140	S007-1130A	54
S007	S007-1150	S007-1140	414
S007	S007-1160	S007-1140	417
S007	S007-1170	S007-1140	282
S007	S007-1180	S007-1170	220
S007	S007-1190	S007-1170	145
S007	S007-1195	S007-1190	220
S007	S007-1200	S007-1130	109
S007	S007-1210	S007-1200	425
S007	S007-1210A	S007-1210	148
S007	S007-1220	S007-1210A	192
S007	S007-1223	S007-1220	8
S007	S007-1230	S007-1223	393
S007	S007-1240	S007-1210	278
S007	S007-1250	S007-1240	258
S007	S007-1260	S007-1250	260
S007	S007-1280	S007-1060	342
S007	S007-1290	S007-1280	371
S007	S007-1300	S007-1290	38
S007	S007-1310	S007-1300	193
S007	S007-1320	S007-1310	90
S007	S007-1330	S007-1300	338
S007	S007-1340	S007-1330	155
S007	S007-1350	S007-1340	126
S007	S007-1360	S007-1340	210
S007	S007-1370	S007-1360	299
S007	S007-1380	S006-2813	58
S007	S007-1380	S007-1370	368
S007	S007-1390	S007-1380	334
S007	S007-1400	S007-1390	200
S007	S007-1410	S007-1380	240
S007	S007-1420	S007-1410	357
S007	S007-1425	S007-1420	177
S007	S007-1430	S007-1410	303
S007	S007-1440	S007-1430	336
S007	S007-1490	S007-1440	240
S007	S007-1500	S007-1490	313
S007	S007-1510	S007-1490	229

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S007	S007-1520	S007-1510	323
S007	S007-1530	S007-1520	248
S007	S007-1540	S007-1530	349
S007	S007-1550	S007-1540	270
S007	S007-1560	S007-1410	210
S007	S007-1560A	S007-1560	56
S007	S007-1570	S007-1560A	191
S007	S007-1570A	S007-1570	35
S007	S007-1580	S007-1570A	153
S007	S007-1580A	S007-1580	19
S007	S007-1580B	S007-1580	9
S007	S007-1590	S007-1580A	171
S007	S007-1600	S007-1580B	25
S007	S007-1610	S007-1600	106
S007	S007-1620	S007-1610	200
S007	S007-1630	S007-1600	168
S007	S007-1640	S007-1630	58
S007	S007-1650	S007-1640	152
S007	S007-1660	S007-1650	97
S007	S007-1665	S007-1660	146
S007	S007-1670	S007-1650	35
S007	S007-1680	S007-1670	140
S007	S007-1700	S007-1670	200
S007	S007-1710	S007-1700	130
S007	S007-1720	S007-1710	104
S007	S007-1730	S007-1720	200
S007	S007-1740	S007-1710	100
S007	S007-1750	S007-1740	120
S007	S007-2000	S007-0100	63
S007	S007-2010	S007-2000	222
S007	S007-2020	S007-2010	340
S007	S007-2030	S007-2020	84
S007	S007-2040	S007-2000	289
S007	S007-2200	S007-1220	240
S007	S007-2210	S007-2200	115
S007	S007-2220	S007-2210	130
S007	S007-2991	S007-0020	127
S007	S007-2993	S007-2991	226
S007	S007-2995	S007-2993	302
S007	S007-2997	S007-2995	39
S007	S007-3000	S007-2997	314
S007	S007-3010	S007-0960	73
S007	S007-3020	S007-3010	172
S007	S007-3030	S007-3020	126
S007	S007-3040	S007-0085	299
S007	S007-3040A	S007-3040	69
S007	S007-3050	S007-3040A	180
S007	S007-3060	S007-3050	96
S007	S007-3070	S007-3060	96
S007	S007-3080	S007-3070	107
S007	S007-3090	S007-3060	203
S007	S007-3100	S007-3090	70
S007	S007-3110	S007-3100	138
S007	S007-3120	S007-3110	147
S007	S007-3130	S007-3100	263
S007	S007-3140	S007-3130	151
S007	S007-3150	S007-3140	87
S007	S007-3160	S007-3150	192
S007	S007-3170	S007-3160	179
S007	S007-3180	S007-3170	74
S007	S007-3190	S007-3150	148
S007	S007-3195	S007-3190	83
S007	S007-3200	S007-3195	285
S007	S007-3210	S007-3200	178
S007	S007-3220	S007-3210	123
S007	S007-3230	S007-3220	91
S007	S007-3240	S007-3200	194

Sewer Lines Smoke Tested

Sub-Basin	Upstream Manhole	Downstream Manhole	Segment Length
S007	S007-3250	S007-3240	132
S007	S007-3260	S007-3250	126
S007	S007-3265	S007-3260	42
S007	S007-3270	S007-3265	170
S007	S007-3280	S007-3270	123
S007	S007-3285	S007-3280	126
S007	S007-3290	S007-3285	164
S007	S007-3300	S007-3250	215
S007	S007-3310	S007-3300	189
S007	S007-3320	S007-3310	122
S007	S007-3330	S007-3020	238
S007	S007-3340	S007-3330	165

APPENDIX D

SMOKE TESTING DEFECTS

Smoke Testing Defects

Sub-Basin	Upstream Manhole	Downstream Manhole	Address	Street Name	Defect	Smoke Intensity	Remarks
P003	P003-0060	P003-0050	1601	N 6th St	Gravity Sewer Lines	Heavy	Direct connected to manhole channel
P003	P003-0100	P003-0090	1751	N 6th St	Cleanouts Private	Heavy	Vacant lot, address obtained by Google maps
P003	P003-0100	P003-0090	1751	N 6th St	Cleanouts Private	Heavy	Vacant lot...address obtained by Google maps
P003	P003-0160	P003-0150	1411	N 7th St	Manhole Frame Seals	Heavy	Located in drainage ditch
P003	P003-0160	P003-0150	1411	N 7th St	Service Lines Private	Light	Abandoned gas meter
P003	P003-0210	P003-0200	1714	N 7th St	Manhole Frame Seals	Light	Located in ditch, close to intersection of N P St and N 7th St
P003	P003-0230	P003-0220	1619	N 8th St	Gravity Sewer Line	Heavy	Inside AOG gas well, will need to contact AOG to have gate unlocked if dye test is performed
P003	P003-0280	P003-0270	1315	N 9th St	Cleanouts Private	Medium	Cake pan on top of clean out. Resident is not home, unable to enter backyard GPS point placed out side of fence in front of defect
P003	P003-0350	P003-0340	700	N P St	Manhole Frame Seals	Medium	No physical address...inside vacant field
P003	P003-0400	P003-0390	1601	N 9th St	Service Lines Private	Heavy	Empty lot where a house once was
P003	P003-0410	P003-0400	1422	N 8th St	Manhole Frame Seals	Heavy	Behind the Lincoln Center
P003	P003-0410	P003-0400	1422	N 8th St	Service Lines Public	Light	Behind the Lincoln Center
P003	P003-0420	P003-0390	1634	N 9th St	Gravity Sewer Line	Heavy	White ribbon hanging on bush next to defect, defect actually located off of N P St
P003	P003-0430	P003-0420	1616	N 9th St	Gravity Sewer Line	Heavy	Large hole, Leake is northeast of building next to wood line, will leave flag for future location
P003	P003-0500	P003-0490	1701	N 9th St	Service Lines Private	Heavy	Large hole in ground located in vacant lot across from the Buddhist temple
P003	P003-0500	P003-0490	1714	N 8th St	Cleanouts Private	Heavy	GPS point placed in alley at the back of the privacy fence next to the gate
P003	P003-0560	P003-0550	1718	Midland Blvd	Service Lines Private	Medium	In alley behind address, left flag
P003	P003-0560	P003-0550	1722	Midland Blvd	Service Lines Private	Light	In alley behind address, Area is depressed next to public clean out...possibly a bad tap connection
P003	P003-0570	P003-0560	1805	N 12th St	Cleanouts Private	Light	Green cap with 2-1 inch holes
P003	P003-0580	P003-0570	1901	N 12th St	Cleanouts Public	Light	Defective riser, broken cap In alley behind address
P003	P003-0590	P003-0580	1930	Midland Blvd	Cleanouts Private	Medium	Defective riser
P003	P003-0590	P003-0580	1930	Midland Blvd	Service Lines Private	Heavy	Large hole
P003	P003-0600	P003-0590	1121	N N St	Service Lines Private	Light	Smoke coming from pipe in wall
P003	P003-0610	P003-0600	2105	N 12th St	Gravity Sewer Line	Medium	Wind started blowing when photos were taken, not as much smoke is shown
P003	P003-0650	P003-0630	1119	Division St	Manhole Frame Seals	Light	USMH buried
P003	P003-0700	P003-0690	1509	Lyman St	Service Lines Private	Heavy	In vacant field just outside of fence behind trailer yard for Tyson chicken plant, Left flag.
P003	P003-0700	P003-0690	1411	Lyman St	Service Lines Private	Heavy	Vacant field across street from address, no permanent reference point in field
P003	P003-0700	P003-0690	N/A	N O St	Service Lines Private	Light	Vacant field south of trailer yard for Tyson and north of N 13th St Left flag
P003	P003-0720	P003-0710	1210	N O St	Cleanouts Private	Heavy	Vacant lot
P003	P003-0720	P003-0710	1301	N 13th St	Service Lines Private	Heavy	Smoking from under tree root
P003	P003-0730	P003-0670	1118	N P St	Cleanouts Private	Heavy	Area floods during heavy rain events
P003	P003-0730	P003-0670	1118	N P St	Cleanouts Private	Heavy	Area floods during heavy rain events
P003	P003-0850	P003-0840	1309	N 10th St	Service Lines Private	Heavy	Looks like there use to be a house here but not anymore.
P003	P003-0850	P003-0840	1300	N 9th St	Service Lines Private	Heavy	Used to be a house here too. Is an empty lot now. Smoking area has a dip with a 1' deep sink hole.
P003	P003-0860	P003-0840	1515	N 11th St	Service Lines Private	Light	Not much drainage it's on a hill. Wasn't a clean out under the brick.
P003	P003-0870	P003-0860	1421	N 11th St	Service Lines Private	Light	It's catching all the roof run off into a concrete barrier that dirt where the break is.
P003	P003-0870	P003-0860	1421	N 11th St	Service Lines Private	Light	It's setting against sand in a low spot.
P003	P003-0900	P003-0890	1933	Midland Blvd	Cleanouts Private	Light	Defective cap and riser
P003	P003-0950	P003-0940	2225	Midland Blvd	Catch Basin	Light	In front of Newman's Barber shop
P003	P003-1010	P003-1000	2441	N 27th St	Service Lines Private	Heavy	Large sink hole
P003	P003-1010	P003-1000	2437	N 27th St	Service Lines Private	Heavy	Large sink hole
P003	P003-1020B	P003-1020	N/A	Division St	Manhole Frame Seals	Light	No physical address
P003	P003-1040	P003-1030	2105	N 10th St	Service Lines Private	Heavy	Gas meter
P003	P003-1040	P003-1030	2101	N 10th St	Service Lines Private	Medium	Gas meter
P003	P003-1040	P003-1030	2118	N 9th St	Service Lines Private	Heavy	Gas meter
P003	P003-1040	P003-1030	2114	N 9th St	Service Lines Private	Heavy	Gas meter
P003	P003-1050	P003-1040	2200	N 9th St	Service Lines Private	Light	GPS point placed at gate near back of the house....gate is tied with phone cord
P003	P003-1060	P003-1050	2310	N 9th St	Service Lines Private	Medium	Inside garden, GPS point placed at fence in alley, resident is not home and gate is locked
P003	P003-1060	P003-1050	2312	N 9th St	Cleanouts Private	Heavy	Roof drains onto clean out
P003	P003-1130	P003-1120	811	N 34th St	Downspout Underground	Light	Appears as though downspout was at one point possibly connected to sanitary sewer. Downspout drains directly into observed smoke area.
P003	P003-1130	P003-1120	811	N T St	Catch Basin	Medium	Smoke floating around inside catch basin
P003	P003-1130	P003-1120	811	N N St	Service Lines Private	Heavy	Gutter system dumps directly onto leak
P003	P003-1140	P003-1130	2319	N 9th St	Service Lines Private	Heavy	Large gaping hole
P003	P003-1150	P003-0130	1710	N 6th St	Manhole Frame Seals	Medium	Empty field north of Bradley Machine shop
P003	P003-1180	P003-1170	1916	N 7th St	Building Interior	Light	Very light smoke

Smoke Testing Defects

Sub-Basin	Upstream Manhole	Downstream Manhole	Address	Street Name	Defect	Smoke Intensity	Remarks
P003	P003-1180	P003-1170	1910	N 7th St	Cleanouts Private	Heavy	Roof will drain directly into clean out
P003	P003-1210	P003-1200	2216	N 7th St	Building Interior	Medium	GPS point placed outside of gate in alley, gate is locked
							Unable to determine defect, defect is in the backyard and there is a large dog there
P004	EOL	P004-2180	2321	N 31st St	Cleanouts Private	Heavy	Place GPS point at the back of the fence in the alley
P004	P004-0030	P004-0020	1712	N 13th St	Gravity Sewer Line	Heavy	Depressed area
P004	P004-0050	P004-0040	1805	N 14th St	Gravity Sewer Line	Light	Multiple main line breaks
P004	P004-0050	P004-0040	1805	N 14th St	Gravity Sewer Line	Medium	Multiple main line breaks
P004	P004-0060	P004-0050	1834	N 14th St	Service Lines Public	Heavy	Martin Luther King Park
P004	P004-0060	P004-0050	1834	N 14th St	Manhole Frame Seals	Heavy	Martin Luther King Park
P004	P004-0060	P004-0050	1805	N 14th St	Service Lines Private	Light	Multiple main line breaks
P004	P004-0060	P004-0050	1834	N 14th St	Service Lines Public	Light	Martin Luther King Park
P004	P004-0060	P004-0050	1834	N 14th St	Gravity Sewer Line	Medium	Multiple main line breaks, Martin Luther King Park
P004	P004-0100	P004-0040	1821	N 14th St	Cleanouts Private	Light	Defective riser
P004	P004-0100	P004-0040	1834	N 13th St	Cleanouts Private	Medium	Roof drains onto clean out
P004	P004-0140	P004-0130	2815	N R St	Cleanouts Private	Heavy	Defective riser, ground sunken in around clean out base
P004	P004-0140	P004-0130	2805	N N St	Service Lines Private	Heavy	Exposed broken pipe
P004	P004-0140	P004-0130	1921	N 29th St	Cleanouts Public	Medium	Defective riser
P004	P004-0140	P004-0130	1921	N 29th St	Service Lines Private	Light	Was lite smoke, stopped smoking before picture could be taken
P004	P004-0180	P004-0170	1732	N 12th St	Gravity Sewer Line	Medium	Utility pole, left flag
P004	P004-0180	P004-0170	1806	N 12th St	Cleanouts Private	Heavy	Plastic bucket covering clean out
P004	P004-0185	P004-0180	1203	N R St	Manhole Frame Seals	Heavy	Leak is in gutter
P004	P004-0185	P004-0180	1829	N 13th St	Gravity Sewer Line	Heavy	Left flag
P004	P004-0185	P004-0180	1835	N 13th St	Gravity Sewer Line	Heavy	Left flag
P004	P004-0185	P004-0180	1812	N 12th St	Service Lines Private	Light	Utility pole
P004	P004-0185	P004-0180	1812	N 12th St	Cleanouts Private	Medium	Defective riser
P004	P004-0190	P004-0185	1913	N 13th St	Cleanouts Private	Light	Defective riser
P004	P004-0200	P004-0190	1929	N 13th St	Cleanouts Private	Heavy	Resident is not home, gates are locked. GPS point placed in alley approximately 110 feet from defect
P004	P004-0200	P004-0190	1924	N 12th St	Cleanouts Private	Medium	Resident is not home, gate is locked. GPS point placed in alley approximately 150 from defect
P004	P004-0210	P004-0200	2014	N 12th St	Cleanouts Private	Light	Defective riser
P004	P004-0220	P004-0210	2021	N 13th St	Service Lines Private	Heavy	Large hole with cinder block in it
P004	P004-0220	P004-0210	2021	N 13th St	Service Lines Private	Heavy	Large hole
P004	P004-0230	P004-0220	2124	N 12th St	Cleanouts Private	Medium	Vacant lot
P004	P004-0230	P004-0220	2133	N 13th St	Manhole Frame Seals	Heavy	Very large sink hole beside manhole, about 6 feet deep and 3 feet wide, appears to go under road too
P004	P004-0240	P004-0230	2201	N 28th St	Service Lines Private	Heavy	Empty lot
P004	P004-0240	P004-0230	2210	N 27th St	Service Lines Private	Heavy	Large hole at fence line, left flag
P004	P004-0250	P004-0240	2226	N 27th St	Service Lines Private	Light	Gas meter
P004	P004-0250	P004-0240	2225	N 28th St	Service Lines Private	Medium	3 areas leaking, point placed in middle
P004	P004-0250	P004-0240	2300	N 27th St	Service Lines Private	Medium	Depressed area next to abandoned gas meter
P004	P004-0260	P004-0250	2312	Midland Blvd	Gravity Sewer Line	Heavy	Large hole
P004	P004-0260	P004-0250	2312	Midland Blvd	Service Lines Private	Light	Multiple leaks, point place in middle
P004	P004-0270	P004-0260	2416	N 27th St	Other Cross Connection	Medium	Utility manhole holding water, smoke inside manhole. Manhole located next to Midland Blvd
P004	P004-0270	P004-0260	2428	N 27th St	Building Interior	Heavy	GPS point placed next to fence on south side of house near front of back yard, locked gate
P004	P004-0270	P004-0260	2400	Midland Blvd	Catch Basin	Heavy	Storm pipe
P004	P004-0280	P004-0270	2432	N 27th St	Service Lines Private	Heavy	Abandoned gas meter
P004	P004-0310	P004-0300	2220	N 28th St	Cleanouts Private	Heavy	Large hole around clean out
P004	P004-0310	P004-0300	2216	N 28th St	Service Lines Private	Heavy	Dogs in backyard, GPS point placed out of fence north of defect, defect located next to dog house
P004	P004-0320	P004-0310	2300	N 28th St	Gravity Sewer Line	Heavy	Large hole
P004	P004-0320	P004-0310	2228	N 28th St	Gravity Sewer Line	Light	Sunken area
P004	P004-0320	P004-0310	2305	N 29th St	Cleanouts Private	Heavy	Locked gate, GPS point placed north of defect near back of the house
P004	P004-0330	P004-0320	2814	Carnes St	Service Lines Private	Heavy	Large hole
P004	P004-0360	P004-0350	2132	N 13th St	Service Lines Private	Medium	Large pile of shingles on area of leak
P004	P004-0380	P004-0370	2018	N 13th St	Cleanouts Private	Light	Defective riser
P004	P004-0390	P004-0350	2133	N 29th St	Cleanouts Private	Medium	Defective riser
P004	P004-0440	P004-0400	2043	N 29th St	Gravity Sewer Line	Heavy	Depressed area next to drainage ditch/alley
P004	P004-0450	P004-0440	2011	N 29th St	Gravity Sewer Line	Medium	Depressed grass area
P004	P004-0470	P004-0300	2801	Division St	Manhole Frame Seals	Medium	This area was reported to the city for sinking in around manhole, they filled it with gravel

Smoke Testing Defects

Sub-Basin	Upstream Manhole	Downstream Manhole	Address	Street Name	Defect	Smoke Intensity	Remarks
P004	P004-0480	P004-0470	2205	N 30th St	Gravity Sewer Line	Medium	Depressed area
P004	P004-0480	P004-0470	2220	N 29th St	Service Lines Private	Heavy	Large hole under privacy fence
P004	P004-0500	P004-0490	2312	N 29th St	Cleanouts Private	Heavy	Defective riser, sunken area around clean out
P004	P004-0500	P004-0490	2319	N 30th St	Cleanouts Private	Medium	Unable to access backyard, gate is locked and resident is not home, unable to determine defect Placed GPS point at fence in alley, defect is next to a/c unit
P004	P004-0500	P004-0490	2320	N 29th St	Cleanouts Private	Medium	Large dog in backyard, placed GPS point at fence in alley
P004	P004-0530	P004-0520	2119	N 30th St	Manhole Frame Seals	Heavy	Vented cover on manhole
P004	P004-0560	P004-0550	2001	N 30th St	Service Lines Private	Heavy	Open pipe even to ground
P004	P004-0570	P004-0560	1918	N 29th St	Gravity Sewer Line	Medium	Multiple defects
P004	P004-0570	P004-0560	1918	N 29th St	Service Lines Private	Light	Very lite smoke
P004	P004-0665	P004-0660	2312	N 32nd St	Service Lines Private	Heavy	Gate is locked, defect it next to tree on the north side of the property northeast of red chain link fence, placed GPS point outside of red chain link fence
P004	P004-0680	P004-0670	2212	N 33rd St	Service Lines Private	Light	Next to drainage ditch and Abandoned water meter
P004	P004-0680	P004-0670	2229	N 33rd St	Service Lines Private	Light	Storm ditch....no smoke in picture, resident complaining of smoke in house....turned blower off, residents house full of smoke
P004	P004-0770	P004-0760	2110	N 30th St	Cleanouts Private	Light	Defective riser
P004	P004-0870	P004-0860	3217	N S St	Cleanouts Private	Medium	Gate is locked, placed GPS point east of defect outside of fence
P004	P004-0930	P004-0820	2012	N 30th St	Cleanouts Public	Medium	Defective riser
P004	P004-0975	P004-0970	1906	N 30th St	Gravity Sewer Line	Light	Multiple defects, Left flag
P004	P004-0975	P004-0970	1912	N 30th St	Gravity Sewer Line	Light	Multiple defects
P004	P004-0980	P004-0975	1824	N 30th St	Cleanouts Private	Heavy	Broken cap and defective riser
P004	P004-0990	P004-0590	2226	Edwards St	Manhole Frame Seals	Light	Leaking area is located in drainage ditch
P004	P004-0990	P004-0590	2226	Edwards St	Gravity Sewer Line	Medium	Drainage ditch
P004	P004-1000	P004-0990	2308	Edwards St	Service Lines Private	Heavy	Large hole
P004	P004-1000	P004-0990	2304	Edwards St	Service Lines Private	Medium	Water meter
P004	P004-1000	P004-0990	2304	Edwards St	Gravity Sewer Lines	Heavy	Large hole
P004	P004-1010	P004-1000	2400	Edwards St	Service Lines Private	Heavy	Sunken area
P004	P004-1050	P004-1040	2610	Midland Blvd	Service Lines Private	Medium	Small hole
P004	P004-1060	P004-1040	2610	Midland Blvd	Manhole Frame Seals	Light	Large hole
P004	P004-1180	P004-1170	3300	Harris Dr	Gravity Sewer Lines	Medium	Medium hole In ditch in front of Trusty Elementary next to N 32nd St
P004	P004-2120	P004-2110	1918	N 31st St	Cleanouts Private	Heavy	Defective riser
P004	P004-2140	P004-2130	1805	N 32nd St	Service Lines Private	Light	Water meter
P004	P004-2180	P004-2170	3030	Kelley Highway	Cleanouts Private	Heavy	Defective riser and broken cap
P004	P004-2200	P004-2190	2411	N 31st St	Gravity Sewer Lines	Heavy	Medium size hole
P004	P004-2200	P004-2190	2411	N 31st St	Manhole Frame Seals	Light	Manhole located in ditch
P005	P005-0070	P005-0060	2707	N Q St	Gravity Sewer Line	Medium	Large sunken in area
P005	P005-0080	P005-0010		Martin Luther King Park	Gravity Sewer Line	Medium	Large hole
P005	P005-0080	P005-0010		Martin Luther King Park	Gravity Sewer Line	Heavy	Large hole
P005	P005-0160	P005-0150	1531	May Ave	Cleanouts Private	Heavy	Unable to see defect, gate is locked and business is closed, cannot see over privacy fence GPS point placed outside of fence north of business
P005	P005-0160	P005-0150	1550	N Greenwood Ave	Service Lines Private	Light	Locked gate, business not open, GPS point placed at fence south of business
P005	P005-0170	P005-0160	1515	May Ave	Cleanouts Private	Heavy	Locked gate, defect next to house by a/c unit, GPS point placed at fence in alley
P005	P005-0170	P005-0160	1520	N Greenwood Ave	Service Lines Private	Heavy	Lateral and gas meter smoking
P005	P005-0180	P005-0170	1437	May Ave	Cleanouts Public	Light	Defective riser
P005	P005-0180	P005-0170	1437	May Ave	Building Interior	Medium	Locked gate, GPS point placed at fence in alley
P005	P005-0190	P005-0180	1408	N Greenwood Ave	Cleanouts Public	Heavy	Defective riser
P005	P005-0190	P005-0180	1403	May Ave	Cleanouts Public	Heavy	Defective riser
P005	P005-0240	P005-0230	1424	Belle Ave	Cleanouts Private	Heavy	Washing machine drain tube connected to fencing top rail and inserted into clean out
P005	P005-0260	P005-0250	2100	N O St	Cleanouts Private	Heavy	GPS point placed out side of fence
P005	P005-0260	P005-0250	1531	Belle Ave	Service Lines Private	Light	Utility pole
P005	P005-0260	P005-0250	1526	N 21st St	Building Interior	Light	No access to backyard , placed GPS point at fence in alley
P005	P005-0270	P005-0260	1519	Belle Ave	Service Lines Private	Medium	Could not place GPS point leak due to tree trimming crew, place GPS point in alley northwest of leak approximately 70 feet
P005	P005-0270	P005-0260	1501	Belle Ave	Building Interior	Light	Outhouse connected to lateral

Smoke Testing Defects

Sub-Basin	Upstream Manhole	Downstream Manhole	Address	Street Name	Defect	Smoke Intensity	Remarks
P005	P005-0270	P005-0260	1514	N 21st St	Cleanouts Private	Heavy	No access into backyard, placed GPS point in alley next to fence, leak has what appears to be a bird bath stand on top of it
P005	P005-0280	P005-0270	1433	Belle Ave	Service Lines Private	Heavy	Locked gate, GPS point placed in alley next to fence
P005	P005-0280	P005-0270	1428	N 21st St	Service Lines Private	Medium	Gas meter
P005	P005-0280	P005-0270	1444	N 21st St	Cleanouts Private	Medium	Defective riser
P005	P005-0290	P005-0280	1425	Belle Ave	Cleanouts Public	Heavy	Defective riser
P005	P005-0290	P005-0280	1421	Belle Ave	Cleanouts Private	Heavy	Missing cap and defective riser
P005	P005-0290	P005-0280	1408	N 21st St	Cleanouts Public	Light	Defective riser
P005	P005-0290	P005-0280	2107	N L St	Cleanouts Public	Light	Defective riser
P005	P005-0330	P005-0320	1915	N N St	Gravity Sewer Line	Heavy	Hole
P005	P005-0330	P005-0320	1901	N N St	Service Lines Private	Heavy	Multiple private lateral leaks, gate is locked...resident is not home. GPS point placed at gate behind carport. Leaks stretch from back of the house to the alley
P005	P005-0330A	P005-0330	1813	N N St	Cleanouts Private	Heavy	Defective riser
P005	P005-0330A	P005-0330	1809	N N St	Cleanouts Private	Heavy	Defective riser
P005	P005-0350	P005-0310	1522	N 21st St	Service Lines Public	Light	In the ditch
P005	P005-0370	P005-0360	1919	N M St	Cleanouts Private	Heavy	Clean out leaking up behind the house gps shot by gate. Fence locked the dog in yard
P005	P005-0370	P005-0360	1910	N N St	Cleanouts Private	Light	Leak by the house GPS shot at back fence no gate
P005	P005-0380	P005-0370	1816	N N St	Service Lines Private	Light	Gas meter
P005	P005-0380	P005-0370	1823	N M St	Cleanouts Private	Light	GPS shot from back fence gate locked
P005	P005-0420	P005-0410	1414	N 19th St	Service Lines Private	Heavy	Gas meter
P005	P005-0420	P005-0410	1432	N 19th St	Building Interior	Light	GPS point placed at fence in alley, gate is locked
P005	P005-0420	P005-0410	1430	N 19th St	Building Interior	Light	GPS point placed at fence in alley, locked gate
P005	P005-0430	P005-0420	1408	N 19th St	Service Lines Private	Heavy	Gate is locked, large dog in back yard, GPS point placed at fence in alley
P005	P005-0710	P005-0700	1420	N 32nd St	Manhole Frame Seals	Heavy	It's a high rise coming out of bricks
P005	P005-0795	P005-0780	1320	N O St	Service Lines Private	Light	In field north of address
P005	P005-0795	P005-0780	1320	N O St	Manhole Frame Seals	Light	In field north of address
P005	P005-0805	P005-0800	1305	N 14th St	Service Lines Private	Heavy	Large hole
P005	P005-0805	P005-0800	1310	N O St	Service Lines Private	Heavy	Vacant lot
P005	P005-0805	P005-0800	1799	N 18th St	Service Lines Private	Light	Gas meter
P005	P005-0805	P005-0800	1310	N O St	Service Lines Private	Heavy	Vacant lot
P005	P005-0805	P005-0800	1310	N O St	Service Lines Private	Heavy	Vacant lot
P005	P005-0805	P005-0800	1310	N O St	Service Lines Private	Heavy	Vacant lot
P005	P005-3090	P005-3080	1321	N 34th St	Service Lines Private	Medium	Gate was locked couldn't get in
P005	P005-3340	P005-0690	3001	N L St	Cleanouts Private	Medium	Can't get in yard
P005	P005-3340	P005-0690	1410	N 30th St	Service Lines Private	Light	Has a sink hole
P008	EOL	P008-1540	3518	Barry Ave	Service Lines Private	Heavy	1 foot since hole
P008	P008-0300	P008-0290	800	N 34th St	Gravity Sewer Lines	Light	Doesn't look like much cause it at peak of the ditch
P008	P008-0380	P008-0370	618	N 35th St	Service Lines Private	Light	Looks to have fence post driven into lateral
P008	P008-0480	P008-0470	3200	N J St	Gravity Sewer Lines	Medium	It's in a drainage ditch
P008	P008-0650	P008-0640	901	Greenwood Ave	Service Lines Private	Light	Has at least a 2 n half foot hole
P008	P008-0800	P008-0790	2715	Alabama Ave	Service Lines Private	Heavy	Has a 3 foot sink hole
P008	P008-0800	P008-0790	830	Greenwood Ave	Service Lines Private	Medium	Used to be a house here
P008	P008-0850	P008-0840	3008	Alabama Ave	Cleanouts Private	Light	Locked gate couldn't get to it
P008	P008-0880	P008-0870	2719	Hardie Ave	Service Lines Private	Light	Has a sink hole of about a foot and half deep
P008	P008-0880	P008-0870	2715	Hardie Ave	Gravity Sewer Line	Heavy	Has 2ft deep sink hole
P008	P008-0880	P008-0870	2709	Hardie Ave	Service Lines Private	Light	Had locked gate couldn't get in
P008	P008-0890	P008-0870	2800	Hardie Ave	Catch Basin	Light	Idk for drainage
P008	P008-0950	P008-0980	700	N 31st St	Manhole Frame Seals	Heavy	It's in a ditch
P008	P008-1150	P008-1140	624	Lecta Ave	Service Lines Private	Light	Has a 3 foot deep hole
P008	P008-1155	P008-1150	429	Lecta Ave	Catch Basin	Light	I don't know on drainage
P008	P008-1155	P008-1150	527	Lecta Ave	Catch Basin	Heavy	Idk how much for drainage
P008	P008-1155	P008-1150	428	Lecta Ave	Service Lines Private	Heavy	Has 6inch sink hole
P008	P008-1170	P008-1160	623	Lecta Ave	Gravity Sewer Line	Heavy	Each flag has a foot deep sink hole
P008	P008-1190	P008-1180	528	N May Ave	Service Lines Private	Heavy	Has a sink hole 2 feet deep
P008	P008-1310	P008-1300	518	N 31st St	Service Lines Private	Heavy	2foot since hole
P008	P008-1550	P008-1540	3602	Barry Ave	Service Lines Private	Medium	It's under the ac unit
P008	P008-1620	P008-1270	3112	Kinkead Ave	Gravity Sewer Line	Heavy	2 foot sink hole
P008	P008-1620	P008-1270	3112	Kinkead Ave	Gravity Sewer Line	Medium	2 foot sink hole
P008	P008-1620	P008-1270	3201	Stanard Ave	Gravity Sewer Line	Heavy	3 foot sink hole

Smoke Testing Defects

Sub-Basin	Upstream Manhole	Downstream Manhole	Address	Street Name	Defect	Smoke Intensity	Remarks
P008	P008-1810	P008-1800	3616	Park Ave	Gravity Sewer Line	Light	There's a 6 inch sink hole
P008	P008-1810	P008-1800	3612	Park Ave	Gravity Sewer Line	Light	There's a foot deep sink hole
P008	P008-1810	P008-1800	3616	Park Ave	Gravity Sewer Line	Medium	There a 6 inch sink hole
P008	P008-1810	P008-1800	3616	Park Ave	Service Lines Private	Light	There's a foot deep sink hole
P008	P008-2410	P008-2408	1121	Adelaide Ave	Service Lines Private	Light	Small sink hole
P008	P008-4020A	P008-4010	624	Clifton Ct	Service Lines Private	Heavy	Has a foot an a half deep sink hole
P008	P008-4500	P008-4490		Old Greenwood Rd	Manhole Frame Seals	Light	Next to the light pole and bench
S006	S006-0490	S006-0480	1113	N 52nd St	Manhole Frame Seals	Light	It's on the high side of the ditch so don't think it would get that much drainage
S006	S006-0590	S006-0580	1109	N 47th St	Cleanouts Private	Light	It's a low point in the area
S006	S006-0730	S006-0710	4322	Grand Ave	Service Lines Private	Light	It's an old abandoned lot.
S006	S006-0730	S006-0710	911	N 44th St	Cleanouts Private	Heavy	Is located near a ditch that if it gets up high enough will drain into clean out.
S006	S006-0770	S006-2910	5210	Grand Ave	Manhole Frame Seals	Medium	Not much drainage. Most everything should run down the side walk and manhole is an inch above grade.
S006	S006-1050	S006-1040	530	N 44th St	Manhole Frame Seals	Medium	It's located in a ditch with two 1.5" pick holes.
S006	S006-1110	S006-1100	619	N 46th St	Cleanouts Private	Light	Couldn't get in there were big dogs
S006	S006-1170	S006-1160	4301	Kinkead Ave	Manhole Frame Seals	Medium	Smoking from around catch basin which manhole is next to it. No smoke came out of catch basin
S006	S006-1170	S006-1160	623	N 44th St	Manhole Frame Seals	Light	It's located in a short ditch that catches a lot of run off.
S006	S006-1230	S006-1220	5210	N 49th St	Gravity Sewer Lines	Light	Has made a small sink hole in a ditch.
S006	S006-1390	S006-1300	300	N 49th St	Gravity Sewer Lines	Heavy	I don't know on drainage
S006	S006-1570	S006-1511	541	N 53rd St	Catch Basin	Light	It run parallel with the main line
S006	S006-1630	S006-1620	430	N 53rd St	Manhole Frame Seals	Light	It would have to be about 3 inches deep before it got into the cracks
S006	S006-2110	S006-2100	1108	N 52nd St	Gravity Sewer Line	Light	It's in a storm ditch
S006	S006-2110	S006-2100	1108	N 52nd St	Gravity Sewer Line	Light	It's in a storm ditch so I don't know
S006	S006-2110	S006-2100	1108	N 52nd St	Manhole Frame Seals	Medium	Both up stream man holes have sink holes
S006	S006-2550	S006-2540	425	N 46th St	Cleanouts Private	Medium	Home has gutters diverting run off and the clean out has a cap laying on it but no way to screw it into pipe because it's broken.
S007	S007-0085	S007-0080	1950	N 50th St	Manhole Frame Seals	Light	Located close to a ditch
S007	S007-0420	S007-0410	1701	N 45th Ter	Manhole Frame Seals	Light	Mike told me we don't do a sketch
S007	S007-0440	S007-0435	4416	Royal Oak Dr	Cleanouts Private	Medium	Blowing smoke from around base of clean out on the outside of the pipe.
S007	S007-0610	S007-0600	1906	N 35th St	Cleanouts Private	Medium	Clean out is setting in a low spot catching a lot of drainage
S007	S007-0690	S007-0680	4115	Chaffee Dr	Cleanouts Private	Light	Leaks around concrete pad
S007	S007-0890	S007-0880	3908	MacArthur Dr	Gravity Sewer Line	Medium	Has sink hole
S007	S007-0960	S007-0950	3715	Victory Cir	Cleanouts Private	Heavy	26 feet S from gps point in back yard
S007	S007-0960	S007-0950	3723	Victory Cir	Service Lines Private	Light	22 feet SW from gps point in back yard.
S007	S007-1020	S007-0980	3812	Victory Cir	Service Lines Private	Light	Has a sink hole
S007	S007-1060	S007-1055	4905	N O St	Gravity Sewer Line	Medium	Has a deep sink hole
S007	S007-1070	S007-1060	1535	N 50th St	Catch Basin	Light	Catch basin B
S007	S007-1070	S007-1060	4614	N O St	Catch Basin	Light	Catch basin C
S007	S007-1070	S007-1060	1535	N 50th St	Catch Basin	Light	Catch basin A
S007	S007-1280	S007-1060	1532	N 50th St	Service Lines Private	Heavy	It's caused a sink hole about 3' in diameter
S007	S007-1280	S007-1060	1532	N 50th St	Service Lines Private	Heavy	It's caused a sink hole about 1.5' in diameter
S007	S007-1280	S007-1060	1532	N 50th St	Service Lines Private	Heavy	Home has gutters diverting the run off.
S007	S007-1290	S007-1280	1453	N 50th St	Cleanouts Private	Light	The runoff from the roof channels down to clean outs. And this clean out was smoking from around out side of pipe
S007	S007-1380	S007-1370	1313	N 50th St	Cleanouts Private	Light	53 feet from gps spot in locked back yard
S007	S007-1425	S007-1420	1021	N 49th St	Service Lines Private	Light	Believe it a lateral from an old house
S007	S007-2040	S007-2000	4812	Skywood Dr	Service Lines Private	Light	It's on a hill.

APPENDIX E

SEWER LINES CLEANED AND TELEVISED WITH NASSCO SCORES

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P003	P003-0010	P002-0050	97	2
P003	P003-1150	P003-0130	361	5
P003	P004-0160	P003-0660	34	2
P003	P003-0660	P004-0010	140	No Defect
P003	P003-0523	P003-0520	101	No Defect
P003	P003-0282	P003-0280	47	No Defect
P003	P003-1110	P003-1100	47	3
P003	P003-1020	P003-0900	252	4
P003	P003-1070	P003-1020	167	3
P003	P003-1090	P003-1080	70	3
P003	P003-0720	P003-0710	169	3
P003	P003-1120	P003-1110	341	5
P003	P003-0160	P003-0150	405	5
P003	P003-0940	P003-0930	197	No Defect
P003	P003-0950	P003-0940	388	4
P003	P003-0960	P003-0940	143	4
P003	P003-0020	P003-0010	311	2
P003	P003-0030	P003-0020	177	No Defect
P003	P003-0070	P003-0030	169	No Defect
P003	P003-0130	P003-0070	194	No Defect
P003	P003-0140	P003-0130	55	No Defect
P003	P003-0170	P003-0130	59	No Defect
P003	P003-0180	P003-0170	155	No Defect
P003	P003-0340	P003-0180	192	No Defect
P003	P003-0450	P003-0340	171	No Defect
P003	P003-0490	P003-0450	353	No Defect
P003	P003-0530	P003-0490	347	No Defect
P003	P003-0040	P003-0030	69	4
P003	P003-0050	P003-0040	318	5
P003	P003-0060	P003-0050	348	5
P003	P003-0200	P003-0180	67	3
P003	P003-0210	P003-0200	451	5
P003	P003-0460	P003-0450	434	5
P003	P003-0470	P003-0460	428	4
P003	P003-0480	P003-0470	260	3
P003	P003-0500	P003-0490	463	5
P003	P003-0510	P003-0500	506	5
P003	P003-0520	P003-0510	436	5
P003	P003-0400	P003-0390	453	No Defect
P003	P003-0405	P003-0400	142	4
P003	P003-0410	P003-0400	78	No Defect
P003	P003-0230	P003-0220	346	5
P003	P003-0295	P003-0290	288	5
P003	P003-0290	P003-0240	349	3
P003	P003-0300	P003-0290	120	No Defect
P003	P003-0310	P003-0300	66	3
P003	P003-0320	P003-0310	166	No Defect
P003	P003-0330	P003-0320	284	3
P003	P003-0220	P003-0180A	449	2
P003	P003-0240	P003-0220	346	2
P003	P003-0250	P003-0240	411	4
P003	P003-0260	P003-0250	189	No Defect
P003	P003-0270	P003-0260	158	5
P003	P003-0280	P003-0270	275	5
P003	P003-0360	P003-0350	222	5
P003	P003-0380	P003-0370	189	4
P003	P003-0385	P003-0380	80	No Defect
P003	P003-0350	P003-0340	37	No Defect
P003	P003-0370	P003-0350	183	2
P003	P003-0390	P003-0370	350	2
P003	P003-0420	P003-0390	351	3
P003	P003-0430	P003-0420	481	No Defect
P003	P003-0440	P003-0430	262	No Defect
P003	P003-0790	P003-0750	128	3
P003	P003-0800	P003-0790	64	2
P003	P003-0810	P003-0800	179	2

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P003	P003-0820	P003-0810	222	5
P003	P003-0830	P003-0820	375	No Defect
P003	P003-0840	P003-0810	341	5
P003	P003-0850	P003-0840	181	5
P003	P003-0860	P003-0840	215	4
P003	P003-0870	P003-0860	437	5
P003	P003-0730	P003-0670	353	3
P003	P003-0740	P003-0730	228	3
P003	P003-0750	P003-0740	235	3
P003	P003-0760	P003-0750	83	No Defect
P003	P003-0770	P003-0760	350	5
P003	P003-0780	P003-0770	278	5
P003	P003-0670	P003-0660	44	2
P003	P003-0660	P003-0540	356	No Defect
P003	P003-0680	P003-0670	182	No Defect
P003	P003-0690	P003-0680	370	No Defect
P003	P003-0700	P003-0690	304	No Defect
P003	P003-0710	P003-0700	208	3
P003	P003-0540	P003-0530	431	3
P003	P003-0550	P003-0540	112	3
P003	P003-0560	P003-0550	270	5
P003	P003-0570	P003-0560	338	5
P003	P003-0580	P003-0570	370	5
P003	P003-0590	P003-0580	369	5
P003	P003-0600	P003-0590	372	No Defect
P003	P003-0610	P003-0600	366	5
P003	P003-0620	P003-0610	59	3
P003	P003-0630	P003-0620	305	5
P003	P003-0650	P003-0630	213	3
P003	P003-0640	P003-0630	122	3
P003	P003-0880	P003-0530	512	5
P003	P003-0890	P003-0880	495	5
P003	P003-0900	P003-0890	460	5
P003	P003-0910	P003-0900	305	5
P003	P003-0920	P003-0910	56	2
P003	P003-0930	P003-0920	350	3
P003	P003-0970	P003-0930	505	2
P003	P003-0980	P003-0970	96	No Defect
P003	P003-0990	P003-0980	115	4
P003	P003-1000	P003-0990	310	5
P003	P003-1010	P003-1000	341	5
P003	P003-1030	P003-1020	311	5
P003	P003-1040	P003-1030	358	5
P003	P003-1050	P003-1040	442	4
P003	P003-1060	P003-1050	336	5
P003	P003-1080	P003-1070	115	3
P003	P003-1085	P003-1080	191	5
P003	P003-1100	P003-1090	266	5
P003	P003-1130	P003-1120	458	5
P003	P003-1140	P003-1130	480	3
P003	P003-0080	P003-0070	263	4
P003	P003-0090	P003-0080	415	2
P003	P003-0100	P003-0090	400	No Defect
P003	P003-0110	P003-0100	399	No Defect
P003	P003-0120	P003-0110	242	No Defect
P003	P003-1160	P003-1150	213	5
P003	P003-1170	P003-1160	499	3
P003	P003-1180	P003-1170	537	5
P003	P003-1190	P003-1180	392	3
P003	P003-1200	P003-1190	349	5
P003	P003-1210	P003-1200	300	5
P003	P003-1220	P003-1210	280	5
P003	P003-1230	P003-1220	135	5
P003	P003-1240	P003-1230	190	5
P003	P003-1250	P003-1160	499	4
P003	P003-1260	P003-1250	397	5

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P003	P003-1270	P003-1260	393	4
P003	P003-1280	P003-1270	296	5
P003	P003-1290	P003-1280	303	3
P003	P003-0150	P003-0150A	123	3
P004	EOL	P004-2180	168	No Defect
P004	P004-2210	P004-1172	498	No Defect
P004	P004-2220	P004-2210	105	2
P004	EOL	P004-2220	33	3
P004	P004-1015	P004-1010	183	3
P004	P004-2170	P004-1015	150	3
P004	P004-2190	P004-2170	177	2
P004	P004-2200	P004-2190	266	2
P004	P004-2180	P004-2170	402	2
P004	P004-0330	P004-0320	308	4
P004	P004-0760	P004-0710	121	2
P004	P004-0770	P004-0760	248	2
P004	P004-0975	P004-0970	184	4
P004	P004-0800	P004-0770	170	No Defect
P004	P004-0820	P004-0800	282	1
P004	P004-0930	P004-0820	136	3
P004	P004-0970	P004-0930	246	1
P004	P004-0980	P004-0975	119	No Defect
P004	P004-0940	P004-0930	227	1
P004	P004-0950	P004-0940	81	No Defect
P004	P004-0825	P004-0820	209	3
P004	P004-0830	P004-0825	21	No Defect
P004	P004-0850	P004-0830	99	2
P004	P004-0860	P004-0850	248	5
P004	P004-0870	P004-0860	370	4
P004	P004-0880	P004-0870	89	3
P004	P004-0910	P004-0880	259	5
P004	P004-0920	P004-0910	306	3
P004	P004-0890	P004-0880	410	3
P004	P004-0900	P004-0890	207	2
P004	P004-0240	P004-0230	300	5
P004	P004-0250	P004-0240	300	5
P004	P004-0260	P004-0250	278	4
P004	P004-0270	P004-0260	303	4
P004	P004-0280	P004-0270	100	4
P004	P004-0290	P004-0270	178	5
P004	P004-0310	P004-0300	300	5
P004	P004-0320	P004-0310	300	5
P004	P004-0340	P004-0330	307	5
P004	P004-0480	P004-0470	300	5
P004	P004-0490	P004-0480	300	5
P004	P004-0500	P004-0490	301	5
P004	P004-0510	P004-0500	321	No Defect
P004	P004-0600	P004-0590	15	2
P004	P004-0610	P004-0600	325	3
P004	P004-0640	P004-0610	323	3
P004	P004-0670	P004-0640	340	No Defect
P004	P004-0680	P004-0670	332	3
P004	P004-0660	P004-0640	434	3
P004	P004-0665	P004-0660	357	4
P004	P004-0620	P004-0610	420	3
P004	P004-0630	P004-0620	277	3
P004	P004-0990	P004-0590	369	4
P004	P004-1000	P004-0990	370	2
P004	P004-1010	P004-1000	369	5
P004	P004-1020	P004-1015	187	3
P004	P004-1030	P004-1020	182	4
P004	P004-1040	P004-1020	333	4
P004	P004-1060	P004-1040	204	4
P004	P004-1066	P004-1060	145	No Defect
P004	P004-1090	P004-1080	348	4
P004	P004-1050	P004-1040	84	5

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P004	P004-1100	P004-1040	200	4
P004	P004-1110	P004-1100	300	5
P004	P004-1120	P004-1110	642	5
P004	P004-1130	P004-1120	339	5
P004	P004-1140	P004-1130	309	5
P004	P004-1145	P004-1140	145	4
P004	P004-1150	P004-1140	350	5
P004	P004-1160	P004-1150	311	4
P004	P004-1170	P004-1160	243	3
P004	P004-1172	P004-1170	23	1
P004	P004-1180	P004-1170	382	5
P004	P004-1160A	P004-1160	300	4
P004	P004-1200	P004-1190	417	2
P004	P004-1210	P004-1210A	323	No Defect
P004	P004-1220	P004-1210	158	No Defect
P004	P004-0050	P004-0040	145	5
P004	P004-0060	P004-0050	290	5
P004	P004-0110	P004-0100	127	3
P004	P004-0130	P004-0120	400	4
P004	P004-0140	P004-0130	398	5
P004	P004-0150	P004-0100	403	5
P004	P004-0100	P004-0040	498	5
P004	P004-0040	P004-0030	409	5
P004	P004-0030	P004-0020	69	5
P004	P004-0020	P004-0010	144	3
P004	P004-0180	P004-0170	384	5
P004	P004-0185	P004-0180	222	5
P004	P004-0190	P004-0185	148	5
P004	P004-0200	P004-0190	358	5
P004	P004-0210	P004-0200	367	5
P004	P004-0220	P004-0210	358	4
P004	P004-0230	P004-0220	345	5
P004	P004-0300	P004-0230	343	5
P004	P004-0350	P004-0300	198	5
P004	P004-0380	P004-0370	453	4
P004	P004-0390	P004-0350	227	5
P004	P004-0400	P004-0390	266	5
P004	P004-0410	P004-0400	300	4
P004	P004-0420	P004-0410	300	2
P004	P004-0430	P004-0420	265	5
P004	P004-0440	P004-0400	299	5
P004	P004-0450	P004-0440	207	1
P004	P004-0460	P004-0450	216	2
P004	P004-0470	P004-0300	338	4
P004	P004-0530	P004-0520	350	5
P004	P004-0540	P004-0530	350	5
P004	P004-0550	P004-0540	349	5
P004	P004-0560	P004-0550	300	3
P004	P004-0570	P004-0560	347	4
P004	P004-0580	P004-0575	119	No Defect
P004	P004-0520	P004-0470	49	5
P004	P004-0590	P004-0470	308	3
P004	P004-0710	P004-0590	229	3
P004	P004-0575	P004-0570	181	3
P004	P004-1125	Midline	121	3
P004	P004-2080	P004-1070	257	3
P004	P004-2090	P004-2080	284	3
P004	P004-2090	P004-2100	268	No Defect
P004	P004-2100	P004-1080	300	No Defect
P004	P004-1210A	P004-1200	11	No Defect
P004	P004-1070	P004-1066	143	No Defect
P004	P004-1190	P004-1160B	85	2
P004	P004-1160B	P004-1160A	12	No Defect
P004	EOL	P004-1210A	71	5
P004	P004-1160B	P004-1160A	10	No Defect
P005	P005-3350	P005-0090	254	4

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P005	P005-0050	P005-0090	103	No Defect
P005	P005-0760	P005-0050	365	No Defect
P005	P005-0780	P005-0730	36	No Defect
P005	P005-3030	P005-3020	49	No Defect
P005	P005-0010	P004-0010	164	No Defect
P005	P005-0440	P005-0120	166	3
P005	P005-0060	P005-0050	278	5
P005	P005-0070	P005-0060	233	5
P005	P005-0080	P005-0010	535	3
P005	P005-0090	P005-0080	622	No Defect
P005	P005-0100	P005-0090	287	3
P005	P005-0110	P005-0100	451	3
P005	P005-0120	P005-0110	324	3
P005	P005-0770	P005-0760	195	3
P005	P005-0775	P005-0770	250	3
P005	P005-0510	P005-0500	78	No Defect
P005	P005-0520	P005-0510	306	5
P005	P005-0530	P005-0520	276	5
P005	P005-0540	P005-0530	300	5
P005	P005-0550	P005-0540	399	4
P005	P005-0450	P005-0440	51	2
P005	P005-0460	P005-0450	298	5
P005	P005-0470	P005-0460	315	5
P005	P005-0480	P005-0470	320	5
P005	P005-0490	P005-0480	297	5
P005	P005-0200	P005-0150	336	4
P005	P005-0210	P005-0200	312	5
P005	P005-0220	P005-0210	314	5
P005	P005-0230	P005-0220	316	5
P005	P005-0240	P005-0230	304	5
P005	P005-0250	P005-0200	328	4
P005	P005-0260	P005-0250	313	5
P005	P005-0270	P005-0260	315	5
P005	P005-0280	P005-0270	316	5
P005	P005-0300	P005-0250	150	3
P005	P005-0310	P005-0300	111	3
P005	P005-0320	P005-0310	58	3
P005	P005-0330	P005-0320	287	5
P005	P005-0330A	P005-0330	246	5
P005	P005-0350	P005-0310	358	5
P005	P005-0360	P005-0350	29	No Defect
P005	P005-0370	P005-0360	287	1
P005	P005-0380	P005-0370	279	2
P005	P005-0390	P005-0350	166	5
P005	P005-0400	P005-0390	59	2
P005	P005-0410	P005-0400	126	5
P005	P005-0420	P005-0410	308	5
P005	P005-0430	P005-0420	291	5
P005	P005-0190	P005-0180	300	No Defect
P005	P005-0180	P005-0170	321	3
P005	P005-0170	P005-0160	314	5
P005	P005-0160	P005-0150	311	5
P005	P005-0150	P005-0140	36	No Defect
P005	P005-0140	P005-0120	160	5
P005	P005-0500	P005-0440	345	2
P005	P005-0560	P005-0500	344	2
P005	P005-0570	P005-0560	207	2
P005	P005-0580	P005-0570	243	5
P005	P005-0590	P005-0580	368	5
P005	P005-0600	P005-0570	188	2
P005	P005-0610	P005-0600	160	3
P005	P005-0620	P005-0610	199	4
P005	P005-0630	P005-0620	462	5
P005	P005-0640	P005-0630	113	5
P005	P005-0650	P005-0630	441	5
P005	P005-0660	P005-0650	328	5

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P005	P005-0670	P005-0660	299	3
P005	P005-0617	P005-0610	323	3
P005	P005-3000	P005-0617	58	No Defect
P005	P005-3010	P005-3000	163	No Defect
P005	P005-3020	P005-3010	156	4
P005	P005-3040	P005-3020	72	No Defect
P005	P005-3050	P005-3040	266	1
P005	P005-3060	P005-3050	248	No Defect
P005	P005-3070	P005-3060	101	No Defect
P005	P005-3080	P005-3070	88	No Defect
P005	P005-3090	P005-3080	253	No Defect
P005	P005-3100	P005-3090	232	5
P005	P005-3110	P005-3100	396	5
P005	P005-3120	P005-3090	338	No Defect
P005	P005-3130	P005-3120	329	4
P005	P005-3140	P005-3130	379	4
P005	P005-0680	P005-0617	6	No Defect
P005	P005-0690	P005-0680	328	No Defect
P005	P005-3340	P005-0690	283	4
P005	P005-0700	P005-0690	224	4
P005	P005-0710	P005-0700	420	4
P005	P005-0720	P005-0710	284	5
P005	P005-0790	P005-0780	219	4
P005	P005-0795	P005-0780	91	4
P005	P005-0800	P005-0795	121	3
P005	P005-0805	P005-0800	357	5
P005	P005-0020	P005-0010	69	4
P005	P005-0730	P005-0010	392	No Defect
P005	P005-0820	P005-0730	89	No Defect
P005	P005-0830	P005-0820	94	No Defect
P005	P005-0840	P005-0830	330	3
P005	P005-3360	P005-3350	142	5
P005	P005-3370	P005-3360	411	No Defect
P005	P005-3380	P005-3370	442	5
P005	EOL	P005-3070	217	3
P005	P005-0340	P005-0330A	4	3
P008	EOL	P008-2290	117	3
P008	P008-1350	P008-1340	93	No Defect
P008	P008-0144	P008-0145	11	No Defect
P008	P008-2366	P008-2360	287	5
P008	P008-2405	P008-2366	145	No Defect
P008	P008-2408	P008-2405	75	No Defect
P008	P008-0115	P008-0100	207	5
P008	P008-0010	P005-0690	335	5
P008	P008-3644	P008-3640	98	5
P008	P008-3646	P008-3644	150	No Defect
P008	P008-3648	P008-3646	182	No Defect
P008	P008-2130A	P008-2130	132	No Defect
P008	P008-4490	P008-2231	65	No Defect
P008	P008-4500	P008-4490	442	No Defect
P008	P008-2231	P008-2221	103	No Defect
P008	P008-2233	P008-2231	55	No Defect
P008	P009-0021	P008-4520	408	No Defect
P008	P008-4520	P008-4510	248	No Defect
P008	P008-4510	P008-4500	269	No Defect
P008	P008-1830	P008-1820	240	3
P008	P008-1470	P008-1460A	242	5
P008	P008-1480	P008-1470	388	No Defect
P008	P008-1490	P008-1480	107	5
P008	P008-1500	P008-1490	12	No Defect
P008	P008-1510	P008-1490	301	4
P008	P008-1520	P008-1510	149	2
P008	EOL	P008-1520	145	5
P008	P008-1540	P008-1520	173	2
P008	P008-1550	P008-1540	145	1
P008	EOL	P008-1540	168	5

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P008	P008-1570	P008-1540	142	2
P008	P008-1575	P008-1570	144	No Defect
P008	P008-1580	P008-1570	76	3
P008	P008-0060	P008-0010	182	3
P008	P008-0070	P008-0060	462	5
P008	P008-0080	P008-0070	332	5
P008	P008-0400	P008-0390	179	5
P008	P008-0410	P008-0400	369	3
P008	P008-0090	P008-0080	379	5
P008	P008-0100	P008-0120	181	2
P008	P008-0110	P008-0100	87	No Defect
P008	P008-0120	P008-0140	245	No Defect
P008	P008-0020	P008-0010	38	No Defect
P008	P008-0343	P008-0340	20	No Defect
P008	P008-0213	P008-0210	8	No Defect
P008	P008-1730	P008-1720	428	No Defect
P008	P008-1600	P008-1590	390	3
P008	P008-1640	P008-1630	389	5
P008	P008-0990	P008-0980	253	5
P008	P008-1100	P008-1070	180	5
P008	P008-3560	P008-3550	23	No Defect
P008	P008-3570	P008-3560	335	5
P008	P008-3580	P008-3570	350	5
P008	P008-3590	P008-3580	417	5
P008	P008-3620	P008-3610	19	No Defect
P008	P008-3630	P008-3620	342	3
P008	P008-3640	P008-3630	350	5
P008	P008-3650	P008-3648	167	No Defect
P008	P008-3660	P008-3650	71	3
P008	P008-3670	P008-3660	143	5
P008	P008-3680	P008-3670	156	5
P008	P008-3700	P008-3680	273	5
P008	P008-3710	P008-3680	350	5
P008	P008-3730	P008-3710	272	5
P008	P008-2000	P008-1910	75	No Defect
P008	P008-1920	P008-1910	298	5
P008	P008-2060	P008-2000A	95	2
P008	P008-2070	P008-2060	126	5
P008	P008-1930	P008-2070	196	3
P008	P008-1925	P008-1920	181	5
P008	EOL	P008-1920	378	5
P008	P008-1940	P008-1930	286	5
P008	P008-1950	P008-1940	314	5
P008	P008-1960	P008-1930	282	5
P008	P008-1970	P008-1960	293	5
P008	P008-2120	P008-1960A	169	No Defect
P008	P008-2130	P008-2120	216	2
P008	P008-2140	P008-2130	58	4
P008	P008-2240	P008-2233	227	1
P008	P008-2250	P008-2240	38	2
P008	P008-2300	P008-2290	151	2
P008	P008-2310	P008-2300	175	5
P008	P008-2260	P008-2240	140	4
P008	P008-2270	P008-2260	43	No Defect
P008	P008-2280	P008-2270	152	5
P008	P008-2290	P008-2280	138	5
P008	P008-2320	P008-2260	366	4
P008	P008-2330	P008-2320	244	4
P008	P008-2340	P008-2330	204	4
P008	P008-2350	P008-2320	366	4
P008	P008-2360	P008-2350	369	5
P008	P008-2370	P008-2366	88	5
P008	P008-2410	P008-2408	185	5
P008	P008-2420	P008-2410	391	3
P008	P008-2380	P008-2370	201	5
P008	P008-2390	P008-2380	314	No Defect

Sewer Lines
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Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P008	P008-2150	P008-2140	179	No Defect
P008	P008-2160	P008-2150	25	4
P008	P008-2170	P008-2160	380	No Defect
P008	P008-2180	P008-2170	338	2
P008	P008-2190	P008-2180	458	5
P008	P008-2200	P008-2190	310	4
P008	P008-2210	P008-2200	227	3
P008	P008-2460	P008-4500	306	4
P008	P008-1680	P008-1630	342	5
P008	P008-1700	P008-1680	186	4
P008	P008-1690	P008-1680	389	5
P008	P008-1710	P008-1700	290	2
P008	P008-1720	P008-1700	23	No Defect
P008	P008-1740	P008-1720	159	5
P008	P008-1750	P008-1740	280	3
P008	P008-1760	P008-1750	309	2
P008	P008-1780	P008-1770	290	5
P008	P008-1790	P008-1780	149	5
P008	P008-1800	P008-1780A	172	4
P008	P008-1810	P008-1800	147	5
P008	P008-1820	P008-1810	132	1
P008	P008-0390	P008-0010	331	No Defect
P008	P008-0460	P008-0390	333	3
P008	P008-0470	P008-0460	181	4
P008	P008-0480	P008-0470	367	5
P008	P008-0490	P008-0460	43	No Defect
P008	P008-0530	P008-0460	329	3
P008	P008-0540	P008-0530	181	3
P008	P008-0543	P008-0540	88	5
P008	P008-0590	P008-0160	159	4
P008	P008-0750	P008-0590	332	4
P008	P008-0210	P008-0120	232	No Defect
P008	P008-0140	P008-0144	119	No Defect
P008	P008-0145	P008-0160	283	5
P008	P008-0150	P008-0140	338	5
P008	P008-0160	P008-0530	182	2
P008	P008-4020A	P008-4010	419	3
P008	P008-4030	P008-4020	12	No Defect
P008	P008-4040	P008-4030	319	5
P008	P008-4050	P008-4020	40	3
P008	P008-4060	P008-4050	372	5
P008	P008-4070	P008-4060	398	5
P008	P008-0260	P008-0210	110	No Defect
P008	P008-0220	P008-0213	301	5
P008	P008-0230	P008-0220	350	5
P008	P008-0240	P008-0230	302	5
P008	P008-0250	P008-0240	313	5
P008	P008-0270	P008-0260	385	5
P008	P008-0280	P008-0260	220	2
P008	P008-0320	P008-0280	118	No Defect
P008	P008-0330	P008-0320	389	5
P008	P008-0340	P008-0320	211	No Defect
P008	P008-0290	P008-0280	409	4
P008	P008-0300	P008-0290	399	5
P008	P008-0310	P008-0300	384	4
P008	P008-0315	P008-0310	72	3
P008	P008-0350	P008-0343	153	5
P008	P008-0360	P008-0350	232	5
P008	P008-0380	P008-0370	377	5
P008	P008-0385	P008-0380	59	5
P008	P008-0810	P008-0750	160	2
P008	P008-0820	P008-0810	53	No Defect
P008	P008-0830	P008-0820	150	2
P008	P008-1060	P008-0830	149	2
P008	P008-0980	P008-1060	184	4
P008	P008-0950	P008-0980	69	2

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P008	P008-0960	P008-0950	19	1
P008	P008-1000	P008-0980	143	2
P008	P008-1010	P008-1000	79	2
P008	P008-1040	P008-1010	13	No Defect
P008	P008-1020	P008-1010	16	No Defect
P008	P008-1030	P008-1020	306	5
P008	P008-1050	P008-1040	309	5
P008	P008-0030	P008-0020	399	3
P008	P008-0040	P008-0030	442	4
P008	P008-0050	P008-0040	379	5
P008	P008-0420	P008-0390	43	No Defect
P008	P008-0430	P008-0420	397	4
P008	P008-0440	P008-0430	455	5
P008	P008-0450	P008-0440	362	5
P008	P008-0500	P008-0490	388	4
P008	P008-0510	P008-0500	446	3
P008	P008-0520	P008-0510	377	5
P008	P008-0760	P008-0750	32	No Defect
P008	P008-0550	P008-0530	43	No Defect
P008	P008-0560	P008-0550	394	4
P008	P008-0570	P008-0560	457	5
P008	P008-0580	P008-0570	361	5
P008	P008-0600	P008-0590	48	2
P008	P008-0610	P008-0600	238	3
P008	P008-0620	P008-0610	346	3
P008	P008-0630	P008-0620	349	3
P008	P008-0640	P008-0630	316	5
P008	P008-1070	P008-1060	177	4
P008	P008-0840	P008-0830	93	2
P008	P008-0770	P008-0760	264	5
P008	P008-0780	P008-0770	351	5
P008	P008-0790	P008-0780	350	5
P008	P008-0800	P008-0790	255	5
P008	P008-1080	P008-1070	68	3
P008	P008-1090	P008-1080	285	3
P008	P008-0850	P008-0840	254	3
P008	P008-0860	P008-0850	350	4
P008	P008-0870	P008-0860	308	3
P008	P008-0880	P008-0870	332	5
P008	P008-0890	P008-0870	171	5
P008	P008-0900	P008-0890	162	5
P008	P008-0920	P008-0900	264	5
P008	P008-0910	P008-0900	304	4
P008	P008-4010	P008-4000	363	2
P008	P008-4000	P008-1100	299	3
P008	P008-1110	P008-1100	58	4
P008	P008-1120	P008-1110	20	No Defect
P008	P008-1130	P008-1120	216	3
P008	P008-1140	P008-1130	151	3
P008	P008-1160	P008-1140	203	3
P008	P008-1170	P008-1160	170	5
P008	P008-1150	P008-1140	428	5
P008	P008-1155	P008-1150	443	5
P008	P008-1210	P008-1170	196	5
P008	P008-1220	P008-1210	178	5
P008	P008-1180	P008-1170	430	4
P008	P008-1190	P008-1180	456	5
P008	P008-1200	P008-1190	360	5
P008	P008-1230	P008-1220	442	No Defect
P008	P008-1240	P008-1230	449	5
P008	P008-1250	P008-1240	361	5
P008	P008-1650	P008-1630	186	3
P008	P008-1660	P008-1650	111	5
P008	P008-1670	P008-1650	431	5
P008	P008-1630	P008-1590	374	5
P008	P008-1260	P008-1110	159	4

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
P008	P008-1280	P008-1260	122	4
P008	P008-1290	P008-1280	64	5
P008	P008-1300	P008-1290A	89	No Defect
P008	P008-1615	P008-1260	431	5
P008	P008-1615	P008-1610	138	5
P008	P008-1590	P008-1300	293	5
P008	P008-1840	P008-1290	105	5
P008	P008-1850	P008-1840	245	3
P008	P008-4200	P008-1290A	101	2
P008	P008-4210	P008-4200	393	5
P008	P008-1310	P008-1300	299	5
P008	P008-1320	P008-1310	139	5
P008	P008-1330	P008-4210	54	No Defect
P008	P008-1340	P008-1330	129	1
P008	P008-1360	P008-1330	125	No Defect
P008	P008-1370	P008-1360	393	5
P008	P008-1380	P008-1370	71	3
P008	P008-1460	P008-1380	308	5
P008	P008-1375	P008-1370	398	3
P008	P008-1400	P008-1380	399	4
P008	P008-1410	P008-1400	48	No Defect
P008	P008-1420	P008-1410	50	No Defect
P008	P008-1430	P008-1420	169	No Defect
P008	P008-1440	P008-1430	248	2
P008	P008-1450	P008-1440	241	No Defect
P008	P008-0650	P008-0640	155	5
P008	P008-0660	P008-0650	157	4
P008	P008-0670	P008-0660	363	5
P008	P008-0680	P008-0670	445	5
P008	P008-0690	P008-0680	404	5
P008	P008-0700	P008-0690	474	5
P008	P008-0710	P008-0700	473	5
P008	P008-0720	P008-0710	356	5
P008	P008-0730	P008-0720	351	5
P008	P008-0740	P008-0730	311	5
P008	P008-1855	P008-1850	131	5
P008	P008-1860	P008-1850A	140	3
P008	P008-1870	P008-1860	12	No Defect
P008	P008-1890	P008-1860	239	5
P008	P008-1880	P008-1870	383	5
P008	P008-1900	P008-1890	233	5
P008	P008-1910	P008-1890	247	3
P008	P008-3480	P008-1910	27	No Defect
P008	P008-3490	P008-3480	112	5
P008	P008-3550	P008-3490	379	2
P008	P008-3610	P008-3550	371	2
P008	P008-3500	P008-3490	27	No Defect
P008	P008-3510	P008-3500	350	5
P008	P008-3520	P008-3510	408	5
P008	P008-3530	P008-3520	393	5
P008	P008-1290A	P008-1290	68	No Defect
P008	P008-4020	P008-4020A	16	2
P008	P008-1780A	P008-1780	11	5
P008	P008-1460A	P008-1460	132	5
P008	P008-2221	P008-2130A	52	No Defect
P008	P008-1960A	P008-1960	156	2
P008	P008-1850A	P008-1850	36	2
P008	P008-2000A	P008-2000	164	3
S006	S006-0275	S006-0270	88	3
S006	S006-2811	S006-2810	82	No Defect
S006	S006-2812	S006-2811	15	No Defect
S006	S006-2813	S006-2812	88	No Defect
S006	S006-0744	S006-0740	44	No Defect
S006	S006-0748	S006-0744	306	No Defect
S006	S006-0785	S006-0780	50	4
S006	S006-2850	S006-2840	44	No Defect

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
S006	S006-1505	S006-1500	99	2
S006	S006-1507	S006-1505	128	3
S006	S006-1511	S006-1507	37	No Defect
S006	S006-1744	S006-1742	197	5
S006	S006-1742	S006-1740	98	5
S006	S006-0970	S006-0960	303	5
S006	S006-2500	S006-0990	34	1
S006	S006-2510	S006-2500	162	5
S006	S006-2520	S006-2510	245	1
S006	S006-2530	S006-2520	301	2
S006	S006-2540	S006-2520	400	4
S006	S006-2550	S006-2540	149	4
S006	S006-1030	S006-2500	378	1
S006	S006-1080	S006-1070	120	No Defect
S006	EOL	S006-1090	78	4
S006	S006-1040	S006-1030	169	No Defect
S006	S006-1050	S006-1040	392	4
S006	S006-1055	S006-1050	367	No Defect
S006	S006-1056	S006-1055	195	No Defect
S006	S006-1480	S006-1470	258	1
S006	S006-1490	S006-1480	227	3
S006	S006-1500	S006-1490	401	5
S006	S006-1530	S006-1520	231	5
S006	S006-1540	S006-1530	133	No Defect
S006	S006-1620	S006-1580	167	4
S006	S006-1630	S006-1620	29	No Defect
S006	S006-1640	S006-1630	286	4
S006	S006-1642	S006-1640	86	No Defect
S006	S006-1644	S006-1642	36	No Defect
S006	S006-1646	S006-1640	184	No Defect
S006	S006-1648	S006-1646	133	No Defect
S006	S006-1650	S006-1648	16	No Defect
S006	S006-1652	S006-1650	84	No Defect
S006	S006-1660	S006-1650	308	5
S006	S006-1655	S006-1650	343	No Defect
S006	S006-1570	S006-1511	275	5
S006	S006-1580	S006-1570	261	5
S006	S006-1600	S006-1590	175	4
S006	S006-1610	S006-1600	130	1
S006	S006-1670	S006-1490	367	4
S006	S006-1680	S006-1670	329	5
S006	S006-1690	S006-1680	331	5
S006	S006-1700	S006-1690	325	3
S006	S006-1760	S006-1750	448	5
S006	S006-1770	S006-1760	190	4
S006	S006-1705	S006-1700	239	3
S006	S006-1750	S006-1705	91	3
S006	S006-1780	S006-1750	180	3
S006	S006-1790	S006-1780	149	No Defect
S006	S006-1800	S006-1790	446	5
S006	S006-1810	S006-1800	194	4
S006	S006-1710	S006-1700	157	4
S006	S006-1720	S006-1710	300	4
S006	S006-1730	S006-1720	290	3
S006	S006-1740	S006-1730	300	5
S006	S006-1310	S006-1300	99	5
S006	S006-1320	S006-1310	382	5
S006	S006-1325	S006-1320	197	2
S006	S006-1330	S006-1320	416	5
S006	S006-1340	S006-1330	231	5
S006	S006-1350	S006-1340	211	3
S006	S006-1360	S006-1350	61	4
S006	S006-1370	S006-1360	225	4
S006	S006-1380	S006-1370	76	No Defect
S006	S006-1220	S006-0785	251	3
S006	S006-1230	S006-1220	301	3

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
S006	S006-1260	S006-1250	300	4
S006	S006-1270	S006-1260	339	3
S006	S006-1280	S006-1270	18	1
S006	S006-1290	S006-1280	117	4
S006	S006-1300	S006-1290	69	3
S006	S006-1390	S006-1300	405	5
S006	S006-1400	S006-1390	227	4
S006	S006-1410	S006-1400	298	4
S006	S006-1430	S006-1420	341	5
S006	S006-1440	S006-1430	106	3
S006	S006-1450	S006-1440	208	4
S006	S006-1460	S006-1450	144	No Defect
S006	S006-1240	S006-1230	402	4
S006	S006-1250	S006-1240	300	4
S006	S006-0090	S006-0035	440	2
S006	S006-0100	S006-0090	189	2
S006	S006-0110	S006-0100	248	No Defect
S006	S006-0120	S006-0110	57	No Defect
S006	S006-0130	S006-0120	186	No Defect
S006	S006-0140	S006-0130	123	No Defect
S006	S006-0150	S006-0130	265	3
S006	S006-0160	S006-0150	220	3
S006	S006-0170	S006-0160	43	No Defect
S006	S006-0180	S006-0170	145	3
S006	S006-0190	S006-0180	305	5
S006	S006-2000	S006-0190	225	3
S006	S006-2010	S006-2000	367	3
S006	S006-2020	S006-2010	495	5
S006	S006-0200	S006-0190	355	4
S006	S006-0210	S006-0200	129	2
S006	S006-0220	S006-0210	248	3
S006	S006-0230	S006-0220	403	5
S006	S006-0240	S006-0230	70	5
S006	S006-0250	S006-0240	403	4
S006	S006-0260	S006-0250	298	3
S006	S006-0270	S006-0260	413	3
S006	S006-0080	S006-2635	322	3
S006	S006-0460	S006-0450	314	No Defect
S006	S006-0470	S006-0460	274	No Defect
S006	S006-0480	S006-0470	293	1
S006	S006-0490	S006-0480	199	3
S006	S006-0500	S006-0490	360	3
S006	S006-2100	S006-0470	34	No Defect
S006	S006-2110	S006-2100	333	5
S006	S006-2120	S006-0470	251	No Defect
S006	S006-2130	S006-2120	15	No Defect
S006	S006-2150	S006-2140	279	No Defect
S006	S006-0520	S006-2880	78	3
S006	S006-0530	S006-0520	432	5
S006	S006-0540	S006-0530	180	4
S006	S006-0560	S006-0540	166	2
S006	S006-0570	S006-0560	422	5
S006	S006-0580	S006-0560	332	5
S006	S006-0590	S006-0580	425	5
S006	S006-0600	S006-0580	334	5
S006	S006-0610	S006-0600	420	3
S006	S006-0620	S006-0600	328	4
S006	S006-0630	S006-0620	425	4
S006	S006-0640	S006-0620	107	3
S006	S006-0533	S006-0530	35	2
S006	S006-0650	S006-0533	283	No Defect
S006	S006-0660	S006-0650	134	5
S006	S006-0670	S006-0650	331	No Defect
S006	S006-0680	S006-0670	251	5
S006	S006-0690	S006-0670	163	No Defect
S006	S006-0700	S006-0690	143	5

Sewer Lines
Cleaned and Televised with NASSCO Score

Sub-Basin	Upstream Manhole	Downstream Manhole	Surveyed Length (ft)	NASSCO PACP Score
S006	S006-0710	S006-0700	161	5
S006	S006-0720	S006-0710	318	5
S006	S006-0730	S006-0710	332	4
S006	S006-0740	S006-0730	326	3
S006	S006-0750	S006-0740	282	5
S006	S006-0770	S006-2910	55	3
S006	S006-0810	S006-0808	96	3
S006	S006-0870	S006-0810	162	3
S006	S006-0880	S006-0870	249	4
S006	S006-0890	S006-0880	239	5
S006	S006-0900	S006-0870	165	3

Attachment 3
2015 SSA Remedial Measures Plan

January 2017

Remedial Measures Plan

2015 Sanitary Sewer Assessment Sub-Basins: S004, P007, FL01, S003, S008, and S009

prepared for the

City of Fort Smith, Arkansas

prepared by

RJN Group, Inc.

1808 S. C Street

Fort Smith, Arkansas 72901

(479) 709-9439

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March 3, 2017

Mrs. Mitchell Dodroe, P.E.
Deputy Director of Engineering
Utility Department
City of Fort Smith
801 Carnall Ave #500
Fort Smith, AR 72901

Subject: City of Fort Smith, Arkansas
Sanitary Sewer Assessment Year 1 – Final 2015 Remedial Measures Plan

Dear Mrs. Dodroe:

In accordance with the February 3, 2015 Engineering Agreement, RJN Group, Inc. is pleased to submit this Final Remedial Measures Plan for the above referenced project.

This report includes the analysis and results from six (6) sub-basins (S004, P007, FL01, S003, S008, and S009) investigated during the 2015 sanitary sewer assessment.

We appreciate the opportunity to work with the City of Fort Smith 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 call.

Respectfully Submitted,

RJN GROUP, INC.

Don Jackson

Daniel Jackson, P.E.
Project Manager

Tristan Nickel

Tristan Nickel, P.E.
Project Engineer

DHJ/tn/2832
Enclosure

Remedial Measures Plan

2015 Sanitary Sewer Assessment

Sub-Basins: S004, P007, FL01, S003, S008, and S009

City of Fort Smith

March 2017

I hereby certify that this report was prepared under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Arkansas.

Dan Jackson

Date: 3/3/2017 Registration No.: 13978

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2015 REMEDIAL MEASURES PLAN

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SANITARY SEWER ASSESSMENT – 2015 REMEDIAL MEASURES PLAN

The City of Fort Smith, Arkansas contracted RJN Group, Inc. to conduct a Sanitary Sewer Assessment (SSA) in six (6) sub-basins as part of the Consent Decree. These six (6) sub-basins were FL01, S003, S008, S009, and portions of S004 and P007 consisting of 1,363 manholes and 301,124 linear feet or 56.9 miles of sanitary sewer pipe.

RJN Group, Inc. services included the following tasks:

- Flow Monitoring
- Manhole Condition Assessment (NASSCO Level 2 Inspections)
- Smoke Testing
- Cleaning and Televising of Sanitary Sewers
- Dyed Water Flooding
- Defect Analysis/Grading
- Manhole and Sewer Line Rehabilitation Recommendations

This Remedial Measures Plan discusses the rehabilitation recommendations along with the methodology used to develop the recommendations.

SYSTEM OVERVIEW

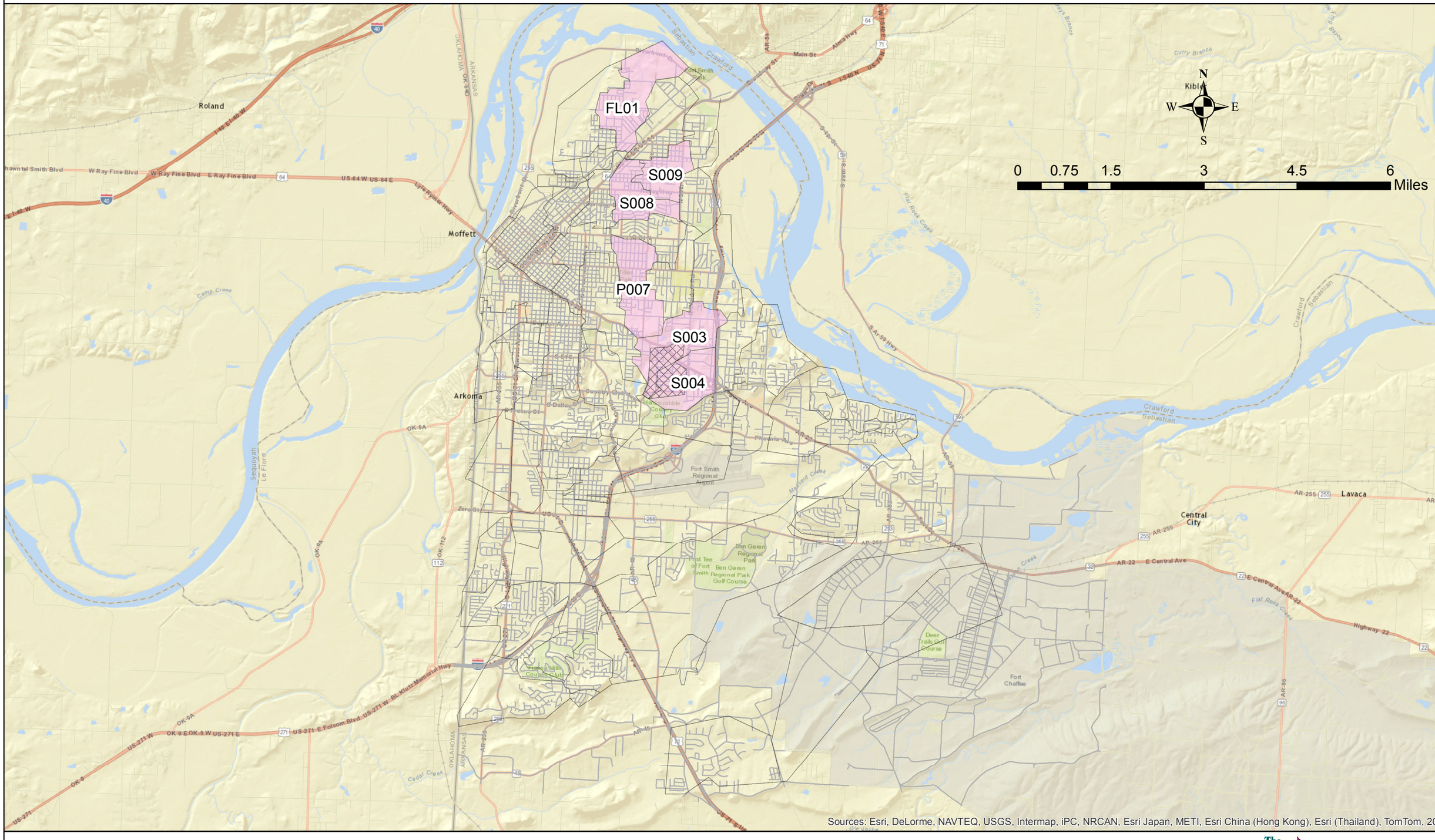
The 2015 SSA consisted of six (6) sub-basins; FL01, S003, S008, S009, and portions of S004 and P007. Evaluations of S004 and P007 were performed in 2014 and FL01, S003, S008, and S009 were performed in 2015. Table 1 summarizes the quantity of manholes and sewer line inspected per sub-basin. Figure 1 shows the sub-basins studied.

Table 1

SUB-BASIN STATISTICS

Sub-Basins	Number of Manholes	Length of Sewer Pipe	
		Linear Feet	Miles
S004[1/]	129	29,516	5.6
P007	338	71,234	13.5
FL01	257	64,002	12.1
S003	232	47,620	9.0
S008	219	48,280	9.1
S009	188	40,472	7.7
Total	**1,363**	**301,124**	**56.9**

City of Fort Smith, AR



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Basin Boundaries
Previously Studied
Study Area

The City of Fort Smith ARKANSAS

Figure 1
Sub-Basin
Location

MANHOLE CONDITION ASSESSMENT

Manhole inspections were conducted utilizing NASSCO MACP inspection standards. Inspections were MACP Level 2 inspections. A level 2 inspection grades manhole defects on a scale of 1 to 5, with 5 having the most severe defects. All inspection data was entered into the Innovyze software InfoMaster. This software generated grades for all defects notated during inspection. From the InfoMaster generated defect grades an overall score is developed for each manhole. A decision tree was developed in InfoMaster to generate the recommended remedial measures for each manhole. The decision tree can be seen in Figure 2 on page 4.

If the score was 1, 2, or 3 the manhole was flagged to enter the City's CMOM Program. If the score was either 4 or 5 the manhole passes through the remainder of the decision tree to determine the best rehabilitation method for the entire manhole. MACP defect grades are only given for the chimney, cone, wall, bench, and channel of a manhole. Defects in the cover, adjustment ring, frame or frame seal are not graded. A series of questions were built into the decision tree to account for these defects when determining the best rehabilitation for the entire manhole.

SMOKE TESTING

Smoke testing was conducted using the dual-blower method. Individual pipelines were isolated where applicable. Defects were noted where smoke was observed include: potential service cleanout defects, potential service line defects, potential gravity sewer line leaks, and potential cross-connections with the storm water system, downspouts, or area storm drains. A picture of the defect, GPS location, address and defect type are recorded.

CLEANING AND TELEVISING OF SANITARY SEWERS

Cleaning and closed circuit television inspection (CCTV) investigations were performed on all non-plastic sewer lines and plastic sewer lines installed prior to 1995. Investigations utilized NASSCO PACP inspection standards. All investigation data was entered into InfoMaster. From the InfoMaster generated defect grades an overall score was developed for each line segment using a 1 to 5 scale. A score of 0 indicates no defects were found within the line segment. A decision tree was then developed in InfoMaster to generate the recommended remedial measures for each line segment. The decision tree can be seen in Figure 3 on page 5. If the score was 1, 2, or 3 the line segment was flagged to enter the City's CMOM Program. If the score was either 4 or 5 the line segment passed through the remainder of the decision tree to determine the best rehabilitation method for the entire line segment.

DYED WATER FLOODING

Dyed water flooding was performed on selected defects identified during smoke testing. These defects consisted of potential mainline leaks and potential cross-connections with the storm water system. Potential mainline leaks on line segments that had a NASSCO score of 4 or 5 from the CCTV condition assessment were not tested.

Dye water flooding is conducted to simulate a rain event. This is executed by flooding the area of a potential defect with dyed water. Flow measurements are taken prior to beginning the test and after a positive result is achieved. The difference between the two measurements represents the quantity of inflow that would enter the sanitary system during a wet-weather event.

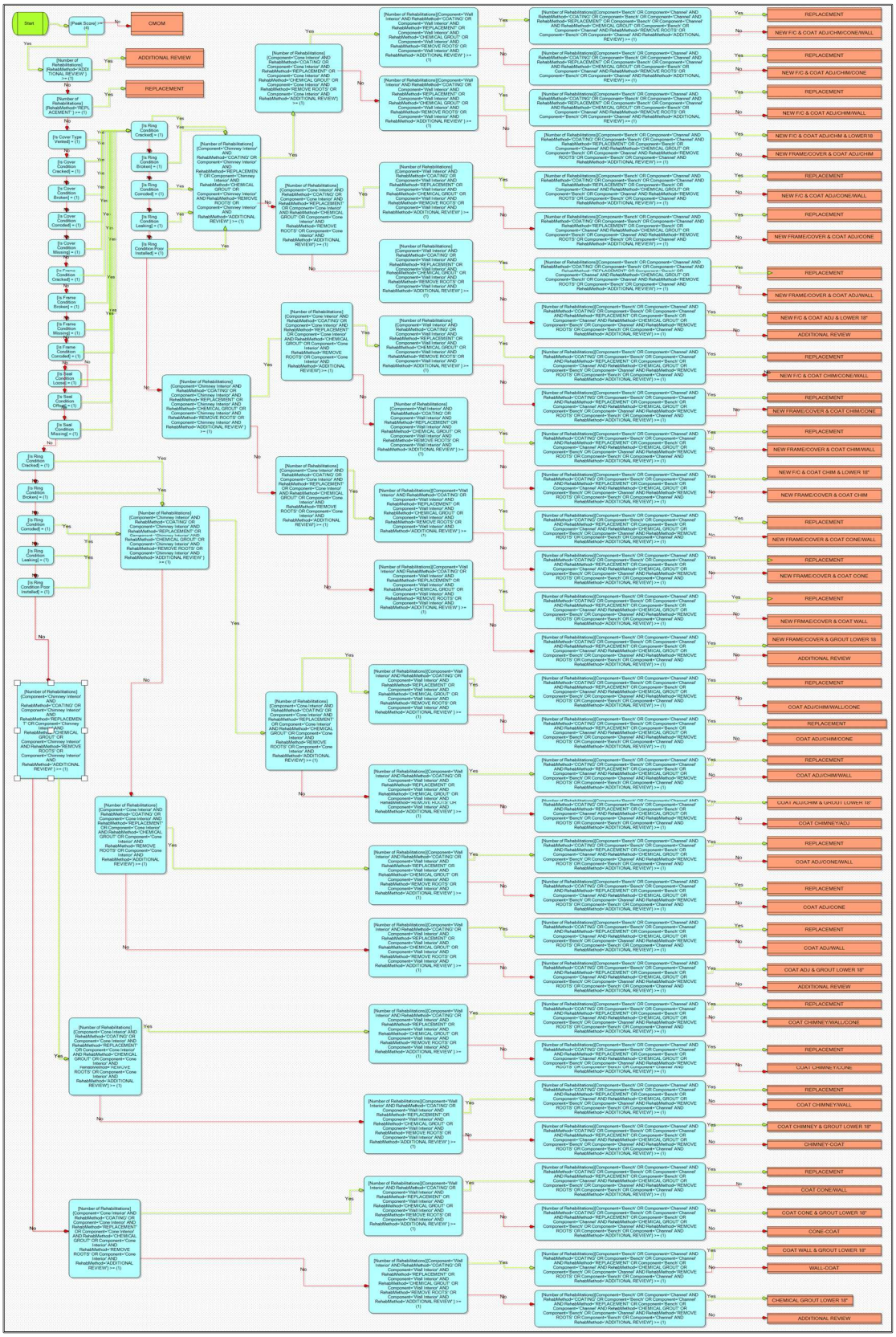


Figure 2 - Manhole Decision Tree (see Appendix A full size pullout)

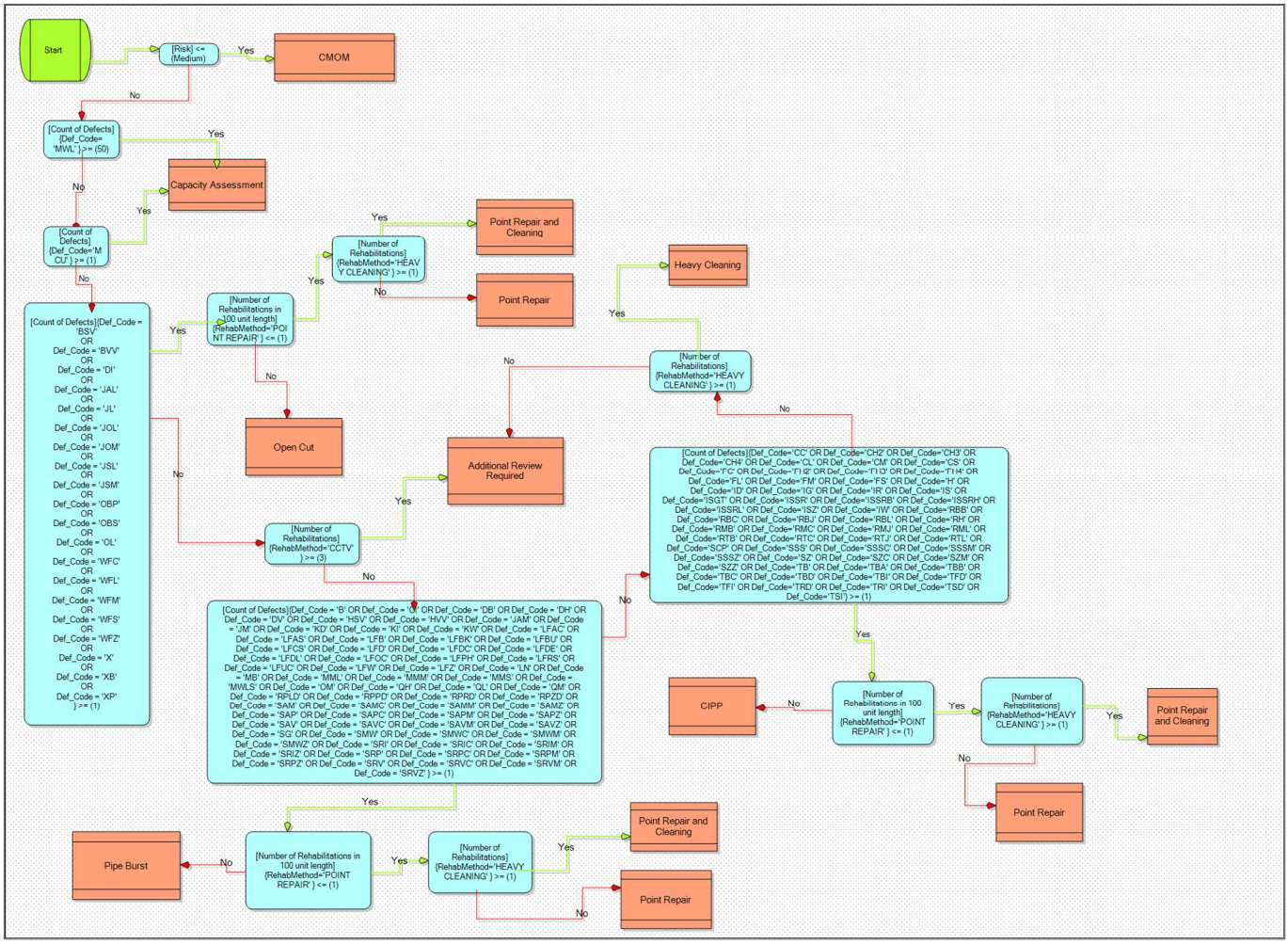


Figure 3 - Sewer Line Decision Tree (see Appendix A for full size pullout)

MANHOLE RECOMMENDATIONS

Based on the City's GIS, there were 1,363 manholes. Of this, 1,170 (86%) were fully inspected. The 193 manholes remaining are currently being investigation by the City and those found will be inspected in 2016. Structures that have been identified as non-existent or that are proposed to be replaced during sewer line rehabilitation will not require additional work as a part of the assessment activities. NASSCO MACP defect grades were used to generate scores for all manholes. Scores are on a scale of 1 to 5 with 5 being in the worst condition. Manholes with a score of 1, 2, or 3 were entered into the City's CMOM program while rehabilitation recommendations were generated for manholes with a score of 4 or 5. All recommended rehabilitation methods generated for each manhole are preliminary and will be further evaluated during design. A total of 241 manholes received a score of 4 or 5. The breakdown of manholes in each sub-basin, by score, can be seen in Table 2. Table 3 summarizes the recommended manhole rehabilitation by sub-basin. Appendix A defines the rehabilitation action for each manhole.

Table 2

NASSCO MACP SCORE SUMMARY

		NASSCO Score					
Sub-Basin	**Not Inspected**	**1**	**2**	**3**	**4**	**5**	**Total**
S004	15	81	29	1	2	1	129
P007	38	122	126	39	11	2	338
FL01	21	100	25	28	38	45	257
S003	34	111	32	20	13	22	232
S008	43	82	15	18	23	38	219
S009	42	68	24	18	14	22	188
Total	**193**	**564**	**251**	**124**	**101**	**130**	**1,363**

SEWER LINE RECOMMENDATIONS

All non-plastic sanitary lines, along with plastic lines installed prior to 1995, were cleaned and televised. This translated to 250,019 linear feet (47.35 miles). NASSCO PACP defect grades were used to generate scores for all sanitary gravity lines. Lengths are shown as full pipe segments and condition remedial measures may be identified for only a portion of the pipe segment. Scores are on a scale of 1 to 5 with a score of 5 assigned to the sewer lines with the worst condition. Sewer lines with a score of 1, 2, or 3 were entered into the City's CMOM program while rehabilitation recommendations were generated for sewer lines with a score of 4 or 5. All recommended rehabilitation methods generated for each sewer line are preliminary and will be further evaluated during design. A total of 126,688 linear feet from the 2015 SSA received a score of 4 or 5. PACP scores, by sub-basin, are summarized in Table 4. Table 5 outlines the preliminary recommended construction technique by sub-basin.

Table 3

MANHOLE REHABILITATION SUMMARY[1/]

Sub-Basin	CMOM	Complete Replacement	Chemical Grout Lower 18-Inches	Coat Wall	Coat Cone	Coat Chimney	New Frame and Cover	Cleaning	Total
S004	129	0	2	1	1	0	1	0	131
P007	325	5	3	5	2	1	2	0	342
FL01	172	34	9	18	9	1	23	26	291
S003	193	9	10	16	5	3	9	6	249
S008	145	22	13	9	7	6	20	24	244
S009	146	13	10	9	5	1	12	10	203
Total	**1,110**	**83**	**47**	**58**	**29**	**12**	**67**	**66**	**1,472**

1/ Manholes could have multiple action rehabilitation items.

Table 4

NASSCO PACP SCORE SUMMARY IN LINEAR FEET

Sub-Basin	NASSCO Score (Total Asset Length) 0[1/]	1	2	3	4	5	Total
S004	2,329	146	3,752	9,590	4,283	4,571	24,671
P007	6,920	2,857	3,384	8,605	11,196	21,020	53,982
FL01	2,033	1,378	5,058	19,372	11,763	12,060	51,664
S003	3,133	929	5,138	6,319	10,836	9,082	35,437
S008	636	3,967	11,420	13,683	8,186	9,783	47,675
S009	957	1,102	5,079	8,269	7,087	16,886	39,380
Total	**16,008**	**10,379**	**33,831**	**65,838**	**53,351**	**73,402**	**252,809**

1/ No defects recorded during inspection.

Table 5

SEWER LINE REHABILITATION SUMMARY

Sub-Basin	CMOM	CIPP	Pipe Burst	Open Cut	Grade 4/5 Obstructions (roots, grease, etc.)	Point Repair(s)	Total
S004	15,830	1,430	1,495	1,948	1,006	13	21,722
P007	22,265	2,349	6,778	5,978	1,378	13	38,761
FL01	28,172	611	8,730	8,472	697	8	46,690
S003	15,519	5,987	5,719	3,295	2,901	24	33,445
S008	29,788	1,273	6,510	3,892	1,071	17	42,551
S009	15,739	0	9,336	12,931	0	0	38,006
Total	**127,313**	**11,650**	**38,568**	**36,516**	**7,053**	**75**	**221,175**

POTENTIAL PRIVATE SERVICE LINE DEFECTS

A total of 301,124 linear feet of sanitary sewer lines were smoke tested during the 2015 SSA. There were 377 potential private service line defects located during smoke testing. The Private Service Line Report dated January 2016 has been provided to the City of Fort Smith. This report contains the address, description of defect, photograph of the defect, and other pertinent information.

RECOMMENDATIONS SUMMARY

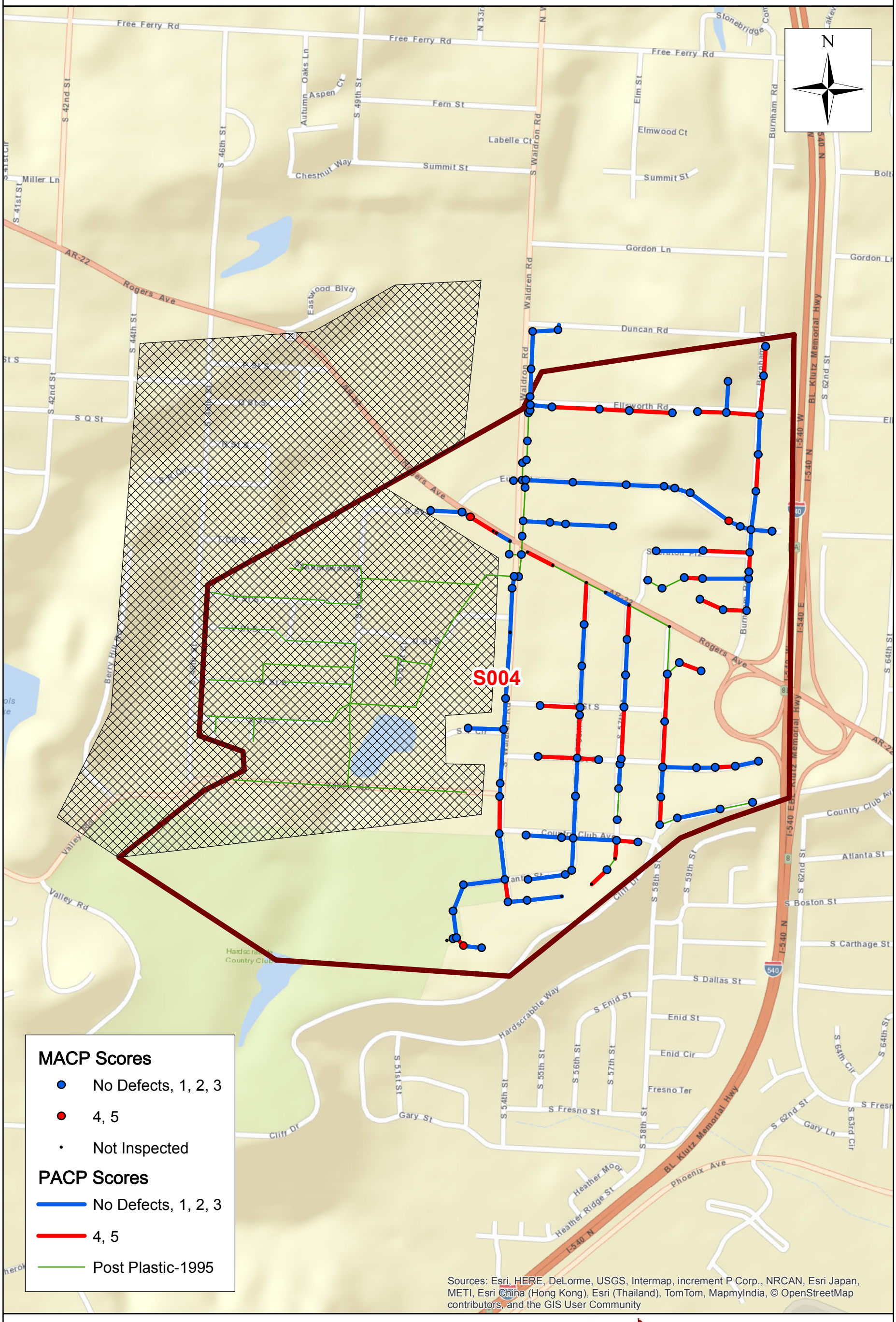
The sanitary sewer assessment conducted in 2014 and 2015 included the study of 1,363 manholes, smoke testing 301,124 linear feet of sanitary sewer line, cleaning and televising 250,019 linear feet of sanitary sewer line, and performing 71 dye tests in the study area. Rehabilitation recommendations have been provided for 241 manholes and 126,688 linear feet of sanitary sewer lines that have a NASSCO sore of 4 or 5. Table 6 summarizes the number of manholes and linear feet of sewer line that had a NASSCO grade 4 or 5 broken down by sub-basin. Figures 4 thru 9 outline the location of NASSCO 4 and 5's along with the lines and manholes which scored 1, 2, or 3 and will fall into the City's CMOM program. As mentioned previously, all recommended rehabilitation methods for both manholes and sewer lines are preliminary and will be further evaluated during design.

Table 6

NASSCO SCORE 4 & 5 SUMMARY

Sub-Basin	Manholes	Sewer Lines (lf)
S004	3	8,854
P007	13	32,216
FL01	83	23,823
S003	35	19,853
S008	61	17,969
S009	36	23,973
Total	**231**	**126,688**

City of Fort Smith, AR



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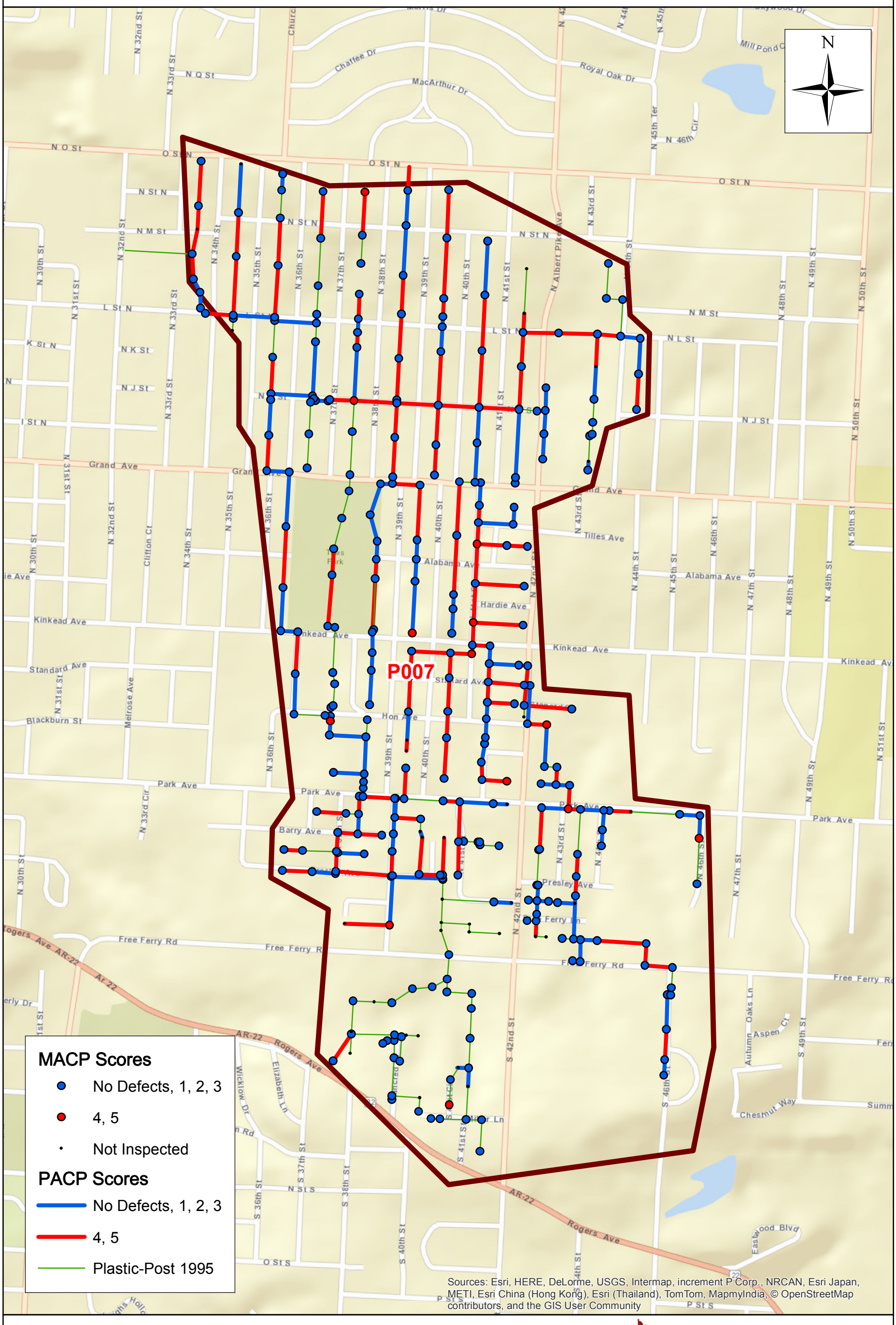
The Choice for Collection System Solutions

Basin Boundary
Previously Studied

Fort Smith ARKANSAS

Figure 4
NASSCO Scores
Sub-Basin S004

City of Fort Smith, AR



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Fort Smith ARKANSAS

Figure 5
NASSCO Scores
Sub-Basin P007

City of Fort Smith, AR

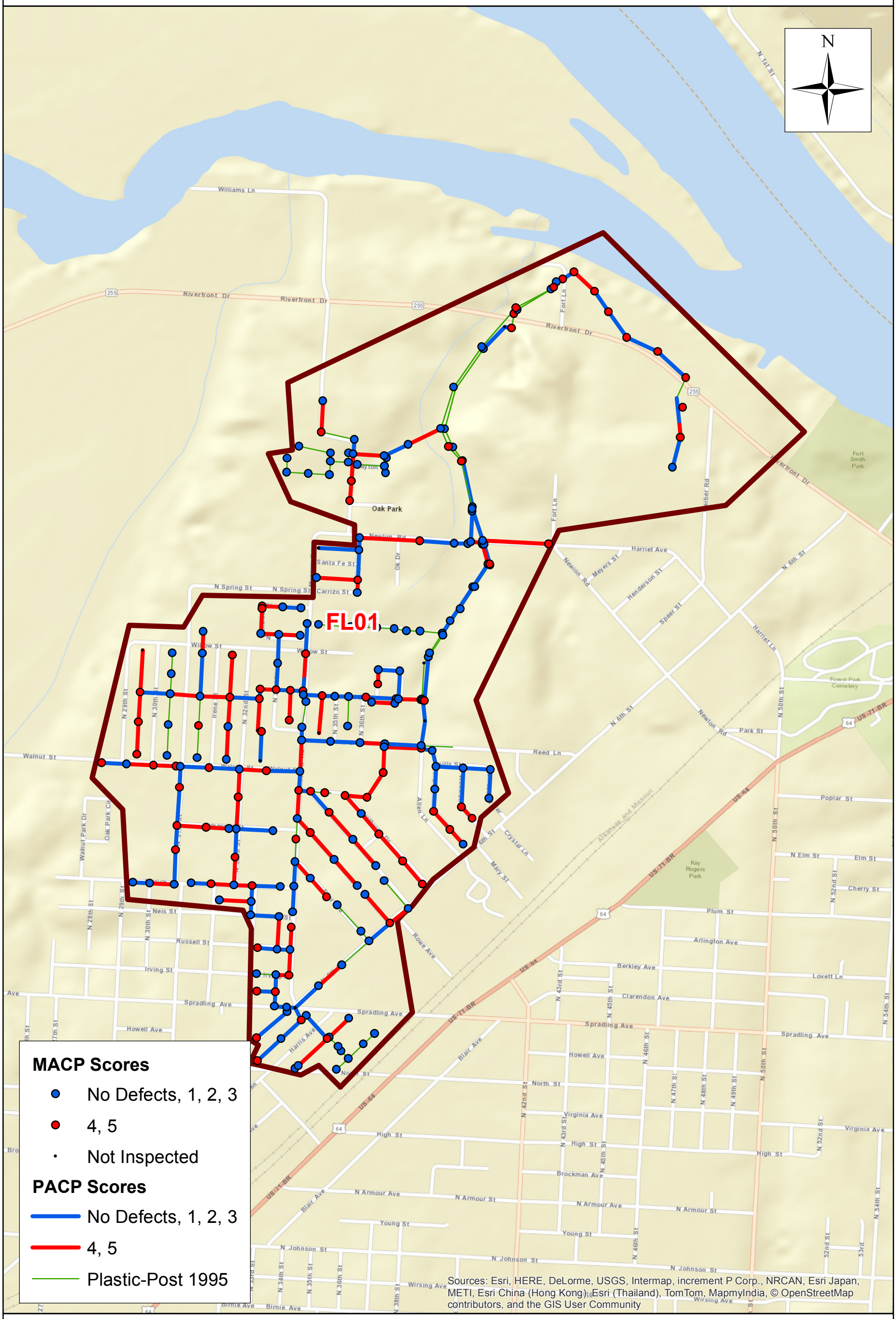

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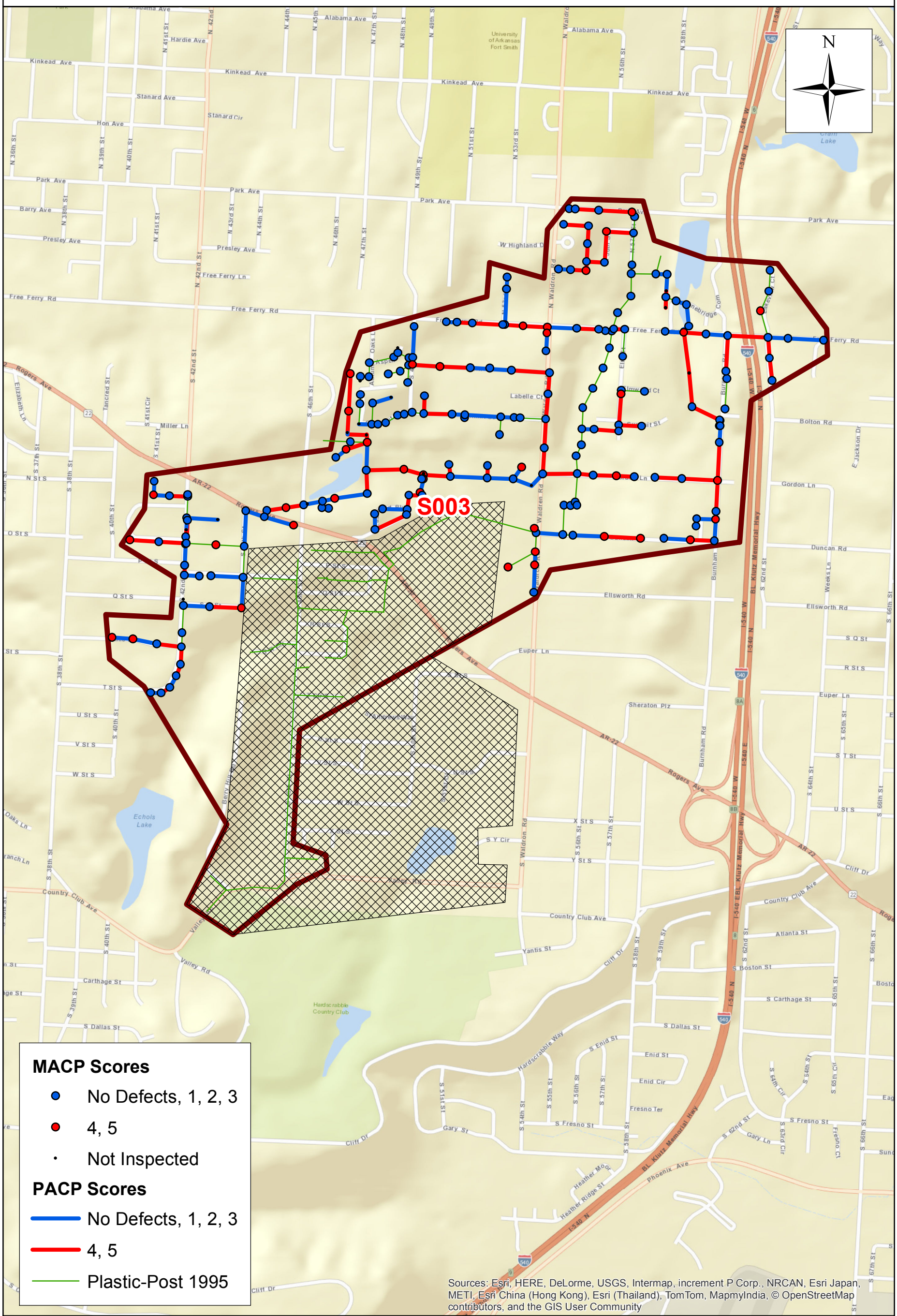
Figure 6
NASSCO Scores
Sub-Basin FL01

City of Fort Smith, AR



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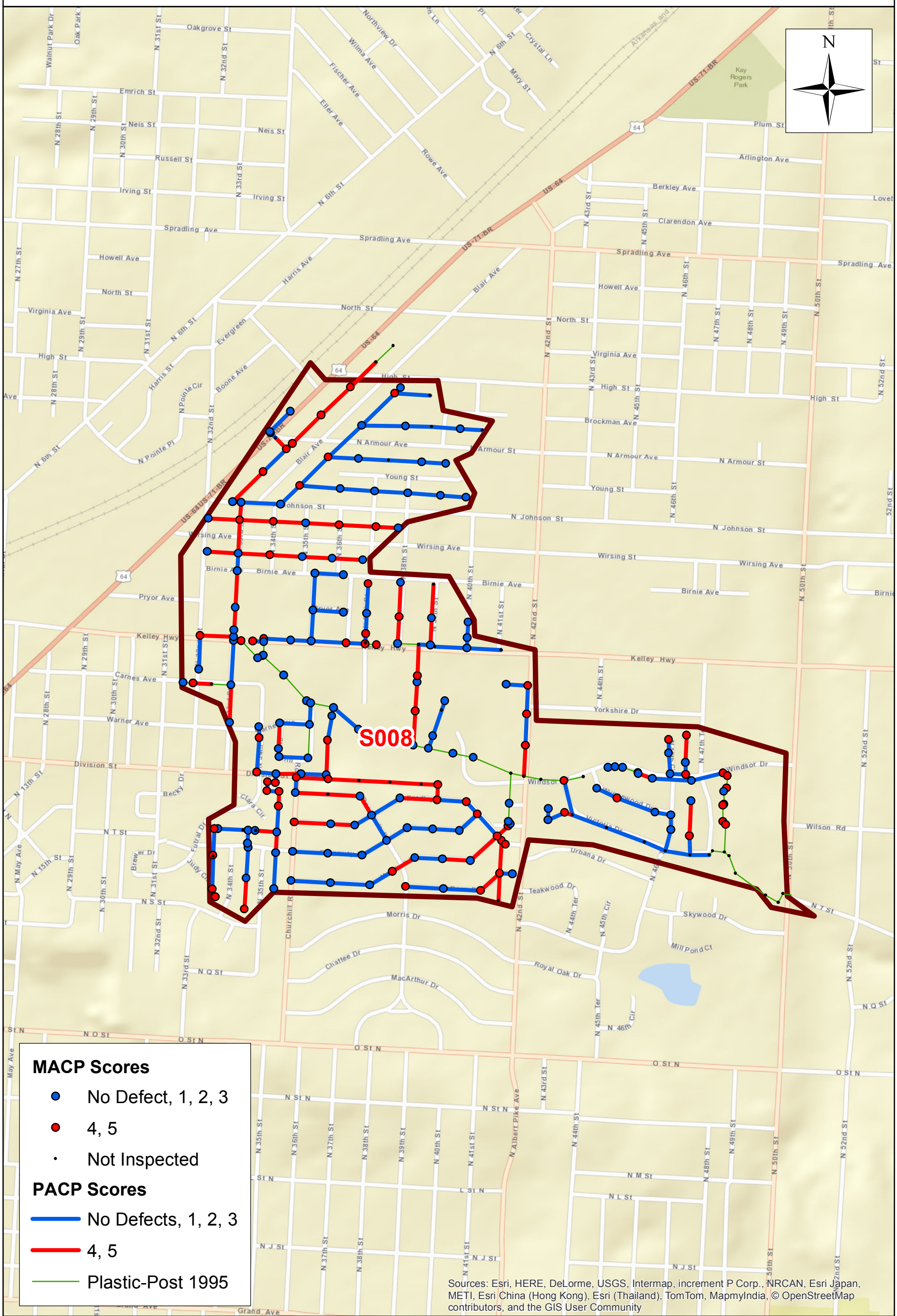
Basin Boundary

Previously Studied

Fort Smith ARKANSAS

Figure 7
NASSCO Scores
Sub-Basin S003

City of Fort Smith, AR



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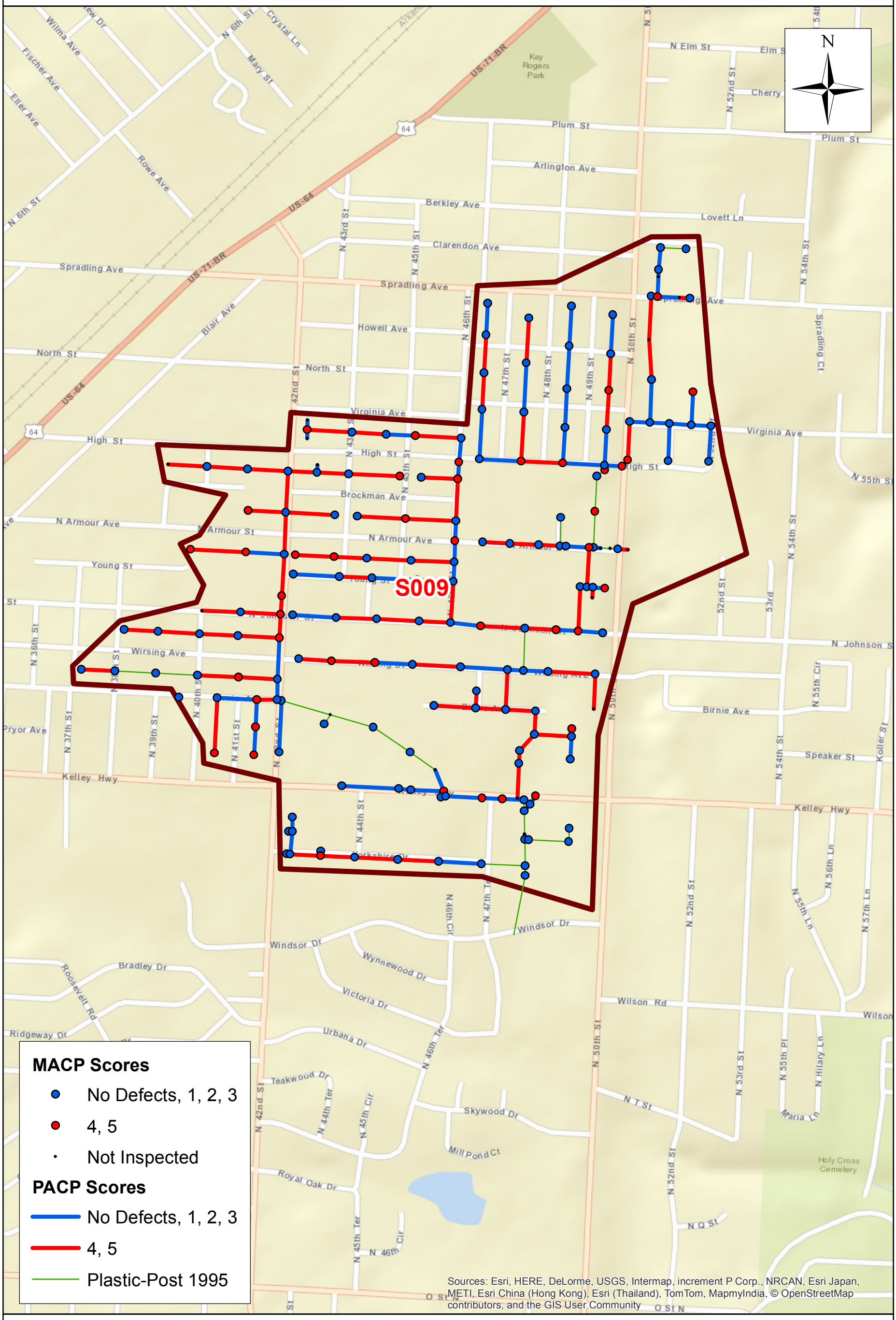
Basin Boundary

Fort Smith ARKANSAS

Figure 8
NASSCO Scores
Sub-Basin S008

City of Fort Smith, AR



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Basin Boundary

Fort Smith ARKANSAS

Figure 9
NASSCO Scores
Sub-Basin S009

APPENDICES

APPENDIX A

DECISION TREE PULLOUTS

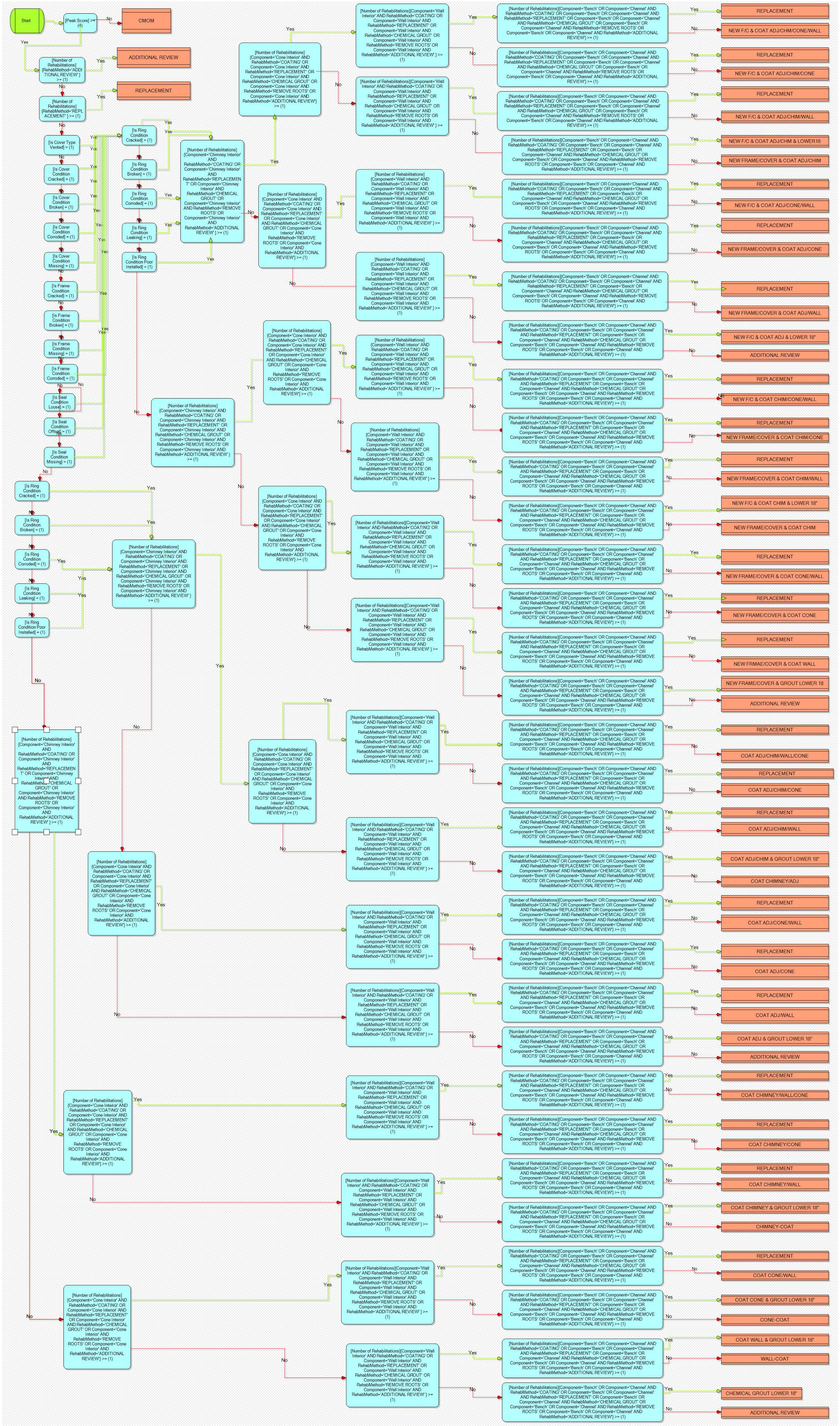

Figure 2 - Manhole Decision Tree

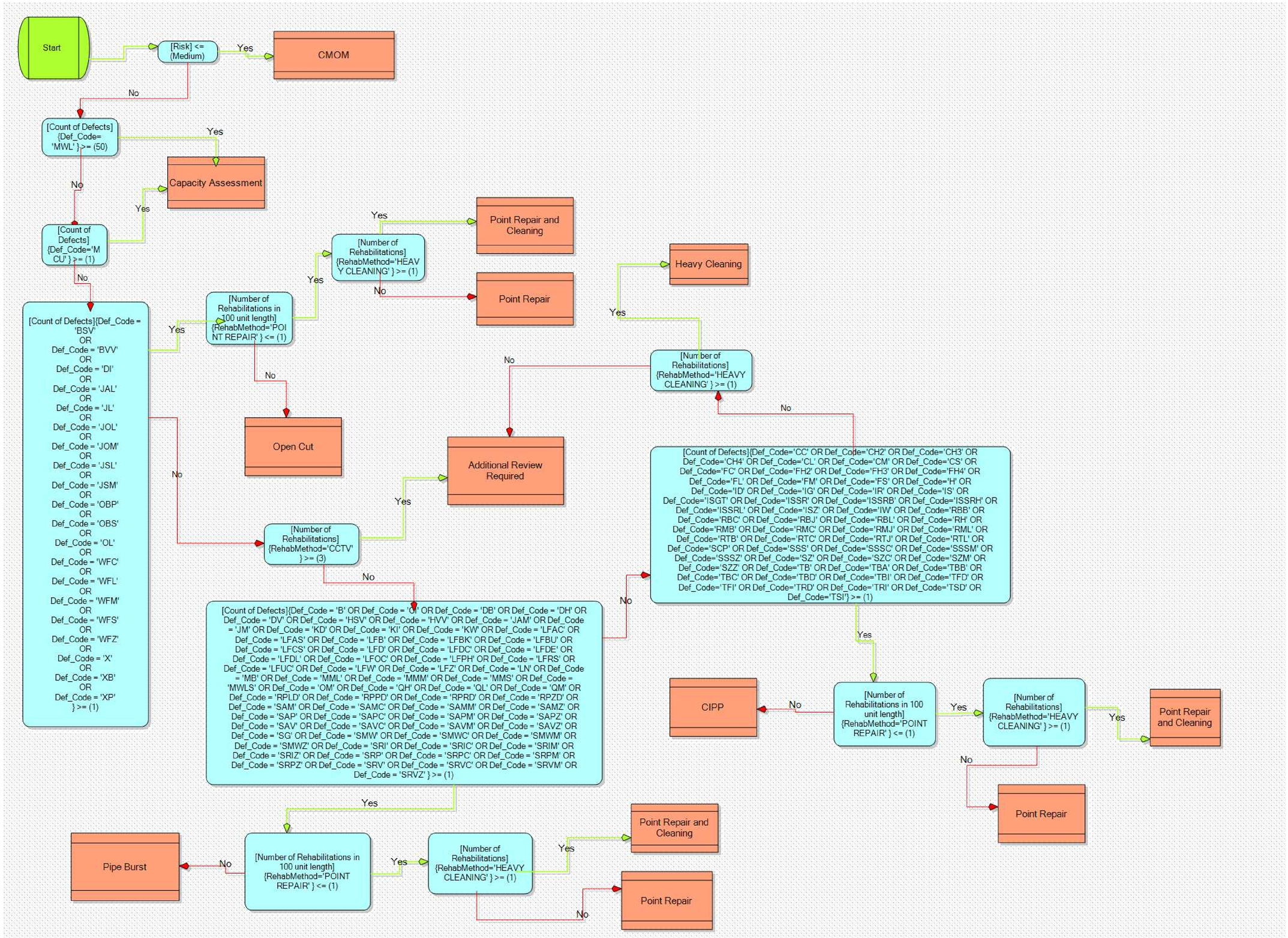

Figure 3 - Pipe Line Decision Tree

APPENDIX B

RECOMMENDED REHABILITATION – MANHOLES

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S004-0010	No Scorable Defect	CMOM
S004-0012	1	CMOM
S004-0014	1	CMOM
S004-0016	No Scorable Defect	CMOM
S004-0018	1	CMOM
S004-0020	No Scorable Defect	CMOM
S004-0022	No Scorable Defect	CMOM
S004-0024	No Scorable Defect	CMOM
S004-0026	No Scorable Defect	CMOM
S004-0028	No Scorable Defect	CMOM
S004-0030	1	CMOM
S004-0034	No Scorable Defect	CMOM
S004-0036	No Scorable Defect	CMOM
S004-0038	No Scorable Defect	CMOM
S004-0040	1	CMOM
S004-0045	1	CMOM
S004-0050	2	CMOM
S004-0060	1	CMOM
S004-0065	2	CMOM
S004-0080	No Scorable Defect	CMOM
S004-0090	No Scorable Defect	CMOM
S004-0100	1	CMOM
S004-0110	No Scorable Defect	CMOM
S004-0120	No Scorable Defect	CMOM
S004-0130	No Scorable Defect	CMOM
S004-0140	3	CMOM
S004-0150	4	NEW FRAME/COVER & GROUT LOWER 18
S004-0160	1	CMOM
S004-0170	2	CMOM
S004-0180	1	CMOM
S004-0190	No Scorable Defect	CMOM
S004-0200	2	CMOM
S004-0210	1	CMOM
S004-0220	2	CMOM
S004-0230	1	CMOM
S004-0240	No Scorable Defect	CMOM
S004-0245	No Scorable Defect	CMOM
S004-0250	2	CMOM
S004-0260	No Scorable Defect	CMOM
S004-0270	No Scorable Defect	CMOM
S004-0280	2	CMOM
S004-0310	No Scorable Defect	CMOM
S004-0312	1	CMOM
S004-0320	No Scorable Defect	CMOM
S004-0330	No Scorable Defect	CMOM
S004-0340	No Scorable Defect	CMOM
S004-0350	No Scorable Defect	CMOM
S004-0370	1	CMOM
S004-0375	Not Inspected	CMOM
S004-0380	Not Inspected	CMOM
S004-0390	Not Inspected	CMOM
S004-0400	4	WALL-COAT
S004-0410	No Scorable Defect	CMOM
S004-0420	1	CMOM
S004-0430	No Scorable Defect	CMOM
S004-0440	No Scorable Defect	CMOM
S004-0450	Not Inspected	CMOM
S004-0460	No Scorable Defect	CMOM
S004-0470	2	CMOM
S004-0480	1	CMOM
S004-0490	No Scorable Defect	CMOM
S004-0500	No Scorable Defect	CMOM
S004-0510	No Scorable Defect	CMOM
S004-0520	No Scorable Defect	CMOM
S004-0530	No Scorable Defect	CMOM
S004-0540	No Scorable Defect	CMOM
S004-0550	2	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S004-0560	Not Inspected	CMOM
S004-0570	2	CMOM
S004-0580	No Scorable Defect	CMOM
S004-0590	No Scorable Defect	CMOM
S004-0600	2	CMOM
S004-0605	Not Inspected	CMOM
S004-0610	5	COAT CONE & GROUT LOWER 18"
S004-0620	2	CMOM
S004-1120	Not Inspected	CMOM
S004-1130	Not Inspected	CMOM
S004-1140	Not Inspected	CMOM
S004-1150	No Scorable Defect	CMOM
S004-1160	No Scorable Defect	CMOM
S004-1170	1	CMOM
S004-1173	No Scorable Defect	CMOM
S004-1180	2	CMOM
S004-1190	No Scorable Defect	CMOM
S004-1200	No Scorable Defect	CMOM
S004-1210	2	CMOM
S004-1220	2	CMOM
S004-1230	2	CMOM
S004-1240	2	CMOM
S004-1250	2	CMOM
S004-1260	1	CMOM
S004-1270	2	CMOM
S004-1280	1	CMOM
S004-1290	No Scorable Defect	CMOM
S004-1300	2	CMOM
S004-1310	Not Inspected	CMOM
S004-1320	1	CMOM
S004-1330	Not Inspected	CMOM
S004-1340	Not Inspected	CMOM
S004-1350	Not Inspected	CMOM
S004-1360	No Scorable Defect	CMOM
S004-1370	No Scorable Defect	CMOM
S004-1380	No Scorable Defect	CMOM
S004-1390	No Scorable Defect	CMOM
S004-1400	No Scorable Defect	CMOM
S004-1410	2	CMOM
S004-1415	1	CMOM
S004-1420	Not Inspected	CMOM
S004-1430	No Scorable Defect	CMOM
S004-1440	2	CMOM
S004-1450	2	CMOM
S004-1470	No Scorable Defect	CMOM
S004-1480	No Scorable Defect	CMOM
S004-1490	1	CMOM
S004-1500	1	CMOM
S004-1510	2	CMOM
S004-1520	1	CMOM
S004-1530	No Scorable Defect	CMOM
S004-1540	No Scorable Defect	CMOM
S004-1550	No Scorable Defect	CMOM
S004-1560	2	CMOM
S004-1570	1	CMOM
S004-1580	No Scorable Defect	CMOM
S004-1585	2	CMOM
S004-1590	2	CMOM
S004-1650	2	CMOM
S004-1660	1	CMOM
S004-1670	2	CMOM
P007-0010	No Scorable Defect	CMOM
P007-0020	Not Inspected	CMOM
P007-0030	No Scorable Defect	CMOM
P007-0040	2	CMOM
P007-0050	2	CMOM
P007-0060	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
P007-0065	No Scorable Defect	CMOM
P007-0070	2	CMOM
P007-0080	3	CMOM
P007-0084	No Scorable Defect	CMOM
P007-0090	Not Inspected	CMOM
P007-0120	2	CMOM
P007-0130	2	CMOM
P007-0140	Not Inspected	CMOM
P007-0150	3	CMOM
P007-0152	2	CMOM
P007-0154	3	CMOM
P007-0155	3	CMOM
P007-0157	2	CMOM
P007-0160	2	CMOM
P007-0170	No Scorable Defect	CMOM
P007-0180	No Scorable Defect	CMOM
P007-0190	No Scorable Defect	CMOM
P007-0200	2	CMOM
P007-0202	2	CMOM
P007-0205	2	CMOM
P007-0210	No Scorable Defect	CMOM
P007-0220	2	CMOM
P007-0230	3	CMOM
P007-0240	3	CMOM
P007-0250	No Scorable Defect	CMOM
P007-0260	No Scorable Defect	CMOM
P007-0270	1	CMOM
P007-0280	No Scorable Defect	CMOM
P007-0290	1	CMOM
P007-0300	1	CMOM
P007-0310	No Scorable Defect	CMOM
P007-0312	2	CMOM
P007-0314	No Scorable Defect	CMOM
P007-0316	1	CMOM
P007-0320	2	CMOM
P007-0330	2	CMOM
P007-0340	No Scorable Defect	CMOM
P007-0350	No Scorable Defect	CMOM
P007-0370	4	REPLACEMENT
P007-0380	2	CMOM
P007-0383	3	CMOM
P007-0386	No Scorable Defect	CMOM
P007-0390	1	CMOM
P007-0395	1	CMOM
P007-0400	1	CMOM
P007-0410	4	CHEMICAL GROUT LOWER 18"
P007-0430	2	CMOM
P007-0440	No Scorable Defect	CMOM
P007-0450	No Scorable Defect	CMOM
P007-0460	No Scorable Defect	CMOM
P007-0465	1	CMOM
P007-0470	3	CMOM
P007-0480	2	CMOM
P007-0482	2	CMOM
P007-0484	1	CMOM
P007-0486	No Scorable Defect	CMOM
P007-0490	1	CMOM
P007-0495	1	CMOM
P007-0500	No Scorable Defect	CMOM
P007-0500A	4	NEW FRMAE/COVER & COAT WALL
P007-0510	No Scorable Defect	CMOM
P007-0520	No Scorable Defect	CMOM
P007-0520A	No Scorable Defect	CMOM
P007-0530	No Scorable Defect	CMOM
P007-0530A	No Scorable Defect	CMOM
P007-0530B	No Scorable Defect	CMOM
P007-0540	2	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
P007-0550	2	CMOM
P007-0557	No Scorable Defect	CMOM
P007-0560	No Scorable Defect	CMOM
P007-0570	2	CMOM
P007-0580	1	CMOM
P007-0585	3	CMOM
P007-0600	2	CMOM
P007-0610	2	CMOM
P007-0620	2	CMOM
P007-0630	No Scorable Defect	CMOM
P007-0640	No Scorable Defect	CMOM
P007-0650	2	CMOM
P007-0660	No Scorable Defect	CMOM
P007-0670	No Scorable Defect	CMOM
P007-0680	1	CMOM
P007-0690	3	CMOM
P007-0700	No Scorable Defect	CMOM
P007-0710	4	REPLACEMENT
P007-0720	Not Inspected	CMOM
P007-0730	2	CMOM
P007-0740	2	CMOM
P007-0750	2	CMOM
P007-0760	2	CMOM
P007-0770	2	CMOM
P007-0780	1	CMOM
P007-0782	2	CMOM
P007-0784	1	CMOM
P007-0785	1	CMOM
P007-0786	2	CMOM
P007-0788	1	CMOM
P007-0790	2	CMOM
P007-0810	2	CMOM
P007-0820	Not Inspected	CMOM
P007-0840	2	CMOM
P007-0850	No Scorable Defect	CMOM
P007-0860	2	CMOM
P007-0870	No Scorable Defect	CMOM
P007-0920	1	CMOM
P007-0930	Not Inspected	CMOM
P007-0940	2	CMOM
P007-0950	Not Inspected	CMOM
P007-0955	Not Inspected	CMOM
P007-0958	Not Inspected	CMOM
P007-0960	Not Inspected	CMOM
P007-0970	Not Inspected	CMOM
P007-0980	Not Inspected	CMOM
P007-0990	3	CMOM
P007-1000	2	CMOM
P007-1010	2	CMOM
P007-1020	2	CMOM
P007-1030	No Scorable Defect	CMOM
P007-1040	1	CMOM
P007-1050	2	CMOM
P007-1060	Not Inspected	CMOM
P007-1070	No Scorable Defect	CMOM
P007-1080	2	CMOM
P007-1090	3	CMOM
P007-1100	2	CMOM
P007-1110	2	CMOM
P007-1140	2	CMOM
P007-1150	2	CMOM
P007-1160	No Scorable Defect	CMOM
P007-1170	Not Inspected	CMOM
P007-1180	2	CMOM
P007-1190	Not Inspected	CMOM
P007-1200	2	CMOM
P007-1210	Not Inspected	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
P007-1220	2	CMOM
P007-1222	Not Inspected	CMOM
P007-1224	Not Inspected	CMOM
P007-1230	2	CMOM
P007-1240	2	CMOM
P007-1250	1	CMOM
P007-1250A	No Scorable Defect	CMOM
P007-1250B	2	CMOM
P007-1255	2	CMOM
P007-1260	3	CMOM
P007-1264	Not Inspected	CMOM
P007-1267	2	CMOM
P007-1270	3	CMOM
P007-1280	3	CMOM
P007-1282	No Scorable Defect	CMOM
P007-1290	3	CMOM
P007-1300	2	CMOM
P007-1310	No Scorable Defect	CMOM
P007-1320	3	CMOM
P007-1330	2	CMOM
P007-1350	2	CMOM
P007-1360	No Scorable Defect	CMOM
P007-1363	2	CMOM
P007-1370	1	CMOM
P007-1380	1	CMOM
P007-1385	1	CMOM
P007-1390	2	CMOM
P007-1400	4	WALL-COAT
P007-1410	No Scorable Defect	CMOM
P007-1415	2	CMOM
P007-1420	No Scorable Defect	CMOM
P007-1425	1	CMOM
P007-1430	2	CMOM
P007-1440	2	CMOM
P007-1450	2	CMOM
P007-1460	2	CMOM
P007-1470	2	CMOM
P007-1480	2	CMOM
P007-1490	3	CMOM
P007-1500	2	CMOM
P007-1504	1	CMOM
P007-1507	2	CMOM
P007-1510	2	CMOM
P007-1520	1	CMOM
P007-1525	2	CMOM
P007-1530	No Scorable Defect	CMOM
P007-1540	No Scorable Defect	CMOM
P007-1550	3	CMOM
P007-1560	3	CMOM
P007-1570	1	CMOM
P007-1580	3	CMOM
P007-1590	2	CMOM
P007-1600	2	CMOM
P007-1610	3	CMOM
P007-1620	3	CMOM
P007-1635	No Scorable Defect	CMOM
P007-1640	3	CMOM
P007-1650	2	CMOM
P007-1660	3	CMOM
P007-1665	1	CMOM
P007-1670	No Scorable Defect	CMOM
P007-1675	2	CMOM
P007-1680	4	WALL-COAT
P007-1690	No Scorable Defect	CMOM
P007-1700	No Scorable Defect	CMOM
P007-1710	3	CMOM
P007-1720	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
P007-1730	5	REPLACEMENT
P007-1740	No Scorable Defect	CMOM
P007-1750	No Scorable Defect	CMOM
P007-1760	4	REPLACEMENT
P007-1770	1	CMOM
P007-1780	2	CMOM
P007-1790	2	CMOM
P007-1800	3	CMOM
P007-1810	Not Inspected	CMOM
P007-1820	Not Inspected	CMOM
P007-1830	No Scorable Defect	CMOM
P007-1840	2	CMOM
P007-1850	1	CMOM
P007-1860	No Scorable Defect	CMOM
P007-1870	3	CMOM
P007-1880	No Scorable Defect	CMOM
P007-1890	2	CMOM
P007-1895	2	CMOM
P007-1897	No Scorable Defect	CMOM
P007-1900	2	CMOM
P007-1910	1	CMOM
P007-1920	3	CMOM
P007-1930	3	CMOM
P007-1940	3	CMOM
P007-1945	Not Inspected	CMOM
P007-1950	2	CMOM
P007-1960	2	CMOM
P007-1960A	2	CMOM
P007-1970	2	CMOM
P007-1980	5	COAT CONE & GROUT LOWER 18"
P007-1990	2	CMOM
P007-2000	2	CMOM
P007-2010	No Scorable Defect	CMOM
P007-2020	4	NEW F/C & COAT CHIM/CONE/WALL
P007-2030	No Scorable Defect	CMOM
P007-2040	No Scorable Defect	CMOM
P007-2050	3	CMOM
P007-2060	No Scorable Defect	CMOM
P007-2070	2	CMOM
P007-2080	4	REPLACEMENT
P007-2090	2	CMOM
P007-2100	1	CMOM
P007-2102	1	CMOM
P007-2108	No Scorable Defect	CMOM
P007-2110	No Scorable Defect	CMOM
P007-2120	No Scorable Defect	CMOM
P007-2130	2	CMOM
P007-2150	2	CMOM
P007-2155	2	CMOM
P007-2155A	2	CMOM
P007-2160	Not Inspected	CMOM
P007-2170	Not Inspected	CMOM
P007-2180	2	CMOM
P007-2190	No Scorable Defect	CMOM
P007-2200	No Scorable Defect	CMOM
P007-2210	Not Inspected	CMOM
P007-2210A	2	CMOM
P007-2220	No Scorable Defect	CMOM
P007-2230	3	CMOM
P007-2240	2	CMOM
P007-2245	1	CMOM
P007-2248	1	CMOM
P007-2250	3	CMOM
P007-2260	No Scorable Defect	CMOM
P007-2270	2	CMOM
P007-2272	2	CMOM
P007-2280	2	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
P007-2285	No Scorable Defect	CMOM
P007-2290	No Scorable Defect	CMOM
P007-2300	No Scorable Defect	CMOM
P007-2304	2	CMOM
P007-2307	2	CMOM
P007-2310	No Scorable Defect	CMOM
P007-2320	2	CMOM
P007-2325	2	CMOM
P007-2330	Not Inspected	CMOM
P007-2340	Not Inspected	CMOM
P007-2350	1	CMOM
P007-2354	Not Inspected	CMOM
P007-2357	2	CMOM
P007-2360	2	CMOM
P007-2370	2	CMOM
P007-2372	2	CMOM
P007-2380	Not Inspected	CMOM
P007-2383	2	CMOM
P007-2385	1	CMOM
P007-2390	2	CMOM
P007-2395	No Scorable Defect	CMOM
P007-2400	2	CMOM
P007-2500	3	CMOM
P007-2510	2	CMOM
P007-2520	Not Inspected	CMOM
P007-2530	Not Inspected	CMOM
P007-2540	No Scorable Defect	CMOM
P007-2550	2	CMOM
P007-2560	2	CMOM
P007-2570	Not Inspected	CMOM
P007-2700	2	CMOM
P007-2710	2	CMOM
P007-2720	No Scorable Defect	CMOM
P007-2730	2	CMOM
P007-2740	Not Inspected	CMOM
P007-2740A	1	CMOM
P007-2750	3	CMOM
P007-2760	4	CHEMICAL GROUT LOWER 18"
P007-2770	2	CMOM
P007-2900	3	CMOM
P007-2910	2	CMOM
P007-2920	No Scorable Defect	CMOM
P007-2930	1	CMOM
P007-2940	2	CMOM
P007-2940A	1	CMOM
P007-2950	2	CMOM
P007-2960	3	CMOM
P007-2970	2	CMOM
P007-2980	3	CMOM
P007-3100	Not Inspected	CMOM
P007-3110	No Scorable Defect	CMOM
P007-3120	4	WALL-COAT
P007-3130	2	CMOM
P007-3140	1	CMOM
P007-3150	No Scorable Defect	CMOM
P007-3300	2	CMOM
P007-3310	2	CMOM
P007-3320	1	CMOM
P007-3330	2	CMOM
P007-3340	No Scorable Defect	CMOM
P007-3350	2	CMOM
S007-3350	No Scorable Defect	CMOM
FL01-0020	3	CMOM
FL01-0030	4	WALL-COAT
FL01-0040	No Scorable Defect	CMOM
FL01-0060	No Scorable Defect	CMOM
FL01-0070	3	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
FL01-0080	2	CMOM
FL01-0090	3	CMOM
FL01-0100	3	CMOM
FL01-0110	5	NEW FRMAE/COVER & COAT WALL
FL01-0120	2	CMOM
FL01-0130	4	REPLACEMENT
FL01-0140	4	REPLACEMENT
FL01-0150	5	REPLACEMENT
FL01-0160	5	REPLACEMENT
FL01-0170	No Scorable Defect	CMOM
FL01-0180	1	CMOM
FL01-0190	5	REPLACEMENT
FL01-0200	No Scorable Defect	CMOM
FL01-0210	4	NEW FRMAE/COVER & COAT WALL
FL01-0220	No Scorable Defect	CMOM
FL01-0230	No Scorable Defect	CMOM
FL01-0240	No Scorable Defect	CMOM
FL01-0250	No Scorable Defect	CMOM
FL01-0260	Not Inspected	CMOM
FL01-0270	No Scorable Defect	CMOM
FL01-0280	No Scorable Defect	CMOM
FL01-0290	No Scorable Defect	CMOM
FL01-0300	No Scorable Defect	CMOM
FL01-0305	No Scorable Defect	CMOM
FL01-0310	1	CMOM
FL01-0320	4	NEW F/C & COAT CHIM/CONE/WALL
FL01-0330	2	CMOM
FL01-0340	No Scorable Defect	CMOM
FL01-0350	Not Inspected	CMOM
FL01-0360	4	CONE-COAT
FL01-0365	2	CMOM
FL01-0370	No Scorable Defect	CMOM
FL01-0380	3	CMOM
FL01-0390	2	CMOM
FL01-0400	3	CMOM
FL01-0405	2	CMOM
FL01-0410	No Scorable Defect	CMOM
FL01-0420	2	CMOM
FL01-0430	5	NEW FRAME/COVER & COAT CONE
FL01-0439	2	CMOM
FL01-0440	No Scorable Defect	CMOM
FL01-0445	3	CMOM
FL01-0450	3	CMOM
FL01-0460	3	CMOM
FL01-0470	No Scorable Defect	CMOM
FL01-0480	5	CLEANING
FL01-0490	2	CMOM
FL01-0500	No Scorable Defect	CMOM
FL01-0510	3	CMOM
FL01-0515	5	CLEANING
FL01-0520	3	CMOM
FL01-0525	No Scorable Defect	CMOM
FL01-0540	5	CLEANING
FL01-0550	3	CMOM
FL01-0560	4	CLEANING
FL01-0570	5	CLEANING
FL01-0570A	4	CLEANING
FL01-0580	2	CMOM
FL01-0590	4	COAT WALL & GROUT LOWER 18"
FL01-0600	5	REPLACEMENT
FL01-0610	4	CLEANING
FL01-0620	3	CMOM
FL01-0630	No Scorable Defect	CMOM
FL01-0640	No Scorable Defect	CMOM
FL01-0650	No Scorable Defect	CMOM
FL01-0660	4	CLEANING
FL01-0680	4	NEW FRMAE/COVER & COAT WALL

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
FL01-0690	No Scorable Defect	CMOM
FL01-0700	No Scorable Defect	CMOM
FL01-0710	5	REPLACEMENT
FL01-0720	5	NEW FRAME/COVER & CLEAN
FL01-0730	Not Inspected	CMOM
FL01-0740	4	NEW FRAME/COVER & COAT CONE/WALL
FL01-0750	Not Inspected	CMOM
FL01-0760	5	NEW FRAME/COVER & CLEAN
FL01-0770	4	COAT CONE & GROUT LOWER 18"
FL01-0770A	1	CMOM
FL01-0780	No Scorable Defect	CMOM
FL01-0790	No Scorable Defect	CMOM
FL01-0800	3	CMOM
FL01-0810	2	CMOM
FL01-0820	5	CLEANING
FL01-0830	No Scorable Defect	CMOM
FL01-0840	No Scorable Defect	CMOM
FL01-0845	No Scorable Defect	CMOM
FL01-0850	No Scorable Defect	CMOM
FL01-0860	No Scorable Defect	CMOM
FL01-0870	No Scorable Defect	CMOM
FL01-0880	4	REPLACEMENT
FL01-0890	Not Inspected	CMOM
FL01-0900	5	REPLACEMENT
FL01-0910	5	NEW FRAME/COVER & GROUT LOWER 18
FL01-0920	Not Inspected	CMOM
FL01-0930	2	CMOM
FL01-0930A	5	CLEANING
FL01-0932	4	NEW FRMAE/COVER & COAT WALL
FL01-0940	No Scorable Defect	CMOM
FL01-0950	No Scorable Defect	CMOM
FL01-0960	3	CMOM
FL01-0970	5	COAT WALL & GROUT LOWER 18"
FL01-0980	5	COAT WALL & GROUT LOWER 18"
FL01-0990	No Scorable Defect	CMOM
FL01-1000	No Scorable Defect	CMOM
FL01-1010	5	CLEANING
FL01-1020	5	CLEANING
FL01-1030	3	CMOM
FL01-1040	3	CMOM
FL01-1060	2	CMOM
FL01-1070	5	REPLACEMENT
FL01-1080	5	REPLACEMENT
FL01-1090	4	NEW FRMAE/COVER & COAT WALL
FL01-1100	No Scorable Defect	CMOM
FL01-1110	5	CLEANING
FL01-1120	5	REPLACEMENT
FL01-1130	4	REPLACEMENT
FL01-1140	3	CMOM
FL01-1150	No Scorable Defect	CMOM
FL01-1160	2	CMOM
FL01-1170	No Scorable Defect	CMOM
FL01-1180	3	CMOM
FL01-1185	2	CMOM
FL01-1190	No Scorable Defect	CMOM
FL01-1200	4	NEW FRAME/COVER & CLEAN
FL01-1210	4	CONE-COAT
FL01-1220	4	CONE-COAT
FL01-1220A	No Scorable Defect	CMOM
FL01-1230	4	REPLACEMENT
FL01-1240	No Scorable Defect	CMOM
FL01-1250	3	CMOM
FL01-1260	No Scorable Defect	CMOM
FL01-1270	4	NEW FRAME/COVER & CLEAN
FL01-1280	No Scorable Defect	CMOM
FL01-1290	No Scorable Defect	CMOM
FL01-1300	5	REPLACEMENT

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
FL01-1310	3	CMOM
FL01-1320	No Scorable Defect	CMOM
FL01-1330	4	NEW FRMAE/COVER & COAT WALL
FL01-1340	No Scorable Defect	CMOM
FL01-1350	3	CMOM
FL01-1360	5	REPLACEMENT
FL01-1370	2	CMOM
FL01-1380	4	NEW FRAME/COVER & CLEAN
FL01-1390	No Scorable Defect	CMOM
FL01-1395	5	REPLACEMENT
FL01-1400	5	COAT WALL & GROUT LOWER 18"
FL01-1410	No Scorable Defect	CMOM
FL01-1420	5	COAT WALL & GROUT LOWER 18"
FL01-1430	4	REPLACEMENT
FL01-1440	4	REPLACEMENT
FL01-1450	5	NEW FRAME/COVER & CLEAN
FL01-1460	No Scorable Defect	CMOM
FL01-1470	5	CLEANING
FL01-1480	No Scorable Defect	CMOM
FL01-1490	No Scorable Defect	CMOM
FL01-1500	No Scorable Defect	CMOM
FL01-1510	4	NEW FRAME/COVER & CLEAN
FL01-1520	No Scorable Defect	CMOM
FL01-1530	2	CMOM
FL01-1540	5	CLEANING
FL01-1550	No Scorable Defect	CMOM
FL01-1560	5	REPLACEMENT
FL01-1570	No Scorable Defect	CMOM
FL01-1580	4	NEW FRAME/COVER & COAT CONE/WALL
FL01-1590	No Scorable Defect	CMOM
FL01-1600	3	CMOM
FL01-1610	2	CMOM
FL01-1620	No Scorable Defect	CMOM
FL01-1630	2	CMOM
FL01-1640	2	CMOM
FL01-1650	5	NEW FRAME/COVER & CLEAN
FL01-1660	No Scorable Defect	CMOM
FL01-1670	5	REPLACEMENT
FL01-1680	5	REPLACEMENT
FL01-1690	No Scorable Defect	CMOM
FL01-1700	No Scorable Defect	CMOM
FL01-1710	5	REPLACEMENT
FL01-1720	5	NEW FRAME/COVER & CLEAN
FL01-1730	No Scorable Defect	CMOM
FL01-1740	3	CMOM
FL01-1750	No Scorable Defect	CMOM
FL01-1760	4	COAT WALL & GROUT LOWER 18"
FL01-1770	Not Inspected	CMOM
FL01-1780	2	CMOM
FL01-1790	No Scorable Defect	CMOM
FL01-1800	No Scorable Defect	CMOM
FL01-1810	4	REPLACEMENT
FL01-1820	2	CMOM
FL01-1830	No Scorable Defect	CMOM
FL01-1840	No Scorable Defect	CMOM
FL01-1850	4	REPLACEMENT
FL01-1860	No Scorable Defect	CMOM
FL01-1880	2	CMOM
FL01-1890	4	REPLACEMENT
FL01-1892	No Scorable Defect	CMOM
FL01-1900	No Scorable Defect	CMOM
FL01-1905	No Scorable Defect	CMOM
FL01-1915	5	REPLACEMENT
FL01-1920	5	NEW FRAME/COVER & COAT CONE/WALL
FL01-1930	4	REPLACEMENT
FL01-1940	4	REPLACEMENT
FL01-1950	4	REPLACEMENT

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
FL01-1960	4	REPLACEMENT
FL01-1970	5	REPLACEMENT
FL01-1980	5	REPLACEMENT
FL01-1990	5	REPLACEMENT
FL01-1990A	2	CMOM
FL01-2000	3	CMOM
FL01-2010	No Scorable Defect	CMOM
FL01-2020	3	CMOM
FL01-2030	5	CLEANING
FL01-2040	4	NEW FRAME/COVER & CLEAN
FL01-2050	Not Inspected	CMOM
FL01-2060	2	CMOM
FL01-2070	Not Inspected	CMOM
FL01-2080	No Scorable Defect	CMOM
FL01-2090	No Scorable Defect	CMOM
FL01-2100	No Scorable Defect	CMOM
FL01-2110	No Scorable Defect	CMOM
FL01-2200	No Scorable Defect	CMOM
FL01-2210	No Scorable Defect	CMOM
FL01-2220	No Scorable Defect	CMOM
FL01-2230	No Scorable Defect	CMOM
FL01-2240	3	CMOM
FL01-2250	1	CMOM
FL01-2260	No Scorable Defect	CMOM
FL01-2270	No Scorable Defect	CMOM
FL01-2280	No Scorable Defect	CMOM
FL01-2290	No Scorable Defect	CMOM
FL01-2300	No Scorable Defect	CMOM
FL01-2310	No Scorable Defect	CMOM
FL01-2320	No Scorable Defect	CMOM
FL01-2330	No Scorable Defect	CMOM
FL01-2340	No Scorable Defect	CMOM
FL01-2350	No Scorable Defect	CMOM
FL01-2360	No Scorable Defect	CMOM
FL01-2370	No Scorable Defect	CMOM
FL01-2380	No Scorable Defect	CMOM
FL01-2390	No Scorable Defect	CMOM
FL01-2400	No Scorable Defect	CMOM
FL01-2410	3	CMOM
FL01-2420	No Scorable Defect	CMOM
FL01-2430	No Scorable Defect	CMOM
FL01-2440	No Scorable Defect	CMOM
FL01-2450	No Scorable Defect	CMOM
FL01-2460	No Scorable Defect	CMOM
FL01-2470	No Scorable Defect	CMOM
FL01-2480	Not Inspected	CMOM
S003-0020	3	CMOM
S003-0030	No Scorable Defect	CMOM
S003-0040	Not Inspected	CMOM
S003-0060	No Scorable Defect	CMOM
S003-0070	No Scorable Defect	CMOM
S003-0080	3	CMOM
S003-0090	Not Inspected	CMOM
S003-0100	5	CHEMICAL GROUT LOWER 18"
S003-0105	1	CMOM
S003-0110	1	CMOM
S003-0120	2	CMOM
S003-0130	No Scorable Defect	CMOM
S003-0160	1	CMOM
S003-0165	2	CMOM
S003-0170	1	CMOM
S003-0180	1	CMOM
S003-0190	3	CMOM
S003-0200	Not Inspected	CMOM
S003-0210	3	CMOM
S003-0214	No Scorable Defect	CMOM
S003-0216	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S003-0217	No Scorable Defect	CMOM
S003-0220	2	CMOM
S003-0230	No Scorable Defect	CMOM
S003-0240	5	WALL-COAT
S003-0250	3	CMOM
S003-0260	No Scorable Defect	CMOM
S003-0270	No Scorable Defect	CMOM
S003-0274	4	CHEMICAL GROUT LOWER 18"
S003-0280	No Scorable Defect	CMOM
S003-0290	4	REPLACEMENT
S003-0300	3	CMOM
S003-0330	No Scorable Defect	CMOM
S003-0340	2	CMOM
S003-0350	No Scorable Defect	CMOM
S003-0356	No Scorable Defect	CMOM
S003-0370	No Scorable Defect	CMOM
S003-0380	5	REPLACEMENT
S003-0390	No Scorable Defect	CMOM
S003-0390A	5	CHEMICAL GROUT LOWER 18"
S003-0400	5	COAT CHIMNEY & GROUT LOWER 18"
S003-0410	No Scorable Defect	CMOM
S003-0420	3	CMOM
S003-0430	No Scorable Defect	CMOM
S003-0440	No Scorable Defect	CMOM
S003-0450	1	CMOM
S003-0460	3	CMOM
S003-0465	No Scorable Defect	CMOM
S003-0520	2	CMOM
S003-0530	2	CMOM
S003-0540	3	CMOM
S003-0560	5	NEW FRAME/COVER & CLEAN
S003-0590	3	CMOM
S003-0600	5	NEW FRAME/COVER & GROUT LOWER 18
S003-0610	No Scorable Defect	CMOM
S003-0630	No Scorable Defect	CMOM
S003-0640	No Scorable Defect	CMOM
S003-0650	No Scorable Defect	CMOM
S003-0650A	1	CMOM
S003-0660	2	CMOM
S003-0660A	2	CMOM
S003-0670	No Scorable Defect	CMOM
S003-0670A	No Scorable Defect	CMOM
S003-0672	No Scorable Defect	CMOM
S003-0680	No Scorable Defect	CMOM
S003-0690	3	CMOM
S003-0710	3	CMOM
S003-0720	No Scorable Defect	CMOM
S003-0726	No Scorable Defect	CMOM
S003-0730	2	CMOM
S003-0740	4	WALL-COAT
S003-0750	4	WALL-COAT
S003-0752	No Scorable Defect	CMOM
S003-0760	No Scorable Defect	CMOM
S003-0770	Not Inspected	CMOM
S003-0780	2	CMOM
S003-0785	5	NEW FRAME/COVER & CLEAN
S003-0790	2	CMOM
S003-0795	No Scorable Defect	CMOM
S003-0805	3	CMOM
S003-0810	4	COAT CONE/WALL
S003-0810A	Not Inspected	CMOM
S003-0820	2	CMOM
S003-0830	4	NEW F/C & COAT CHIM/CONE/WALL
S003-0840	4	NEW FRMAE/COVER & COAT WALL
S003-0850	No Scorable Defect	CMOM
S003-0870	2	CMOM
S003-0880	1	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S003-0890	No Scorable Defect	CMOM
S003-0900	No Scorable Defect	CMOM
S003-0910	No Scorable Defect	CMOM
S003-0930	1	CMOM
S003-0940	4	REPLACEMENT
S003-0940A	No Scorable Defect	CMOM
S003-0940B	No Scorable Defect	CMOM
S003-0950	Not Inspected	CMOM
S003-0960	No Scorable Defect	CMOM
S003-0965	4	NEW FRMAE/COVER & COAT WALL
S003-0970	4	REPLACEMENT
S003-0980	3	CMOM
S003-1000	5	REPLACEMENT
S003-1010	No Scorable Defect	CMOM
S003-1020	No Scorable Defect	CMOM
S003-1024	No Scorable Defect	CMOM
S003-1030	2	CMOM
S003-1040	5	COAT WALL & GROUT LOWER 18"
S003-1050	1	CMOM
S003-1060	2	CMOM
S003-1070	5	CONE-COAT
S003-1080	2	CMOM
S003-1090	2	CMOM
S003-1100	2	CMOM
S003-1110	No Scorable Defect	CMOM
S003-1120	4	WALL-COAT
S003-1130	2	CMOM
S003-1140	No Scorable Defect	CMOM
S003-1150	No Scorable Defect	CMOM
S003-1160	2	CMOM
S003-1170	No Scorable Defect	CMOM
S003-1180	3	CMOM
S003-1190	1	CMOM
S003-1200	1	CMOM
S003-1210	3	CMOM
S003-1220	2	CMOM
S003-1230	4	NEW FRAME/COVER & COAT CONE
S003-1240	5	NEW FRAME/COVER & COAT CHIM
S003-1260	2	CMOM
S003-1270	2	CMOM
S003-1280	2	CMOM
S003-1290	Not Inspected	CMOM
S003-1300	2	CMOM
S003-1310	No Scorable Defect	CMOM
S003-1320	3	CMOM
S003-1330	4	NEW FRAME/COVER & CLEAN
S003-1340	2	CMOM
S003-1350	Not Inspected	CMOM
S003-1360	Not Inspected	CMOM
S003-1370	No Scorable Defect	CMOM
S003-1373	2	CMOM
S003-1380	No Scorable Defect	CMOM
S003-1390	No Scorable Defect	CMOM
S003-1410	Not Inspected	CMOM
S003-1450	No Scorable Defect	CMOM
S003-1460	5	CLEANING
S003-1470	5	COAT WALL & GROUT LOWER 18"
S003-1480	No Scorable Defect	CMOM
S003-1480A	5	REPLACEMENT
S003-1480B	5	REPLACEMENT
S003-1480C	5	COAT WALL & GROUT LOWER 18"
S003-2170	Not Inspected	CMOM
S003-2180	Not Inspected	CMOM
S003-2600	No Scorable Defect	CMOM
S003-2610	3	CMOM
S003-3050	No Scorable Defect	CMOM
S003-3060	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S003-3070	No Scorable Defect	CMOM
S003-3080	No Scorable Defect	CMOM
S003-3090	No Scorable Defect	CMOM
S003-3100	No Scorable Defect	CMOM
S003-3110	Not Inspected	CMOM
S003-3120	No Scorable Defect	CMOM
S003-3130	No Scorable Defect	CMOM
S003-3140	No Scorable Defect	CMOM
S003-3150	Not Inspected	CMOM
S003-3160	No Scorable Defect	CMOM
S003-3170	No Scorable Defect	CMOM
S003-3180	No Scorable Defect	CMOM
S003-3190	No Scorable Defect	CMOM
S003-3210	No Scorable Defect	CMOM
S003-3220	No Scorable Defect	CMOM
S003-3230	No Scorable Defect	CMOM
S003-3240	No Scorable Defect	CMOM
S003-3250	No Scorable Defect	CMOM
S003-3250A	Not Inspected	CMOM
S003-3260	Not Inspected	CMOM
S003-3300	No Scorable Defect	CMOM
S003-3310	No Scorable Defect	CMOM
S003-3320	No Scorable Defect	CMOM
S003-3330	No Scorable Defect	CMOM
S003-3340	2	CMOM
S003-3350	No Scorable Defect	CMOM
S003-3360	No Scorable Defect	CMOM
S003-3380	3	CMOM
S003-3390	No Scorable Defect	CMOM
S003-3400	1	CMOM
S003-3410	No Scorable Defect	CMOM
S003-3420	1	CMOM
S003-3430	1	CMOM
S003-3440	2	CMOM
S003-3450	No Scorable Defect	CMOM
S003-3470	No Scorable Defect	CMOM
S003-3470A	No Scorable Defect	CMOM
S003-3480	No Scorable Defect	CMOM
S003-3490	No Scorable Defect	CMOM
S003-3500	No Scorable Defect	CMOM
S003-3510	5	CLEANING
S003-3520	No Scorable Defect	CMOM
S003-3530	No Scorable Defect	CMOM
S003-3540	No Scorable Defect	CMOM
S003-3550	2	CMOM
S003-3560	5	REPLACEMENT
S003-3570	No Scorable Defect	CMOM
S003-3580	3	CMOM
S003-3590	No Scorable Defect	CMOM
S003-3600	5	COAT WALL & GROUT LOWER 18"
S003-3610	2	CMOM
S003-3620	No Scorable Defect	CMOM
S003-3630	5	REPLACEMENT
S003-3640	No Scorable Defect	CMOM
S003-3650	No Scorable Defect	CMOM
S003-3660	No Scorable Defect	CMOM
S003-3670	2	CMOM
S003-3680	No Scorable Defect	CMOM
S003-3690	5	CLEANING
S008-0350	5	COAT CONE & GROUT LOWER 18"
S008-0354	5	CLEANING
S008-0356	2	CMOM
S008-0360	No Scorable Defect	CMOM
S008-0370	4	REPLACEMENT
S008-0380	5	CHEMICAL GROUT LOWER 18"
S008-0390	5	CHEMICAL GROUT LOWER 18"
S008-0400	3	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S008-0410	No Scorable Defect	CMOM
S008-0420	3	CMOM
S008-0425	3	CMOM
S008-0430	No Scorable Defect	CMOM
S008-0432	No Scorable Defect	CMOM
S008-0434	No Scorable Defect	CMOM
S008-0470	5	NEW FRAME/COVER & CLEAN
S008-0480	No Scorable Defect	CMOM
S008-0500	No Scorable Defect	CMOM
S008-0510	No Scorable Defect	CMOM
S008-0520	No Scorable Defect	CMOM
S008-0530	5	REPLACEMENT
S008-0540	No Scorable Defect	CMOM
S008-0580	5	REPLACEMENT
S008-0590	2	CMOM
S008-0600	1	CMOM
S008-0610	4	REPLACEMENT
S008-0643	No Scorable Defect	CMOM
S008-0646	No Scorable Defect	CMOM
S008-0648	No Scorable Defect	CMOM
S008-0650	5	REPLACEMENT
S008-0660	4	NEW FRAME/COVER & CLEAN
S008-0670	5	NEW FRAME/COVER & CLEAN
S008-0670A	5	CLEANING
S008-0690	2	CMOM
S008-0700	3	CMOM
S008-0710	No Scorable Defect	CMOM
S008-0720	5	NEW FRAME/COVER & CLEAN
S008-0730	No Scorable Defect	CMOM
S008-0740	No Scorable Defect	CMOM
S008-0750	No Scorable Defect	CMOM
S008-0760	5	REPLACEMENT
S008-0770	2	CMOM
S008-0770A	3	CMOM
S008-0780	3	CMOM
S008-0790	3	CMOM
S008-0800	No Scorable Defect	CMOM
S008-08-1	Not Inspected	CMOM
S008-0810	3	CMOM
S008-0820	No Scorable Defect	CMOM
S008-0840	5	CLEANING
S008-0850	5	COAT WALL & GROUT LOWER 18"
S008-0860	5	REPLACEMENT
S008-0870	Not Inspected	CMOM
S008-0880	Not Inspected	CMOM
S008-0890	Not Inspected	CMOM
S008-0900	No Scorable Defect	CMOM
S008-0920	No Scorable Defect	CMOM
S008-0930	2	CMOM
S008-0940	5	REPLACEMENT
S008-0950	4	REPLACEMENT
S008-0960	3	CMOM
S008-0970	Not Inspected	CMOM
S008-0980	3	CMOM
S008-0990	5	CLEANING
S008-1000	4	REPLACEMENT
S008-1005	Not Inspected	CMOM
S008-1010	3	CMOM
S008-1020	5	NEW FRMAE/COVER & COAT WALL
S008-1030	No Scorable Defect	CMOM
S008-1040	4	NEW FRAME/COVER & CLEAN
S008-1070	No Scorable Defect	CMOM
S008-1070A	No Scorable Defect	CMOM
S008-1080	No Scorable Defect	CMOM
S008-1090	No Scorable Defect	CMOM
S008-1093	5	REPLACEMENT
S008-1096	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S008-1096A	4	NEW FRAME/COVER & COAT CONE/WALL
S008-1100	Not Inspected	CMOM
S008-1115	5	NEW FRAME/COVER & GROUT LOWER 18
S008-1120	1	CMOM
S008-1135	No Scorable Defect	CMOM
S008-1140	Not Inspected	CMOM
S008-1150	Not Inspected	CMOM
S008-1160	Not Inspected	CMOM
S008-1173	No Scorable Defect	CMOM
S008-1175	No Scorable Defect	CMOM
S008-1180	Not Inspected	CMOM
S008-1190	No Scorable Defect	CMOM
S008-1190A	3	CMOM
S008-1190B	No Scorable Defect	CMOM
S008-1200	No Scorable Defect	CMOM
S008-1210	No Scorable Defect	CMOM
S008-1210A	No Scorable Defect	CMOM
S008-1220	5	CHEMICAL GROUT LOWER 18"
S008-1230	No Scorable Defect	CMOM
S008-1240	No Scorable Defect	CMOM
S008-1250	2	CMOM
S008-1252	5	CLEANING
S008-1254	4	REPLACEMENT
S008-1256	No Scorable Defect	CMOM
S008-1260	5	COAT CHIMNEY & GROUT LOWER 18"
S008-1270	4	CONE-COAT
S008-1280	5	REPLACEMENT
S008-1290	5	CLEANING
S008-1300	5	REPLACEMENT
S008-1320	2	CMOM
S008-1330	No Scorable Defect	CMOM
S008-1340	2	CMOM
S008-1350	No Scorable Defect	CMOM
S008-1370	No Scorable Defect	CMOM
S008-1380	No Scorable Defect	CMOM
S008-1390	No Scorable Defect	CMOM
S008-1420	Not Inspected	CMOM
S008-1440	No Scorable Defect	CMOM
S008-1450	5	CLEANING
S008-1470	5	CLEANING
S008-1480	4	CONE-COAT
S008-1484	5	CLEANING
S008-1760	No Scorable Defect	CMOM
S008-1770	No Scorable Defect	CMOM
S008-1780	No Scorable Defect	CMOM
S008-1790	No Scorable Defect	CMOM
S008-1800	2	CMOM
S008-1810	No Scorable Defect	CMOM
S008-1820	3	CMOM
S008-1830	No Scorable Defect	CMOM
S008-1840	No Scorable Defect	CMOM
S008-1840A	3	CMOM
S008-1890	3	CMOM
S008-1900	2	CMOM
S008-1910	1	CMOM
S008-1960	5	CLEANING
S008-1970	2	CMOM
S008-1975	4	REPLACEMENT
S008-1980B	No Scorable Defect	CMOM
S008-1990A	No Scorable Defect	CMOM
S008-2005	No Scorable Defect	CMOM
S008-2010	3	CMOM
S008-2020	No Scorable Defect	CMOM
S008-2030	No Scorable Defect	CMOM
S008-2040	2	CMOM
S008-2050	4	NEW FRAME/COVER & CLEAN
S008-2060	2	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S008-2070	2	CMOM
S008-2080	2	CMOM
S008-2090	4	NEW FRMAE/COVER & COAT WALL
S008-2100	No Scorable Defect	CMOM
S008-2110	5	NEW FRAME/COVER & CLEAN
S008-2120	3	CMOM
S008-2130	4	CLEANING
S008-2140	4	CLEANING
S008-2150	No Scorable Defect	CMOM
S008-2160	No Scorable Defect	CMOM
S008-2170	No Scorable Defect	CMOM
S008-2180	5	NEW FRAME/COVER & CLEAN
S008-2190	5	REPLACEMENT
S008-2200	Not Inspected	CMOM
S008-2209	No Scorable Defect	CMOM
S008-2210	No Scorable Defect	CMOM
S008-2220	No Scorable Defect	CMOM
S008-2240	5	REPLACEMENT
S008-2250	4	NEW FRAME/COVER & COAT CHIM/CONE
S008-2260	5	NEW FRAME/COVER & CLEAN
S008-2290	No Scorable Defect	CMOM
S008-2300	4	NEW FRMAE/COVER & COAT WALL
S008-2320	No Scorable Defect	CMOM
S008-2330	No Scorable Defect	CMOM
S008-2340	No Scorable Defect	CMOM
S008-2350	No Scorable Defect	CMOM
S008-2360	4	REPLACEMENT
S008-2380	Not Inspected	CMOM
S008-2390	No Scorable Defect	CMOM
S008-2400	No Scorable Defect	CMOM
S008-2410	No Scorable Defect	CMOM
S008-2420	No Scorable Defect	CMOM
S008-2430	Not Inspected	CMOM
S008-2440	No Scorable Defect	CMOM
S008-2450	Not Inspected	CMOM
S008-2460	5	NEW FRAME/COVER & CLEAN
S008-2470	No Scorable Defect	CMOM
S008-2480	Not Inspected	CMOM
S008-2500	No Scorable Defect	CMOM
S008-2510	No Scorable Defect	CMOM
S008-2520	Not Inspected	CMOM
S008-2530	5	REPLACEMENT
S008-2530A	3	CMOM
S008-3000	4	COAT WALL & GROUT LOWER 18"
S008-3020	4	WALL-COAT
S008-3030	No Scorable Defect	CMOM
S008-3040	1	CMOM
S008-3050	4	COAT CHIMNEY/CONE
S008-4010	5	NEW FRAME/COVER & CLEAN
S008-4020	4	CLEANING
S008-4030	4	NEW FRAME/COVER & COAT CHIM
S008-4035	No Scorable Defect	CMOM
S008-4100	No Scorable Defect	CMOM
S008-4110	No Scorable Defect	CMOM
S009-0005	No Scorable Defect	CMOM
S009-0010	No Scorable Defect	CMOM
S009-0020	No Scorable Defect	CMOM
S009-0030	No Scorable Defect	CMOM
S009-0040	3	CMOM
S009-0050	3	CMOM
S009-0070	5	NEW FRAME/COVER & GROUT LOWER 18
S009-0075	2	CMOM
S009-0080	No Scorable Defect	CMOM
S009-0082	No Scorable Defect	CMOM
S009-0084	No Scorable Defect	CMOM
S009-0085	No Scorable Defect	CMOM
S009-0085A	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S009-0086	No Scorable Defect	CMOM
S009-0088	3	CMOM
S009-0090	Not Inspected	CMOM
S009-0095	No Scorable Defect	CMOM
S009-0105	2	CMOM
S009-0115	Not Inspected	CMOM
S009-0120	No Scorable Defect	CMOM
S009-0130	No Scorable Defect	CMOM
S009-0140	No Scorable Defect	CMOM
S009-0150	1	CMOM
S009-0160	No Scorable Defect	CMOM
S009-0170	5	REPLACEMENT
S009-0180	3	CMOM
S009-0190	1	CMOM
S009-0200	1	CMOM
S009-0210	No Scorable Defect	CMOM
S009-0220	2	CMOM
S009-0230	2	CMOM
S009-0240	No Scorable Defect	CMOM
S009-0250	3	CMOM
S009-0260	4	NEW FRAME/COVER & CLEAN
S009-0270	5	REPLACEMENT
S009-0280	2	CMOM
S009-0290	No Scorable Defect	CMOM
S009-0300	No Scorable Defect	CMOM
S009-0310	No Scorable Defect	CMOM
S009-0320	Not Inspected	CMOM
S009-0330	2	CMOM
S009-0340	4	NEW FRAME/COVER & GROUT LOWER 18
S009-0350	No Scorable Defect	CMOM
S009-0360	No Scorable Defect	CMOM
S009-0370	2	CMOM
S009-0390	No Scorable Defect	CMOM
S009-0400	No Scorable Defect	CMOM
S009-0410	3	CMOM
S009-0430	No Scorable Defect	CMOM
S009-0440	3	CMOM
S009-0450	No Scorable Defect	CMOM
S009-0460	No Scorable Defect	CMOM
S009-0470	2	CMOM
S009-0480	5	REPLACEMENT
S009-0490	5	REPLACEMENT
S009-0500	5	REPLACEMENT
S009-0510	2	CMOM
S009-0520	4	REPLACEMENT
S009-0530	3	CMOM
S009-0540	4	REPLACEMENT
S009-0550	No Scorable Defect	CMOM
S009-0560	5	REPLACEMENT
S009-0570	2	CMOM
S009-0580	4	REPLACEMENT
S009-0590	1	CMOM
S009-0600	No Scorable Defect	CMOM
S009-0610	4	NEW FRMAE/COVER & COAT WALL
S009-0620	Not Inspected	CMOM
S009-0630	Not Inspected	CMOM
S009-0640	5	COAT CHIMNEY & GROUT LOWER 18"
S009-0650	5	REPLACEMENT
S009-0655	No Scorable Defect	CMOM
S009-0690	Not Inspected	CMOM
S009-0710	4	WALL-COAT
S009-0712	No Scorable Defect	CMOM
S009-0720	2	CMOM
S009-0730	No Scorable Defect	CMOM
S009-0740	No Scorable Defect	CMOM
S009-0760	Not Inspected	CMOM
S009-0770	Not Inspected	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S009-0780	3	CMOM
S009-0784	5	CLEANING
S009-0785	Not Inspected	CMOM
S009-0786	3	CMOM
S009-0788	4	CHEMICAL GROUT LOWER 18"
S009-0800	3	CMOM
S009-0810	No Scorable Defect	CMOM
S009-0820	4	NEW FRAME/COVER & COAT CONE/WALL
S009-0830	No Scorable Defect	CMOM
S009-0840	1	CMOM
S009-0850	4	NEW FRAME/COVER & COAT CONE/WALL
S009-0860	No Scorable Defect	CMOM
S009-0870	No Scorable Defect	CMOM
S009-0880	No Scorable Defect	CMOM
S009-0890	No Scorable Defect	CMOM
S009-0900	5	WALL-COAT
S009-0910	No Scorable Defect	CMOM
S009-0920	2	CMOM
S009-0930	No Scorable Defect	CMOM
S009-0940	No Scorable Defect	CMOM
S009-0950	No Scorable Defect	CMOM
S009-0960	No Scorable Defect	CMOM
S009-0970	2	CMOM
S009-0980	No Scorable Defect	CMOM
S009-0990	4	NEW FRAME/COVER & CLEAN
S009-1000	5	REPLACEMENT
S009-1010	2	CMOM
S009-1020	3	CMOM
S009-1030	2	CMOM
S009-1040	2	CMOM
S009-1050	2	CMOM
S009-1060	4	NEW FRMAE/COVER & COAT WALL
S009-1070	2	CMOM
S009-1080	2	CMOM
S009-1090	No Scorable Defect	CMOM
S009-1100	Not Inspected	CMOM
S009-1110	2	CMOM
S009-1120	5	CHEMICAL GROUT LOWER 18"
S009-1130	Not Inspected	CMOM
S009-1150	Not Inspected	CMOM
S009-1160	3	CMOM
S009-1170	1	CMOM
S009-1192	No Scorable Defect	CMOM
S009-1240	Not Inspected	CMOM
S009-1270	Not Inspected	CMOM
S009-1280	No Scorable Defect	CMOM
S009-1285	No Scorable Defect	CMOM
S009-1290	2	CMOM
S009-1300	5	NEW FRAME/COVER & CLEAN
S009-1310	5	CLEANING
S009-1330	No Scorable Defect	CMOM
S009-1331	No Scorable Defect	CMOM
S009-1340	5	REPLACEMENT
S009-1350	3	CMOM
S009-1360	4	CLEANING
S009-1370	No Scorable Defect	CMOM
S009-1380	No Scorable Defect	CMOM
S009-1390	No Scorable Defect	CMOM
S009-1400	No Scorable Defect	CMOM
S009-1410	5	WALL-COAT
S009-1430	3	CMOM
S009-1440	No Scorable Defect	CMOM
S009-1450	No Scorable Defect	CMOM
S009-1460	5	NEW FRAME/COVER & CLEAN
S009-1470	No Scorable Defect	CMOM
S009-1480	Not Inspected	CMOM
S009-1490	5	COAT WALL & GROUT LOWER 18"

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S009-1500	3	CMOM
S009-1510	5	CLEANING
S009-1520	5	CLEANING
S009-1530	3	CMOM
S009-1540	4	WALL-COAT
S009-1550	2	CMOM
S009-1560	No Scorable Defect	CMOM
S009-1575	Not Inspected	CMOM
S009-1580	3	CMOM
S009-1585	5	NEW FRAME/COVER & CLEAN
S009-1590	2	CMOM
S009-1600	2	CMOM
S009-1610	Not Inspected	CMOM
S009-1620	No Scorable Defect	CMOM
S009-1630	No Scorable Defect	CMOM
S009-1640	No Scorable Defect	CMOM
S009-1650	No Scorable Defect	CMOM
S009-1660	No Scorable Defect	CMOM
FL01-0020A	5	WALL-COAT
FL01-0050	No Scorable Defect	CMOM
FL01-0530	No Scorable Defect	CMOM
FL01-1870	5	NEW FRAME/COVER & GROUT LOWER 18
FL01-1910	No Scorable Defect	CMOM
P007-1630	No Scorable Defect	CMOM
P007-2140	No Scorable Defect	CMOM
S003-0360	No Scorable Defect	CMOM
S003-0550	No Scorable Defect	CMOM
S003-0620	No Scorable Defect	CMOM
S003-0700	2	CMOM
S003-0800	No Scorable Defect	CMOM
S003-0860	No Scorable Defect	CMOM
S003-0920	5	WALL-COAT
S003-0990	No Scorable Defect	CMOM
S003-1250	5	COAT WALL & GROUT LOWER 18"
S003-1400	No Scorable Defect	CMOM
S003-1420	1	CMOM
S003-1430	5	COAT CONE/WALL
S003-3200	No Scorable Defect	CMOM
S003-3270	5	WALL-COAT
S003-3280	No Scorable Defect	CMOM
S003-3290	No Scorable Defect	CMOM
S003-3370	No Scorable Defect	CMOM
S003-3460	No Scorable Defect	CMOM
S004-0032	No Scorable Defect	CMOM
S008-0352	5	NEW FRAME/COVER & GROUT LOWER 18
S008-0910	1	CMOM
S008-1110	No Scorable Defect	CMOM
S008-1130	No Scorable Defect	CMOM
S008-1170	3	FURNISH MANHOLE FRAME/COVER
S008-1400	2	CMOM
S008-1410	4	WALL-COAT
S008-1850	3	ADJUSTMENT-COAT
S008-1850A	4	NEW FRAME/COVER & GROUT LOWER 18
S008-1860	5	COAT CONE & GROUT LOWER 18"
S008-1870	3	CMOM
S008-1880	2	FURNISH MANHOLE FRAME/COVER
S008-1920	No Scorable Defect	CMOM
S008-1930	5	REPLACEMENT
S008-1940	5	REPLACEMENT
S008-1950	5	REPLACEMENT
S008-1980	2	FURNISH MANHOLE FRAME/COVER
S008-1980A	4	COAT WALL & GROUT LOWER 18"
S008-1990	1	CMOM
S008-2000	5	COAT CHIMNEY & GROUT LOWER 18"
S008-2310	No Scorable Defect	CMOM
S008-2370	No Scorable Defect	CMOM
S008-3010	No Scorable Defect	CMOM

Manhole Rehabilitation Recommendations

Manhole Number	MACP Score	Recommend Rehabilitation Action
S009-0100	3	CMOM
S009-0110	5	NEW FRAME/COVER & GROUT LOWER 18
S009-0380	No Scorable Defect	CMOM
S009-0420	No Scorable Defect	CMOM
S009-0660	No Scorable Defect	CMOM
S009-0670	No Scorable Defect	CMOM
S009-0680	2	CMOM
S009-0700	4	COAT CONE/WALL
S009-0750	No Scorable Defect	CMOM
S009-1140	3	CMOM
S009-1175	5	COAT WALL & GROUT LOWER 18"
S009-1180	5	COAT CONE & GROUT LOWER 18"
S009-1190	1	CMOM
S009-1200	4	COAT CONE & GROUT LOWER 18"
S009-1210	3	CMOM
S009-1220	No Scorable Defect	CMOM
S009-1230	2	CMOM
S009-1250	No Scorable Defect	CMOM
S009-1260	3	CMOM
S009-1275	2	CMOM
S009-1320	4	REPLACEMENT
S009-1420	No Scorable Defect	CMOM
S009-1570	3	CMOM

APPENDIX C

RECOMMEDNDED REHABILITATION – SEWER LINES

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-0020	FL01-0020A	Pipe Burst
FL01	FL01-0070	FL01-0060	Point Repair
FL01	FL01-0080	FL01-0070	CMOM
FL01	FL01-0090	FL01-0080	Point Repair
FL01	FL01-0100	FL01-0090	CMOM
FL01	FL01-0110	FL01-0100	CMOM
FL01	FL01-0120	FL01-0110	Point Repair and Cleaning
FL01	FL01-0130	FL01-0090	Pipe Burst
FL01	FL01-0140	FL01-0130	Point Repair
FL01	FL01-0180	FL01-0170	CMOM
FL01	FL01-0190	FL01-0190A	Pipe Burst
FL01	FL01-0190A	FL01-0180	Open Cut
FL01	FL01-0200	FL01-0180	CMOM
FL01	FL01-0210	FL01-0200	CMOM
FL01	FL01-0220	FL01-0210	CMOM
FL01	FL01-0260	FL01-0420	CMOM
FL01	FL01-0270	FL01-0170	CMOM
FL01	FL01-0280	FL01-0270	CMOM
FL01	FL01-0290	FL01-0280	Heavy Cleaning
FL01	FL01-0300	FL01-0290	CMOM
FL01	FL01-0305	FL01-0280	CMOM
FL01	FL01-0310	FL01-0305	CMOM
FL01	FL01-0320	FL01-0310	CMOM
FL01	FL01-0330	FL01-0320	Pipe Burst
FL01	FL01-0340	FL01-0330	CMOM
FL01	FL01-0360	FL01-0340	CMOM
FL01	FL01-0365	FL01-0360	Point Repair
FL01	FL01-0370	FL01-0360	Pipe Burst
FL01	FL01-0380	FL01-0300	Point Repair and Cleaning
FL01	FL01-0390	FL01-0380	CMOM
FL01	FL01-0400	FL01-0390	CMOM
FL01	FL01-0405	FL01-0400	CMOM
FL01	FL01-0410	FL01-0405	CMOM
FL01	FL01-0420	FL01-0410	CMOM
FL01	FL01-0430	FL01-0420	CMOM
FL01	FL01-0440	FL01-0430	CMOM
FL01	FL01-0445	FL01-0439	CMOM
FL01	FL01-0450	FL01-0445	Pipe Burst
FL01	FL01-0460	FL01-0450	CMOM
FL01	FL01-0470	FL01-0460	CMOM
FL01	FL01-0480	FL01-0470	CIPP
FL01	FL01-0490	FL01-0450	CMOM
FL01	FL01-0500	FL01-0490	Pipe Burst
FL01	FL01-0510	FL01-0450	Heavy Cleaning

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-0515	FL01-0510	CMOM
FL01	FL01-0520	FL01-0515	CMOM
FL01	FL01-0525	FL01-0520	CMOM
FL01	FL01-0540	FL01-0525	CMOM
FL01	FL01-0550	FL01-0540	CMOM
FL01	FL01-0560	FL01-0550	CMOM
FL01	FL01-0570	FL01-0570A	Open Cut
FL01	FL01-0570A	FL01-0560	CMOM
FL01	FL01-0580	FL01-0570	CMOM
FL01	FL01-0590	FL01-0560	CMOM
FL01	FL01-0600	FL01-0590	Open Cut
FL01	FL01-0610	FL01-0590	CMOM
FL01	FL01-0620	FL01-0610	CMOM
FL01	FL01-0630	FL01-0620	CMOM
FL01	FL01-0640	FL01-0630	Point Repair
FL01	FL01-0650	FL01-0630	Open Cut
FL01	FL01-0660	FL01-0650	Open Cut
FL01	FL01-0680	FL01-0660	CMOM
FL01	FL01-0690	FL01-0680	Open Cut
FL01	FL01-0700	FL01-0690	CMOM
FL01	FL01-0710	FL01-0610	Open Cut
FL01	FL01-0720	FL01-0710	CMOM
FL01	FL01-0730	FL01-0720	Pipe Burst
FL01	FL01-0740	FL01-0730	Pipe Burst
FL01	FL01-0750	FL01-0740	CMOM
FL01	FL01-0760	FL01-0720	CMOM
FL01	FL01-0770	FL01-0770A	Open Cut
FL01	FL01-0770A	FL01-0760	Pipe Burst
FL01	FL01-0780	FL01-0760	Pipe Burst
FL01	FL01-0790	FL01-0780	Open Cut
FL01	FL01-0800	FL01-0760	CMOM
FL01	FL01-0810	FL01-0800	CMOM
FL01	FL01-0840	FL01-0800	Open Cut
FL01	FL01-0880	FL01-0840	CMOM
FL01	FL01-0890	FL01-0890A	Pipe Burst
FL01	FL01-0890A	FL01-0880	Open Cut
FL01	FL01-0900	FL01-0880	Open Cut
FL01	FL01-0910	FL01-0900	Open Cut
FL01	FL01-0920	FL01-0440	CMOM
FL01	FL01-0930	FL01-0920	CMOM
FL01	FL01-0940	FL01-0932	CMOM
FL01	FL01-0950	FL01-0940	CMOM
FL01	FL01-0960	FL01-0950	CMOM
FL01	FL01-0970	FL01-0960	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-0980	FL01-0970	Pipe Burst
FL01	FL01-0990	FL01-0980	Pipe Burst
FL01	FL01-1000	FL01-0950	CMOM
FL01	FL01-1010	FL01-1000	CMOM
FL01	FL01-1020	FL01-1010	CIPP
FL01	FL01-1030	FL01-1000	CMOM
FL01	FL01-1040	FL01-1030	CMOM
FL01	FL01-1060	FL01-0932	Pipe Burst
FL01	FL01-1070	FL01-1060	Open Cut
FL01	FL01-1080	FL01-1070	Open Cut
FL01	FL01-1090	FL01-1080	Open Cut
FL01	FL01-1100	FL01-1090	Pipe Burst
FL01	FL01-1110	FL01-1100	Pipe Burst
FL01	FL01-1120	FL01-1110	Open Cut
FL01	FL01-1130	FL01-1120	Pipe Burst
FL01	FL01-1140	FL01-0930	CMOM
FL01	FL01-1150	FL01-1140	Open Cut
FL01	FL01-1160	FL01-1150	CMOM
FL01	FL01-1170	FL01-1160	CMOM
FL01	FL01-1180	FL01-1170	CMOM
FL01	FL01-1185	FL01-1180	CMOM
FL01	FL01-1190	FL01-1170	Pipe Burst
FL01	FL01-1200	FL01-1190	CMOM
FL01	FL01-1210	FL01-1200	CMOM
FL01	FL01-1230	FL01-1210	CMOM
FL01	FL01-1240	FL01-1230	Pipe Burst
FL01	FL01-1250	FL01-1240	Open Cut
FL01	FL01-1260	FL01-1200	Open Cut
FL01	FL01-1270	FL01-1260	Open Cut
FL01	FL01-1280	FL01-1270	Pipe Burst
FL01	FL01-1290	FL01-1280	Pipe Burst
FL01	FL01-1320	FL01-1310	Open Cut
FL01	FL01-1330	FL01-1320	CIPP
FL01	FL01-1340	FL01-1310	CMOM
FL01	FL01-1350	FL01-1340	CMOM
FL01	FL01-1360	FL01-1190	CMOM
FL01	FL01-1370	FL01-1360	Open Cut
FL01	FL01-1380	FL01-1370	CMOM
FL01	FL01-1390	FL01-1380	CMOM
FL01	FL01-1395	FL01-1390	CMOM
FL01	FL01-1400	FL01-1395	Open Cut
FL01	FL01-1410	FL01-1400	Open Cut
FL01	FL01-1420	FL01-1410	CMOM
FL01	FL01-1430	FL01-1390	CMOM

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-1440	FL01-1430	CMOM
FL01	FL01-1450	FL01-1440	Open Cut
FL01	FL01-1460	FL01-1450	Open Cut
FL01	FL01-1470	FL01-1440	CMOM
FL01	FL01-1480	FL01-1470	CMOM
FL01	FL01-1490	FL01-1480	Pipe Burst
FL01	FL01-1500	FL01-1490	CMOM
FL01	FL01-1510	FL01-1370	Pipe Burst
FL01	FL01-1520	FL01-1510	Pipe Burst
FL01	FL01-1530	FL01-1520	CMOM
FL01	FL01-1540	FL01-1520	CMOM
FL01	FL01-1550	FL01-1540	Pipe Burst
FL01	FL01-1560	FL01-1550	Open Cut
FL01	FL01-1570	FL01-1560	CMOM
FL01	FL01-1580	FL01-1550	Pipe Burst
FL01	FL01-1590	FL01-1580	CMOM
FL01	FL01-1600	FL01-1580	CMOM
FL01	FL01-1610	FL01-1600	Open Cut
FL01	FL01-1620	FL01-1600	CMOM
FL01	FL01-1630	FL01-1620	CMOM
FL01	FL01-1640	FL01-1630	Open Cut
FL01	FL01-1650	FL01-1640	CMOM
FL01	FL01-1660	FL01-1640	CMOM
FL01	FL01-1670	FL01-1660	Pipe Burst
FL01	FL01-1680	FL01-1660	Pipe Burst
FL01	FL01-1690	FL01-1680	Point Repair
FL01	FL01-1710	FL01-1690	CMOM
FL01	FL01-1720	FL01-1710	CMOM
FL01	FL01-1730	FL01-1710	CMOM
FL01	FL01-1740	FL01-1730	CMOM
FL01	FL01-1750	FL01-1740	CMOM
FL01	FL01-1760	FL01-1750	CMOM
FL01	FL01-1770	FL01-1740	CMOM
FL01	FL01-1780	FL01-1770	CMOM
FL01	FL01-1790	FL01-1780	Pipe Burst
FL01	FL01-1810	FL01-1800	CMOM
FL01	FL01-1820	FL01-1810	Open Cut
FL01	FL01-1830	FL01-1810	Pipe Burst
FL01	FL01-1840	FL01-1830	CMOM
FL01	FL01-1850	FL01-1770	CMOM
FL01	FL01-1860	FL01-1850	CMOM
FL01	FL01-1870	FL01-1860	CMOM
FL01	FL01-1880	FL01-1850	CMOM
FL01	FL01-1890	FL01-1880	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-1892	FL01-1890	CMOM
FL01	FL01-1900	FL01-1890	Open Cut
FL01	FL01-1910	FL01-1892	Open Cut
FL01	FL01-1915	FL01-0020	CMOM
FL01	FL01-1920	FL01-1915	CMOM
FL01	FL01-1930	FL01-1920	Point Repair and Cleaning
FL01	FL01-1940	FL01-1930	CMOM
FL01	FL01-1950	FL01-1940	CMOM
FL01	FL01-1960	FL01-1950	CMOM
FL01	FL01-1970	FL01-1960	CMOM
FL01	FL01-1980	FL01-1970	CMOM
FL01	FL01-1980A	FL01-1980	CMOM
FL01	FL01-1990	FL01-1980A	Pipe Burst
FL01	FL01-1990A	FL01-1990	CMOM
FL01	FL01-2000	FL01-1990	CMOM
FL01	FL01-2110	FL01-2100	CMOM
FL01	FL01-2380	FL01-0810	Pipe Burst
FL01	FL01-2480	FL01-0540	Open Cut
FL01	FL01-0020	FL01-0020A	Pipe Burst
FL01	FL01-0070	FL01-0060	Point Repair
FL01	FL01-0080	FL01-0070	CMOM
FL01	FL01-0090	FL01-0080	Point Repair
FL01	FL01-0100	FL01-0090	CMOM
FL01	FL01-0110	FL01-0100	CMOM
FL01	FL01-0120	FL01-0110	Point Repair and Cleaning
FL01	FL01-0130	FL01-0090	Pipe Burst
FL01	FL01-0140	FL01-0130	Point Repair
FL01	FL01-0180	FL01-0170	CMOM
FL01	FL01-0190	FL01-0190A	Pipe Burst
FL01	FL01-0190A	FL01-0180	Open Cut
FL01	FL01-0200	FL01-0180	CMOM
FL01	FL01-0210	FL01-0200	CMOM
FL01	FL01-0220	FL01-0210	CMOM
FL01	FL01-0260	FL01-0420	CMOM
FL01	FL01-0270	FL01-0170	CMOM
FL01	FL01-0280	FL01-0270	CMOM
FL01	FL01-0290	FL01-0280	Heavy Cleaning
FL01	FL01-0300	FL01-0290	CMOM
FL01	FL01-0305	FL01-0280	CMOM
FL01	FL01-0310	FL01-0305	CMOM
FL01	FL01-0320	FL01-0310	CMOM
FL01	FL01-0330	FL01-0320	Pipe Burst
FL01	FL01-0340	FL01-0330	CMOM
FL01	FL01-0360	FL01-0340	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-0365	FL01-0360	Point Repair
FL01	FL01-0370	FL01-0360	Pipe Burst
FL01	FL01-0380	FL01-0300	Point Repair and Cleaning
FL01	FL01-0390	FL01-0380	CMOM
FL01	FL01-0400	FL01-0390	CMOM
FL01	FL01-0405	FL01-0400	CMOM
FL01	FL01-0410	FL01-0405	CMOM
FL01	FL01-0420	FL01-0410	CMOM
FL01	FL01-0430	FL01-0420	CMOM
FL01	FL01-0440	FL01-0430	CMOM
FL01	FL01-0445	FL01-0439	CMOM
FL01	FL01-0450	FL01-0445	Pipe Burst
FL01	FL01-0460	FL01-0450	CMOM
FL01	FL01-0470	FL01-0460	CMOM
FL01	FL01-0480	FL01-0470	CIPP
FL01	FL01-0490	FL01-0450	CMOM
FL01	FL01-0500	FL01-0490	Pipe Burst
FL01	FL01-0510	FL01-0450	Heavy Cleaning
FL01	FL01-0515	FL01-0510	CMOM
FL01	FL01-0520	FL01-0515	CMOM
FL01	FL01-0525	FL01-0520	CMOM
FL01	FL01-0540	FL01-0525	CMOM
FL01	FL01-0550	FL01-0540	CMOM
FL01	FL01-0560	FL01-0550	CMOM
FL01	FL01-0570	FL01-0570A	Open Cut
FL01	FL01-0570A	FL01-0560	CMOM
FL01	FL01-0580	FL01-0570	CMOM
FL01	FL01-0590	FL01-0560	CMOM
FL01	FL01-0600	FL01-0590	Open Cut
FL01	FL01-0610	FL01-0590	CMOM
FL01	FL01-0620	FL01-0610	CMOM
FL01	FL01-0630	FL01-0620	CMOM
FL01	FL01-0640	FL01-0630	Point Repair
FL01	FL01-0650	FL01-0630	Open Cut
FL01	FL01-0660	FL01-0650	Open Cut
FL01	FL01-0680	FL01-0660	CMOM
FL01	FL01-0690	FL01-0680	Open Cut
FL01	FL01-0700	FL01-0690	CMOM
FL01	FL01-0710	FL01-0610	Open Cut
FL01	FL01-0720	FL01-0710	CMOM
FL01	FL01-0730	FL01-0720	Pipe Burst
FL01	FL01-0740	FL01-0730	Pipe Burst
FL01	FL01-0750	FL01-0740	CMOM
FL01	FL01-0760	FL01-0720	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-0770	FL01-0770A	Open Cut
FL01	FL01-0770A	FL01-0760	Pipe Burst
FL01	FL01-0780	FL01-0760	Pipe Burst
FL01	FL01-0790	FL01-0780	Open Cut
FL01	FL01-0800	FL01-0760	CMOM
FL01	FL01-0810	FL01-0800	CMOM
FL01	FL01-0840	FL01-0800	Open Cut
FL01	FL01-0880	FL01-0840	CMOM
FL01	FL01-0890	FL01-0890A	Pipe Burst
FL01	FL01-0890A	FL01-0880	Open Cut
FL01	FL01-0900	FL01-0880	Open Cut
FL01	FL01-0910	FL01-0900	Open Cut
FL01	FL01-0920	FL01-0440	CMOM
FL01	FL01-0930	FL01-0920	CMOM
FL01	FL01-0940	FL01-0932	CMOM
FL01	FL01-0950	FL01-0940	CMOM
FL01	FL01-0960	FL01-0950	CMOM
FL01	FL01-0970	FL01-0960	CMOM
FL01	FL01-0980	FL01-0970	Pipe Burst
FL01	FL01-0990	FL01-0980	Pipe Burst
FL01	FL01-1000	FL01-0950	CMOM
FL01	FL01-1010	FL01-1000	CMOM
FL01	FL01-1020	FL01-1010	CIPP
FL01	FL01-1030	FL01-1000	CMOM
FL01	FL01-1040	FL01-1030	CMOM
FL01	FL01-1060	FL01-0932	Pipe Burst
FL01	FL01-1070	FL01-1060	Open Cut
FL01	FL01-1080	FL01-1070	Open Cut
FL01	FL01-1090	FL01-1080	Open Cut
FL01	FL01-1100	FL01-1090	Pipe Burst
FL01	FL01-1110	FL01-1100	Pipe Burst
FL01	FL01-1120	FL01-1110	Open Cut
FL01	FL01-1130	FL01-1120	Pipe Burst
FL01	FL01-1140	FL01-0930	CMOM
FL01	FL01-1150	FL01-1140	Open Cut
FL01	FL01-1160	FL01-1150	CMOM
FL01	FL01-1170	FL01-1160	CMOM
FL01	FL01-1180	FL01-1170	CMOM
FL01	FL01-1185	FL01-1180	CMOM
FL01	FL01-1190	FL01-1170	Pipe Burst
FL01	FL01-1200	FL01-1190	CMOM
FL01	FL01-1210	FL01-1200	CMOM
FL01	FL01-1230	FL01-1210	CMOM
FL01	FL01-1240	FL01-1230	Pipe Burst

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-1250	FL01-1240	Open Cut
FL01	FL01-1260	FL01-1200	Open Cut
FL01	FL01-1270	FL01-1260	Open Cut
FL01	FL01-1280	FL01-1270	Pipe Burst
FL01	FL01-1290	FL01-1280	Pipe Burst
FL01	FL01-1320	FL01-1310	Open Cut
FL01	FL01-1330	FL01-1320	CIPP
FL01	FL01-1340	FL01-1310	CMOM
FL01	FL01-1350	FL01-1340	CMOM
FL01	FL01-1360	FL01-1190	CMOM
FL01	FL01-1370	FL01-1360	Open Cut
FL01	FL01-1380	FL01-1370	CMOM
FL01	FL01-1390	FL01-1380	CMOM
FL01	FL01-1395	FL01-1390	CMOM
FL01	FL01-1400	FL01-1395	Open Cut
FL01	FL01-1410	FL01-1400	Open Cut
FL01	FL01-1420	FL01-1410	CMOM
FL01	FL01-1430	FL01-1390	CMOM
FL01	FL01-1440	FL01-1430	CMOM
FL01	FL01-1450	FL01-1440	Open Cut
FL01	FL01-1460	FL01-1450	Open Cut
FL01	FL01-1470	FL01-1440	CMOM
FL01	FL01-1480	FL01-1470	CMOM
FL01	FL01-1490	FL01-1480	Pipe Burst
FL01	FL01-1500	FL01-1490	CMOM
FL01	FL01-1510	FL01-1370	Pipe Burst
FL01	FL01-1520	FL01-1510	Pipe Burst
FL01	FL01-1530	FL01-1520	CMOM
FL01	FL01-1540	FL01-1520	CMOM
FL01	FL01-1550	FL01-1540	Pipe Burst
FL01	FL01-1560	FL01-1550	Open Cut
FL01	FL01-1570	FL01-1560	CMOM
FL01	FL01-1580	FL01-1550	Pipe Burst
FL01	FL01-1590	FL01-1580	CMOM
FL01	FL01-1600	FL01-1580	CMOM
FL01	FL01-1610	FL01-1600	Open Cut
FL01	FL01-1620	FL01-1600	CMOM
FL01	FL01-1630	FL01-1620	CMOM
FL01	FL01-1640	FL01-1630	Open Cut
FL01	FL01-1650	FL01-1640	CMOM
FL01	FL01-1660	FL01-1640	CMOM
FL01	FL01-1670	FL01-1660	Pipe Burst
FL01	FL01-1680	FL01-1660	Pipe Burst
FL01	FL01-1690	FL01-1680	Point Repair

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
FL01	FL01-1710	FL01-1690	CMOM
FL01	FL01-1720	FL01-1710	CMOM
FL01	FL01-1730	FL01-1710	CMOM
FL01	FL01-1740	FL01-1730	CMOM
FL01	FL01-1750	FL01-1740	CMOM
FL01	FL01-1760	FL01-1750	CMOM
FL01	FL01-1770	FL01-1740	CMOM
FL01	FL01-1780	FL01-1770	CMOM
FL01	FL01-1790	FL01-1780	Pipe Burst
FL01	FL01-1810	FL01-1800	CMOM
FL01	FL01-1820	FL01-1810	Open Cut
FL01	FL01-1830	FL01-1810	Pipe Burst
FL01	FL01-1840	FL01-1830	CMOM
FL01	FL01-1850	FL01-1770	CMOM
FL01	FL01-1860	FL01-1850	CMOM
FL01	FL01-1870	FL01-1860	CMOM
FL01	FL01-1880	FL01-1850	CMOM
FL01	FL01-1890	FL01-1880	CMOM
FL01	FL01-1892	FL01-1890	CMOM
FL01	FL01-1900	FL01-1890	Open Cut
FL01	FL01-1910	FL01-1892	Open Cut
FL01	FL01-1915	FL01-0020	CMOM
FL01	FL01-1920	FL01-1915	CMOM
FL01	FL01-1930	FL01-1920	Point Repair and Cleaning
FL01	FL01-1940	FL01-1930	CMOM
FL01	FL01-1950	FL01-1940	CMOM
FL01	FL01-1960	FL01-1950	CMOM
FL01	FL01-1970	FL01-1960	CMOM
FL01	FL01-1980	FL01-1970	CMOM
FL01	FL01-1980A	FL01-1980	CMOM
FL01	FL01-1990	FL01-1980A	Pipe Burst
FL01	FL01-1990A	FL01-1990	CMOM
FL01	FL01-2000	FL01-1990	CMOM
FL01	FL01-2110	FL01-2100	CMOM
FL01	FL01-2380	FL01-0810	Pipe Burst
FL01	FL01-2480	FL01-0540	Open Cut
FL01	FL01-2060	FL01-2050	CMOM
FL01	FL01-2050	FL01-2040	CMOM
FL01	FL01-0350	FL01-0340	CMOM
P007	EOL	P007-0570	CMOM
P007	EOL	P007-1360	CIPP
P007	P007-0020	P007-0010	CIPP
P007	P007-0030	P007-0020	CMOM
P007	P007-0040	P007-0030	Open Cut

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
P007	P007-0050	P007-0010	Point Repair and Cleaning
P007	P007-0060	P007-0050	CMOM
P007	P007-0065	P007-0060	CMOM
P007	P007-0070	P007-0065	CMOM
P007	P007-0080	P007-0070	Open Cut
P007	P007-0120	P007-0080	Pipe Burst
P007	P007-0130	P007-0120	Pipe Burst
P007	P007-0150	P007-0080	CMOM
P007	P007-0152	P007-0150	CMOM
P007	P007-0154	P007-0152	CMOM
P007	P007-0157	P007-0154	CMOM
P007	P007-0160	P007-0150	Open Cut
P007	P007-0170	P007-0160	Open Cut
P007	P007-0190	P007-0180	CMOM
P007	P007-0200	P007-0155	Open Cut
P007	P007-0202	P007-0200	CMOM
P007	P007-0205	P007-0202	CMOM
P007	P007-0210	P007-0205	Pipe Burst
P007	P007-0220	P007-0210	CMOM
P007	P007-0230	P007-0220	CMOM
P007	P007-0240	P007-0230	Open Cut
P007	P007-0250	P007-0240	CMOM
P007	P007-0260	P007-0250	CMOM
P007	P007-0270	P007-0260	Open Cut
P007	P007-0280	P007-0270	CMOM
P007	P007-0300	P007-0200	CMOM
P007	P007-0310	P007-0300	CMOM
P007	P007-0312	P007-0310	CMOM
P007	P007-0314	P007-0312	CMOM
P007	P007-0316	P007-0314	CMOM
P007	P007-0320	P007-0300	CMOM
P007	P007-0350	P007-0340	Open Cut
P007	P007-0370	P007-0316	CIPP
P007	P007-0380	P007-0370	CMOM
P007	P007-0383	P007-0380	Pipe Burst
P007	P007-0386	P007-0383	CMOM
P007	P007-0390	P007-0386	Pipe Burst
P007	P007-0410	P007-0400	Pipe Burst
P007	P007-0470	P007-0465	Open Cut
P007	P007-0480	P007-0470	Open Cut
P007	P007-0482	P007-0480	Pipe Burst
P007	P007-0510	P007-0510A	CMOM
P007	P007-0520	P007-0510	CMOM
P007	P007-0530	P007-0520	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
P007	P007-0530A	P007-0530	CMOM
P007	P007-0530B	P007-0530A	CMOM
P007	P007-0540	P007-0530	CMOM
P007	P007-0550	P007-0530B	CMOM
P007	P007-0557	P007-0550	Open Cut
P007	P007-0560	P007-0550	CMOM
P007	P007-0570	P007-0560	Pipe Burst
P007	P007-0585	P007-0580	Open Cut
P007	P007-0600	P007-0570	CMOM
P007	P007-0610	P007-0600	Pipe Burst
P007	P007-0620	P007-0600	Pipe Burst
P007	P007-0630	P007-0620	Open Cut
P007	P007-0650	P007-0640	Pipe Burst
P007	P007-0660	P007-0630	Open Cut
P007	P007-0670	P007-0660	CMOM
P007	P007-0680	P007-0670	CMOM
P007	P007-0690	P007-0680	CIPP
P007	P007-0700	P007-0660	Open Cut
P007	P007-0710	P007-0700	CMOM
P007	P007-0720	P007-0710	Pipe Burst
P007	P007-0730	P007-0557	CMOM
P007	P007-0750	P007-0740	Pipe Burst
P007	P007-0770	P007-0760	Pipe Burst
P007	P007-0780	P007-0770	Open Cut
P007	P007-0790	P007-0780	Open Cut
P007	P007-0810	P007-0770	CMOM
P007	P007-0820	P007-0810	CMOM
P007	P007-0840	P007-0557	CMOM
P007	P007-0850	P007-0840	CMOM
P007	P007-0860	P007-0850	Point Repair
P007	P007-0870	P007-0860	CMOM
P007	P007-1280	P007-0370	Pipe Burst
P007	P007-1282	P007-1280	CMOM
P007	P007-1290	P007-1282	Pipe Burst
P007	P007-1300	P007-1290	Pipe Burst
P007	P007-1310	P007-1300	Open Cut
P007	P007-1320	P007-1310	CMOM
P007	P007-1330	P007-1320	CMOM
P007	P007-1350	P007-1280	Pipe Burst
P007	P007-1360	P007-1350	Pipe Burst
P007	P007-1363	P007-1360	CMOM
P007	P007-1370	P007-1363	Point Repair
P007	P007-1380	P007-1370	Open Cut
P007	P007-1385	P007-1380	CMOM

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
P007	P007-1390	P007-1385	CMOM
P007	P007-1400	P007-1390	CMOM
P007	P007-1410	P007-1363	CMOM
P007	P007-1415	P007-1410	CMOM
P007	P007-1420	P007-1415	CMOM
P007	P007-1425	P007-1420	CMOM
P007	P007-1430	P007-1425	CIPP
P007	P007-1450	P007-1430	Pipe Burst
P007	P007-1450	P007-1440	CMOM
P007	P007-1460	P007-1450	CMOM
P007	P007-1470	P007-1460	CMOM
P007	P007-1480	P007-1470	CMOM
P007	P007-1490	P007-1280	Open Cut
P007	P007-1500	P007-1490	Pipe Burst
P007	P007-1504	P007-1500	CMOM
P007	P007-1507	P007-1504	CMOM
P007	P007-1510	P007-1507	Pipe Burst
P007	P007-1520	P007-1510	Pipe Burst
P007	P007-1525	P007-1520	Pipe Burst
P007	P007-1530	P007-1490	Open Cut
P007	P007-1540	P007-1530	CIPP
P007	P007-1550	P007-1490	Pipe Burst
P007	P007-1560	P007-1550	Open Cut
P007	P007-1570	P007-1560	Open Cut
P007	P007-1580	P007-1570	CMOM
P007	P007-1590	P007-1550	CMOM
P007	P007-1600	P007-1590	CMOM
P007	P007-1620	P007-1610	Pipe Burst
P007	P007-1630	P007-1620	Pipe Burst
P007	P007-1635	P007-1630	CMOM
P007	P007-1640	P007-1635	CMOM
P007	P007-1660	P007-1650	CMOM
P007	P007-1665	P007-1660	Pipe Burst
P007	P007-1665	P007-1670	CMOM
P007	P007-1675	P007-1670	CMOM
P007	P007-1680	P007-1665	Pipe Burst
P007	P007-1690	P007-1680	Open Cut
P007	P007-1700	P007-1690	CIPP
P007	P007-1710	P007-1680	Open Cut
P007	P007-1720	P007-1710	Point Repair and Cleaning
P007	P007-1730	P007-1710	Pipe Burst
P007	P007-1740	P007-1730	Open Cut
P007	P007-1750	P007-1730	Point Repair and Cleaning
P007	P007-1760	P007-1750	CIPP

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
P007	P007-1770	P007-1760	Pipe Burst
P007	P007-1780	P007-1770	Pipe Burst
P007	P007-1790	P007-1780	Open Cut
P007	P007-1800	P007-1790	Pipe Burst
P007	P007-1810	P007-1800	CMOM
P007	P007-1820	P007-1810	Pipe Burst
P007	P007-1830	P007-1770	Point Repair and Cleaning
P007	P007-1840	P007-1830	Open Cut
P007	P007-1850	P007-1840	Open Cut
P007	P007-1860	P007-1850	Open Cut
P007	P007-1870	P007-1750	Pipe Burst
P007	P007-1880	P007-1870	CMOM
P007	P007-1890	P007-1880	Pipe Burst
P007	P007-1890	P007-1990	CIPP
P007	P007-1895	P007-1890	CIPP
P007	P007-1897	P007-1895	Open Cut
P007	P007-1900	P007-1895	CMOM
P007	P007-1910	P007-1900	CMOM
P007	P007-1920	P007-1880	CMOM
P007	P007-1930	P007-1920	CMOM
P007	P007-1940	P007-1930	Point Repair
P007	P007-1950	P007-1940	Open Cut
P007	P007-1960	P007-1960A	CMOM
P007	P007-1960A	P007-1910	CMOM
P007	P007-1970	P007-1960	CIPP
P007	P007-1980	P007-1970	Point Repair and Cleaning
P007	P007-2000	P007-1990	CMOM
P007	P007-2010	P007-2000	CMOM
P007	P007-2020	P007-2010	Pipe Burst
P007	P007-2030	P007-2020	CMOM
P007	P007-2050	P007-2040	Heavy Cleaning
P007	P007-2060	P007-2050	CMOM
P007	P007-2070	P007-2050	CMOM
P007	P007-2080	P007-2070	Pipe Burst
P007	P007-2090	P007-2080	CMOM
P007	P007-2100	P007-2090	Point Repair
P007	P007-2120	P007-2110	CMOM
P007	P007-2130	P007-2120	CMOM
P007	P007-2140	P007-2120	CMOM
P007	P007-2150	P007-2120	CMOM
P007	P007-2155	P007-2150	Open Cut
P007	P007-2160	P007-2155	Pipe Burst
P007	P007-2180	P007-2080	Pipe Burst
P007	P007-2200	P007-2190	Pipe Burst

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
P007	P007-2210	P007-2210A	CMOM
P007	P007-2210A	P007-2200	Pipe Burst
P007	P007-2220	P007-2210	CMOM
P007	P007-2230	P007-2210	CMOM
P007	P007-2245	P007-2230	Open Cut
P007	P007-2248	P007-2245	CMOM
P007	P007-2250	P007-2248	CMOM
P007	P007-2260	P007-1550	Pipe Burst
P007	P007-2270	P007-2260	CMOM
P007	P007-2272	P007-2270	CMOM
P007	P007-2280	P007-2260	CMOM
P007	P007-2285	P007-2280	Open Cut
P007	P007-2300	P007-2290	CMOM
P007	P007-2304	P007-2300	CMOM
P007	P007-2307	P007-2304	CMOM
P007	P007-2310	P007-2300	CMOM
P007	P007-2320	P007-2285	Open Cut
P007	P007-2325	P007-2320	CMOM
P007	P007-2330	P007-2320	CIPP
P007	P007-2350	P007-2325	Pipe Burst
P007	P007-2354	P007-2350	Open Cut
P007	P007-2357	P007-2354	CMOM
P007	P007-2383	P007-2380	CMOM
P007	P007-2385	P007-2350	Open Cut
P007	P007-2390	P007-2385	CMOM
P007	P007-2395	P007-2390	CMOM
P007	P007-2400	P007-2395	Open Cut
P007	P007-2500	P007-0730	CMOM
P007	P007-2510	P007-2500	Pipe Burst
P007	P007-2530	P007-2520	CMOM
P007	P007-2540	P007-2530	Pipe Burst
P007	P007-2550	P007-2540	Open Cut
P007	P007-2560	P007-2550	CMOM
P007	P007-2570	P007-2560	Pipe Burst
P007	P007-2700	P007-2180	CMOM
P007	P007-2710	P007-2700	CMOM
P007	P007-2720	P007-2710	CMOM
P007	P007-2730	P007-2700	Pipe Burst
P007	P007-2740	P007-2730	Pipe Burst
P007	P007-2750	P007-2740A	CMOM
P007	P007-2760	P007-2750	CMOM
P007	P007-2900	P007-2245	CMOM
P007	P007-2910	P007-2900	Pipe Burst
P007	P007-2920	P007-2910	Open Cut

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
P007	P007-2930	P007-2920	Pipe Burst
P007	P007-2950	P007-2940	CMOM
P007	P007-2960	P007-2950	CMOM
P007	P007-2970	P007-2960	Pipe Burst
P007	P007-2980	P007-2970	CMOM
P007	P007-3330	P007-1200	Pipe Burst
P007	P007-3340	P007-0630	CMOM
P007	P007-3350	P007-3340	CMOM
P007	S007-3350	P007-1330	Open Cut
P007	P007-0140	P007-0130	CMOM
P007	P007-0950	P007-0940	CMOM
P007	P007-3100	P007-1050	CMOM
P007	P007-1060	P007-1050	CMOM
S003	EOL	S003-1390	CMOM
S003	S003-0020	S003-3340	CMOM
S003	S003-0030	S003-0030A	CIPP
S003	S003-0030A	S003-0020	CMOM
S003	S003-0040	S003-0030	Point Repair and Cleaning
S003	S003-0070	S003-0060	CMOM
S003	S003-0080	S003-0070	CMOM
S003	S003-0090	S003-0080	CMOM
S003	S003-0100	S003-0090	CMOM
S003	S003-0105	S003-0100	CMOM
S003	S003-0110	S003-0100	Pipe Burst
S003	S003-0120	S003-0110	CMOM
S003	S003-0130	S003-0120	CIPP
S003	S003-0160	S003-0120	Pipe Burst
S003	S003-0165	S003-0160	Open Cut
S003	S003-0170	S003-0165	CIPP
S003	S003-0180	S003-0160	CMOM
S003	S003-0190	S003-0180	CMOM
S003	S003-0200	S003-0100	Open Cut
S003	S003-0210	S003-0200	Pipe Burst
S003	S003-0214	S003-0210	CIPP
S003	S003-0216	S003-0214	CMOM
S003	S003-0217	S003-0216	CMOM
S003	S003-0220	S003-0214	CMOM
S003	S003-0230	S003-0217	CMOM
S003	S003-0240	S003-0230	CIPP
S003	S003-0250	S003-0240	Pipe Burst
S003	S003-0260	S003-0250	Open Cut
S003	S003-0270	S003-0240	CIPP
S003	S003-0274	S003-0270	CMOM
S003	S003-0280	S003-0274	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-0290	S003-0280	Pipe Burst
S003	S003-0300	S003-0290	CMOM
S003	S003-0330	S003-3380	CMOM
S003	S003-0340	S003-0330	Pipe Burst
S003	S003-0356	S003-3380	CMOM
S003	S003-0360	S003-0356	CMOM
S003	S003-0370	S003-0360	CIPP
S003	S003-0380	S003-0370	CMOM
S003	S003-0390	S003-0390A	CMOM
S003	S003-0390A	S003-0380	CMOM
S003	S003-0400	S003-0380	Open Cut
S003	S003-0410	S003-0400	Open Cut
S003	S003-0420	S003-0410	CMOM
S003	S003-0430	S003-0420	CMOM
S003	S003-0440	S003-0410	CMOM
S003	S003-0450	S003-0440	Pipe Burst
S003	S003-0460	S003-0450	Open Cut
S003	S003-0465	S003-0460	CMOM
S003	S003-0520	S003-3430	CMOM
S003	S003-0530	S003-0520	CIPP
S003	S003-0540	S003-0530	CMOM
S003	S003-0550	S003-0540	CIPP
S003	S003-0560	S003-0540	CIPP
S003	S003-0590	S003-3460	Pipe Burst
S003	S003-0600	S003-0590	Open Cut
S003	S003-0610	S003-0600	Open Cut
S003	S003-0620	S003-3460	Pipe Burst
S003	S003-0630	S003-0620	Heavy Cleaning
S003	S003-0640	S003-0630	CIPP
S003	S003-0650	S003-0650A	Pipe Burst
S003	S003-0660	S003-0650	CMOM
S003	S003-0670	S003-0660	CMOM
S003	S003-0670A	S003-0670	CMOM
S003	S003-0672	S003-0670	CMOM
S003	S003-0680	S003-0670A	CIPP
S003	S003-0690	S003-0680	CIPP
S003	S003-0700	S003-0640	CIPP
S003	S003-0710	S003-0700	Point Repair
S003	S003-0720	S003-0710	Point Repair and Cleaning
S003	S003-0726	Midline	CMOM
S003	S003-0730	S003-0720	CMOM
S003	S003-0740	S003-0730	Pipe Burst
S003	S003-0750	S003-0740	Point Repair and Cleaning
S003	S003-0752	S003-0750	CMOM

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-0760	S003-0752	CMOM
S003	S003-0770	S003-0620	CMOM
S003	S003-0780	S003-0770	CMOM
S003	S003-0785	S003-0780	CMOM
S003	S003-0790	S003-0780	CMOM
S003	S003-0795	S003-0790	CIPP
S003	S003-0800	S003-0790	CMOM
S003	S003-0805	S003-0800	Heavy Cleaning
S003	S003-0810	S003-0800	CIPP
S003	S003-0820	S003-0830	CMOM
S003	S003-0830	S003-0810	CMOM
S003	S003-0840	S003-0830	CMOM
S003	S003-0850	S003-0840	CMOM
S003	S003-0860	S003-0850	Open Cut
S003	S003-0870	S003-0860	Point Repair and Cleaning
S003	S003-0880	S003-0870	CMOM
S003	S003-0890	S003-0870	CMOM
S003	S003-0900	S003-0890	Point Repair and Cleaning
S003	S003-0910	S003-0900	CMOM
S003	S003-0920	S003-0810	CIPP
S003	S003-0930	S003-0920	CIPP
S003	S003-0940	S003-0930	CMOM
S003	S003-0950	S003-0940	Pipe Burst
S003	S003-0960	S003-0950	Pipe Burst
S003	S003-0965	S003-0965A	Open Cut
S003	S003-0965A	S003-0960	CMOM
S003	S003-0970	S003-0940	Open Cut
S003	S003-0980	S003-0970	CMOM
S003	S003-0990	S003-0930	CIPP
S003	S003-1000	S003-0990	CMOM
S003	S003-1010	S003-1000	CMOM
S003	S003-1010A	S003-1010	CMOM
S003	S003-1020	S003-1010	CMOM
S003	S003-1024	S003-1020	CMOM
S003	S003-1030	S003-1010A	CMOM
S003	S003-1040	S003-1030	Point Repair
S003	S003-1050	S003-1040	Pipe Burst
S003	S003-1060	S003-1050	CMOM
S003	S003-1070	S003-1060	CMOM
S003	S003-1080	S003-1060	CMOM
S003	S003-1090	S003-1080	CMOM
S003	S003-1110	S003-1100	CMOM
S003	S003-1120	S003-1100	CMOM
S003	S003-1130	S003-1120	Pipe Burst

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-1140	S003-1130	CMOM
S003	S003-1170	S003-1160	Point Repair and Cleaning
S003	S003-1180	S003-1170	CIPP
S003	S003-1190	S003-1180	CMOM
S003	S003-1200	S003-1190	Pipe Burst
S003	S003-1210	S003-1200	CMOM
S003	S003-1220	S003-1160	Open Cut
S003	S003-1230	S003-1220	CMOM
S003	S003-1240	S003-1230	CMOM
S003	S003-1270	S003-1260	Pipe Burst
S003	S003-1280	S003-1270	CMOM
S003	S003-1320	S003-1300	CIPP
S003	S003-1330	S003-1320	CMOM
S003	S003-1340	S003-1330	CMOM
S003	S003-1370	S003-1360	Open Cut
S003	S003-1373	S003-1370	CMOM
S003	S003-1380	S003-1373	CMOM
S003	S003-1390	S003-1380	Pipe Burst
S003	S003-1400	S003-1390	CMOM
S003	S003-1420	S003-1260	Pipe Burst
S003	S003-1430	S003-1420	Pipe Burst
S003	S003-1460	S003-1450	CMOM
S003	S003-1470	S003-1460	Point Repair and Cleaning
S003	S003-1480	S003-3500	CMOM
S003	S003-2600	S003-0274	CMOM
S003	S003-2610	S003-2600	CMOM
S003	S003-3510	S003-1480B	CMOM
S003	S003-3520	S003-3510	CMOM
S003	S003-3570	S003-3560	Point Repair and Cleaning
S003	S003-3580	S003-3570	Point Repair and Cleaning
S003	S003-3590	S003-3580	CMOM
S003	S003-3600	S003-3540	Open Cut
S003	S003-3610	S003-3600	Pipe Burst
S003	S003-3620	S003-3610	Point Repair
S003	S003-3630	S003-3620	Open Cut
S003	S003-3640	S003-3630	Pipe Burst
S003	S003-3650	S003-3640	CMOM
S003	S003-3660	S003-3620	Pipe Burst
S003	S003-3670	S003-3660	CIPP
S003	S003-3680	S003-3670	Pipe Burst
S003	S003-3690	S003-0965	Open Cut
S003	S003-0020	S003-3340	CMOM
S003	S003-0030	S003-0030A	CIPP
S003	S003-0030A	S003-0020	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-0040	S003-0030	Point Repair and Cleaning
S003	S003-0070	S003-0060	CMOM
S003	S003-0080	S003-0070	CMOM
S003	S003-0090	S003-0080	CMOM
S003	S003-0100	S003-0090	CMOM
S003	S003-0105	S003-0100	CMOM
S003	S003-0110	S003-0100	Pipe Burst
S003	S003-0120	S003-0110	CMOM
S003	S003-0130	S003-0120	CIPP
S003	S003-0160	S003-0120	Pipe Burst
S003	S003-0165	S003-0160	Open Cut
S003	S003-0170	S003-0165	CIPP
S003	S003-0180	S003-0160	CMOM
S003	S003-0190	S003-0180	CMOM
S003	S003-0200	S003-0100	Open Cut
S003	S003-0210	S003-0200	Pipe Burst
S003	S003-0214	S003-0210	CIPP
S003	S003-0216	S003-0214	CMOM
S003	S003-0217	S003-0216	CMOM
S003	S003-0220	S003-0214	CMOM
S003	S003-0230	S003-0217	CMOM
S003	S003-0240	S003-0230	CIPP
S003	S003-0250	S003-0240	Pipe Burst
S003	S003-0260	S003-0250	Open Cut
S003	S003-0270	S003-0240	CIPP
S003	S003-0274	S003-0270	CMOM
S003	S003-0280	S003-0274	CMOM
S003	S003-0290	S003-0280	Pipe Burst
S003	S003-0300	S003-0290	CMOM
S003	S003-0330	S003-3380	CMOM
S003	S003-0340	S003-0330	Pipe Burst
S003	S003-0356	S003-3380	CMOM
S003	S003-0360	S003-0356	CMOM
S003	S003-0370	S003-0360	CIPP
S003	S003-0380	S003-0370	CMOM
S003	S003-0390	S003-0390A	CMOM
S003	S003-0390A	S003-0380	CMOM
S003	S003-0400	S003-0380	Open Cut
S003	S003-0410	S003-0400	Open Cut
S003	S003-0420	S003-0410	CMOM
S003	S003-0430	S003-0420	CMOM
S003	S003-0440	S003-0410	CMOM
S003	S003-0450	S003-0440	Pipe Burst
S003	S003-0460	S003-0450	Open Cut

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-0465	S003-0460	CMOM
S003	S003-0520	S003-3430	CMOM
S003	S003-0530	S003-0520	CIPP
S003	S003-0540	S003-0530	CMOM
S003	S003-0550	S003-0540	CIPP
S003	S003-0560	S003-0540	CIPP
S003	S003-0590	S003-3460	Pipe Burst
S003	S003-0600	S003-0590	Open Cut
S003	S003-0610	S003-0600	Open Cut
S003	S003-0620	S003-3460	Pipe Burst
S003	S003-0630	S003-0620	Heavy Cleaning
S003	S003-0640	S003-0630	CIPP
S003	S003-0650	S003-0650A	Pipe Burst
S003	S003-0660	S003-0650	CMOM
S003	S003-0670	S003-0660	CMOM
S003	S003-0670A	S003-0670	CMOM
S003	S003-0672	S003-0670	CMOM
S003	S003-0680	S003-0670A	CIPP
S003	S003-0690	S003-0680	CIPP
S003	S003-0700	S003-0640	CIPP
S003	S003-0710	S003-0700	Point Repair
S003	S003-0720	S003-0710	Point Repair and Cleaning
S003	S003-0726	Midline	CMOM
S003	S003-0730	S003-0720	CMOM
S003	S003-0740	S003-0730	Pipe Burst
S003	S003-0750	S003-0740	Point Repair and Cleaning
S003	S003-0752	S003-0750	CMOM
S003	S003-0760	S003-0752	CMOM
S003	S003-0770	S003-0620	CMOM
S003	S003-0780	S003-0770	CMOM
S003	S003-0785	S003-0780	CMOM
S003	S003-0790	S003-0780	CMOM
S003	S003-0795	S003-0790	CIPP
S003	S003-0800	S003-0790	CMOM
S003	S003-0805	S003-0800	Heavy Cleaning
S003	S003-0810	S003-0800	CIPP
S003	S003-0820	S003-0830	CMOM
S003	S003-0830	S003-0810	CMOM
S003	S003-0840	S003-0830	CMOM
S003	S003-0850	S003-0840	CMOM
S003	S003-0860	S003-0850	Open Cut
S003	S003-0870	S003-0860	Point Repair and Cleaning
S003	S003-0880	S003-0870	CMOM
S003	S003-0890	S003-0870	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-0900	S003-0890	Point Repair and Cleaning
S003	S003-0910	S003-0900	CMOM
S003	S003-0920	S003-0810	CIPP
S003	S003-0930	S003-0920	CIPP
S003	S003-0940	S003-0930	CMOM
S003	S003-0950	S003-0940	Pipe Burst
S003	S003-0960	S003-0950	Pipe Burst
S003	S003-0965	S003-0965A	Open Cut
S003	S003-0965A	S003-0960	CMOM
S003	S003-0970	S003-0940	Open Cut
S003	S003-0980	S003-0970	CMOM
S003	S003-0990	S003-0930	CIPP
S003	S003-1000	S003-0990	CMOM
S003	S003-1010	S003-1000	CMOM
S003	S003-1010A	S003-1010	CMOM
S003	S003-1020	S003-1010	CMOM
S003	S003-1024	S003-1020	CMOM
S003	S003-1030	S003-1010A	CMOM
S003	S003-1040	S003-1030	Point Repair
S003	S003-1050	S003-1040	Pipe Burst
S003	S003-1060	S003-1050	CMOM
S003	S003-1070	S003-1060	CMOM
S003	S003-1080	S003-1060	CMOM
S003	S003-1090	S003-1080	CMOM
S003	S003-1110	S003-1100	CMOM
S003	S003-1120	S003-1100	CMOM
S003	S003-1130	S003-1120	Pipe Burst
S003	S003-1140	S003-1130	CMOM
S003	S003-1170	S003-1160	Point Repair and Cleaning
S003	S003-1180	S003-1170	CIPP
S003	S003-1190	S003-1180	CMOM
S003	S003-1200	S003-1190	Pipe Burst
S003	S003-1210	S003-1200	CMOM
S003	S003-1220	S003-1160	Open Cut
S003	S003-1230	S003-1220	CMOM
S003	S003-1240	S003-1230	CMOM
S003	S003-1270	S003-1260	Pipe Burst
S003	S003-1280	S003-1270	CMOM
S003	S003-1320	S003-1300	CIPP
S003	S003-1330	S003-1320	CMOM
S003	S003-1340	S003-1330	CMOM
S003	S003-1370	S003-1360	Open Cut
S003	S003-1373	S003-1370	CMOM
S003	S003-1380	S003-1373	CMOM

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S003	S003-1390	S003-1380	Pipe Burst
S003	S003-1400	S003-1390	CMOM
S003	S003-1420	S003-1260	Pipe Burst
S003	S003-1430	S003-1420	Pipe Burst
S003	S003-1460	S003-1450	CMOM
S003	S003-1470	S003-1460	Point Repair and Cleaning
S003	S003-1480	S003-3500	CMOM
S003	S003-2600	S003-0274	CMOM
S003	S003-2610	S003-2600	CMOM
S003	S003-3510	S003-1480B	CMOM
S003	S003-3520	S003-3510	CMOM
S003	S003-3570	S003-3560	Point Repair and Cleaning
S003	S003-3580	S003-3570	Point Repair and Cleaning
S003	S003-3590	S003-3580	CMOM
S003	S003-3600	S003-3540	Open Cut
S003	S003-3610	S003-3600	Pipe Burst
S003	S003-3620	S003-3610	Point Repair
S003	S003-3630	S003-3620	Open Cut
S003	S003-3640	S003-3630	Pipe Burst
S003	S003-3650	S003-3640	CMOM
S003	S003-3660	S003-3620	Pipe Burst
S003	S003-3670	S003-3660	CIPP
S003	S003-3680	S003-3670	Pipe Burst
S003	S003-3690	S003-0965	Open Cut
S003	S003-3150	S003-3140	CMOM
S003	S003-3110	S003-3100	CMOM
S003	S003-1350	S003-1280	Open Cut
S003	S003-1360	S003-1350	CMOM
S003	S003-1290	S003-1280	CMOM
S004	S004-0010	S003-3500	CMOM
S004	S004-0012	S004-0010	CMOM
S004	S004-0014	S004-0012	CMOM
S004	S004-0016	S004-0014	CMOM
S004	S004-0045	S004-0018	CMOM
S004	S004-0050	S004-0045	Pipe Burst
S004	S004-0060	S004-0050	CIPP
S004	S004-0065	S004-0060	Open Cut
S004	S004-0100	S004-0090	CMOM
S004	S004-0110	S004-0100	CMOM
S004	S004-0120	S004-0110	CMOM
S004	S004-0130	S004-0120	CMOM
S004	S004-0140	S004-0130	CMOM
S004	S004-0150	S004-0140	CMOM
S004	S004-0160	S004-0150	CMOM

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S004	S004-0170	S004-0160	CMOM
S004	S004-0180	S004-0170	CMOM
S004	S004-0190	S004-0170	CMOM
S004	S004-0200	S004-0190	Point Repair
S004	S004-0210	S004-0200	CMOM
S004	S004-0220	S004-0210	Point Repair and Cleaning
S004	S004-0230	S004-0220	Open Cut
S004	S004-0240	S004-0210	CIPP
S004	S004-0245	S004-0240	CMOM
S004	S004-0250	S004-0240	Open Cut
S004	S004-0260	S004-0170	CMOM
S004	S004-0270	S004-0260	Open Cut
S004	S004-0280	S004-0270	CMOM
S004	S004-0310	S004-0260	Point Repair
S004	S004-0312	S004-0310	CMOM
S004	S004-0320	S004-0312	CMOM
S004	S004-0330	S004-0320	Pipe Burst
S004	S004-0340	S004-0330	Pipe Burst
S004	S004-0350	S004-0312	CMOM
S004	S004-0380	S004-0375	CMOM
S004	S004-0390	S004-0380	CIPP
S004	S004-0400	S004-0390	Pipe Burst
S004	S004-0410	S004-0400	CMOM
S004	S004-0420	S004-0410	CMOM
S004	S004-0440	S004-0430	CMOM
S004	S004-0450	S004-0440	CMOM
S004	S004-0460	S004-0450	CMOM
S004	S004-0470	S004-0460	CMOM
S004	S004-0480	S004-0470	CMOM
S004	S004-0490	S004-0480	CMOM
S004	S004-0500	S004-0480	CMOM
S004	S004-0510	S004-0500	CMOM
S004	S004-0520	S004-0510	Point Repair and Cleaning
S004	S004-0530	S004-0520	CMOM
S004	S004-0540	S004-0530	Pipe Burst
S004	S004-0550	S004-0540	CMOM
S004	S004-0560	S004-0550	CMOM
S004	S004-0570	S004-0530	CMOM
S004	S004-0580	S004-0570	CMOM
S004	S004-0590	S004-0580	CMOM
S004	S004-0600	S004-0590	CMOM
S004	S004-0610	S004-0590	Pipe Burst
S004	S004-0620	S004-0610	CMOM
S004	S004-1130	S004-1120	Open Cut

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S004	S004-1150	S004-1140	Pipe Burst
S004	S004-1160	S004-1150	CMOM
S004	S004-1170	S004-1160	CMOM
S004	S004-1173	S004-1170	CMOM
S004	S004-1180	S004-1170	Pipe Burst
S004	S004-1190	S004-1173	Point Repair and Cleaning
S004	S004-1200	S004-1190	Pipe Burst
S004	S004-1210	S004-1190	CIPP
S004	S004-1220	S004-1190	CMOM
S004	S004-1230	S004-1220	CMOM
S004	S004-1240	S004-1230	CMOM
S004	S004-1250	S004-1240	CMOM
S004	S004-1260	S004-1230	CMOM
S004	S004-1270	S004-1260	CMOM
S004	S004-1280	S004-1270	CMOM
S004	S004-1290	S004-1230	CMOM
S004	S004-1300	S004-1290	Pipe Burst
S004	S004-1310	S004-1290	Open Cut
S004	S004-1330	S004-1320	CIPP
S004	S004-1350	S004-1340	CMOM
S004	S004-1360	S004-1350	Open Cut
S004	S004-1370	S004-1360	CMOM
S004	S004-1380	S004-1370	CMOM
S004	S004-1390	S004-1380	Pipe Burst
S004	S004-1400	S004-1390	CMOM
S004	S004-1410	S004-1400	CMOM
S004	S004-1450	S004-1440	Point Repair
S004	S004-1470	S004-1430	CIPP
S004	S004-1480	S004-1470	CIPP
S004	S004-1490	S004-1480	CMOM
S004	S004-1500	S004-1490	Pipe Burst
S004	S004-1510	S004-1500	CMOM
S004	S004-1520	S004-1510	CMOM
S004	S004-1530	S004-1480	CMOM
S004	S004-1540	S004-1530	Pipe Burst
S004	S004-1560	S004-1550	CMOM
S004	S004-1580	S004-0034	CMOM
S004	S004-1585	S004-1580	CMOM
S004	S004-1590	S004-1585	CMOM
S004	S004-1650	S004-0350	CIPP
S008	EOL	S008-0990	CMOM
S008	EOL	S008-0960	Pipe Burst
S008	S008-0400	S008-0390	CMOM
S008	S008-0410	S008-0400	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-0420	S008-0410	Pipe Burst
S008	S008-0460	S008-0080	CMOM
S008	S008-0470	S008-0460	CMOM
S008	S008-0480	S008-0470	Pipe Burst
S008	S008-0490	S008-0460	CMOM
S008	S008-0500	S008-0490	CMOM
S008	S008-0510	S008-0500	CMOM
S008	S008-0520	S008-0510	CMOM
S008	S008-0530	S008-0520	CMOM
S008	S008-0540	S008-0530	CMOM
S008	S008-0550	S008-0490	CMOM
S008	S008-0560	S008-0550	CMOM
S008	S008-0570	S008-0560	CMOM
S008	S008-0580	S008-0570	Pipe Burst
S008	S008-0590	S008-0580	CMOM
S008	S008-0600	S008-0590	CMOM
S008	S008-0610	S008-0570	CMOM
S008	S008-0650	S008-0648	CMOM
S008	S008-0660	S008-0650	Pipe Burst
S008	S008-0670	S008-0660	Pipe Burst
S008	S008-0690	S008-0660	Pipe Burst
S008	S008-0700	S008-0690	Pipe Burst
S008	S008-0710	S008-0700	CMOM
S008	S008-0720	S008-0710	Pipe Burst
S008	S008-0730	S008-0720	CMOM
S008	S008-0740	S008-0730	CMOM
S008	S008-0750	S008-0740	CMOM
S008	S008-0760	S008-0660	CMOM
S008	S008-0770	S008-0760	CMOM
S008	S008-0770A	S008-0770	CMOM
S008	S008-0780	S008-0770A	CMOM
S008	S008-0790	S008-0780	CMOM
S008	S008-0800	S008-0790	CMOM
S008	S008-0810	S008-0800	CMOM
S008	S008-0820	S008-0810	CMOM
S008	S008-0840	S008-0760	CMOM
S008	S008-0850	S008-0840	CMOM
S008	S008-0860	S008-0850	Pipe Burst
S008	S008-0870	S008-0860	Pipe Burst
S008	S008-0880	S008-0870	Pipe Burst
S008	S008-0890	S008-0880	Pipe Burst
S008	S008-0900	S008-0850	CIPP
S008	S008-0910	S008-0790	CMOM
S008	S008-0910	S008-0900	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-0920	S008-0910	CMOM
S008	S008-0930	S008-0920	Point Repair and Cleaning
S008	S008-0940	S008-0890	Open Cut
S008	S008-0950	S008-0940	Open Cut
S008	S008-0960	S008-0950	CMOM
S008	S008-0970	S008-0960	Pipe Burst
S008	S008-0980	S008-0970	Pipe Burst
S008	S008-0980	S008-0910	Point Repair
S008	S008-0990	S008-0930	Point Repair and Cleaning
S008	S008-1000	S008-0670	Point Repair
S008	S008-1005	S008-1000	Pipe Burst
S008	S008-1010	S008-1000	CMOM
S008	S008-1020	S008-1000	Point Repair
S008	S008-1030	S008-1020	CMOM
S008	S008-1040	S008-1030	CMOM
S008	S008-1093	S008-1090	Open Cut
S008	S008-1096	S008-1093	Open Cut
S008	S008-1100	S008-1096A	Open Cut
S008	S008-1110	S008-1100	CMOM
S008	S008-1115	S008-1110	Pipe Burst
S008	S008-1120	S008-1115	Pipe Burst
S008	S008-1130	S008-1100	CMOM
S008	S008-1135	S008-1130	Point Repair and Cleaning
S008	S008-1140	S008-1135	Pipe Burst
S008	S008-1170	S008-1160	CMOM
S008	S008-1173	S008-1170	CMOM
S008	S008-1175	S008-1173	CMOM
S008	S008-1180	S008-1170	CMOM
S008	S008-1210	S008-1200	CMOM
S008	S008-1220	S008-1210A	CMOM
S008	S008-1230	S008-1220	Point Repair
S008	S008-1240	S008-1230	CMOM
S008	S008-1250	S008-1240	Pipe Burst
S008	S008-1252	S008-1250	CMOM
S008	S008-1254	S008-1252	CMOM
S008	S008-1256	S008-1254	CMOM
S008	S008-1260	S008-1250	CMOM
S008	S008-1270	S008-1260	CMOM
S008	S008-1280	S008-1270	Capacity Assessment
S008	S008-1290	S008-1280	Capacity Assessment
S008	S008-1300	S008-1290	Pipe Burst
S008	S008-1320	S008-1300	CMOM
S008	S008-1320A	S008-1320	Pipe Burst
S008	S008-1330	S008-1320	Point Repair and Cleaning

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-1340	S008-1330	CMOM
S008	S008-1350	S008-1320A	CMOM
S008	S008-1370	S008-1350	CMOM
S008	S008-1380	S008-1370	CMOM
S008	S008-1390	S008-1380	CMOM
S008	S008-1400	S008-1390	CMOM
S008	S008-1410	S008-1400	CIPP
S008	S008-1420	S008-1370	CMOM
S008	S008-1440	S008-1420	CMOM
S008	S008-1450	S008-1440	CMOM
S008	S008-1470	S008-1450	CMOM
S008	S008-1470A	S008-1470	CMOM
S008	S008-1480	S008-1470A	CMOM
S008	S008-1484	S008-1480	CMOM
S008	S008-1770	S008-1760	CMOM
S008	S008-1790	S008-1780	CMOM
S008	S008-1800	S008-1770	CMOM
S008	S008-1810	S008-1800	Open Cut
S008	S008-1850	S008-1840A	CMOM
S008	S008-1850A	S008-1850	CMOM
S008	S008-1860	S008-1850	CMOM
S008	S008-1870	S008-1860	CMOM
S008	S008-1880	S008-1870	CMOM
S008	S008-1890	S008-1880	CMOM
S008	S008-1900	S008-1890	CMOM
S008	S008-1910	S008-1890	CMOM
S008	S008-1920	S008-1910	CMOM
S008	S008-1930	S008-1880	CMOM
S008	S008-1940	S008-1930	CMOM
S008	S008-1960	S008-1940	CMOM
S008	S008-1970	S008-1960	CMOM
S008	S008-1975	S008-1970	CMOM
S008	S008-1980	S008-1980A	CMOM
S008	S008-1990	S008-1980	CMOM
S008	S008-1990A	S008-1990	CMOM
S008	S008-2000	S008-1990	Open Cut
S008	S008-2005	S008-2000	CMOM
S008	S008-2010	S008-1990A	Point Repair
S008	S008-2020	S008-2010	Pipe Burst
S008	S008-2030	S008-2020	CMOM
S008	S008-2040	S008-2030	Open Cut
S008	S008-2050	S008-2030	Pipe Burst
S008	S008-2060	S008-2050	Open Cut
S008	S008-2070	S008-2060	Pipe Burst

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-2080	S008-2070	Pipe Burst
S008	S008-2090	S008-2030	Pipe Burst
S008	S008-2100	S008-2090	Open Cut
S008	S008-2110	S008-2090	CMOM
S008	S008-2120	S008-2110	Pipe Burst
S008	S008-2130	S008-2120	Open Cut
S008	S008-2140	S008-2130	Open Cut
S008	S008-2150	S008-2140	Open Cut
S008	S008-2160	S008-2090	Pipe Burst
S008	S008-2170	S008-2160	Pipe Burst
S008	S008-2180	S008-2170	Pipe Burst
S008	S008-2190	S008-2180	CMOM
S008	S008-2200	S008-2190	Pipe Burst
S008	S008-2209	S008-2200	CMOM
S008	S008-2210	S008-2209	CMOM
S008	S008-2220	S008-2210	CMOM
S008	S008-2240	S008-2190	CMOM
S008	S008-2250	S008-2240	Pipe Burst
S008	S008-2260	S008-2250	Open Cut
S008	S008-2270	S008-2260	CIPP
S008	S008-2290	S008-2160	CMOM
S008	S008-2300	S008-2290	CMOM
S008	S008-2310	S008-2300	CMOM
S008	S008-2320	S008-2310	CMOM
S008	S008-2330	S008-2320	CMOM
S008	S008-2340	S008-2330	CMOM
S008	S008-2350	S008-2340	CIPP
S008	S008-2360	S008-2300	CMOM
S008	S008-2370	S008-2360	CMOM
S008	S008-2380	S008-2370	CMOM
S008	S008-2390	S008-2380	CMOM
S008	S008-2400	S008-2390	CMOM
S008	S008-2410	S008-2360	CMOM
S008	S008-2420	S008-2410	CMOM
S008	S008-2430	S008-2420	CMOM
S008	S008-2440	S008-2430	CMOM
S008	S008-2450	S008-2440	CMOM
S008	S008-2460	S008-2410	CMOM
S008	S008-2470	S008-2460	CMOM
S008	S008-2480	S008-2460	CMOM
S008	S008-2500	S008-1980	CMOM
S008	S008-2510	S008-2500	Pipe Burst
S008	S008-2530	S008-2520	Open Cut
S008	S008-3000	S008-0400	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-3010	S008-3000	CMOM
S008	S008-3020	S008-3010	Point Repair
S008	S008-3030	S008-3000	CMOM
S008	S008-3040	S008-3030	CMOM
S008	S008-3050	S008-3040	CMOM
S008	S008-4010	S008-0635	Open Cut
S008	S008-4020	S008-4010	CMOM
S008	S008-4030	S008-4020	CMOM
S008	S008-4035	S008-4030	CMOM
S008	S008-4100	S008-1080	CMOM
S008	S008-4100A	S008-4100	CMOM
S008	S008-4110	S008-4100A	CMOM
S008	EOL	S008-0960	Pipe Burst
S008	S008-0400	S008-0390	CMOM
S008	S008-0410	S008-0400	CMOM
S008	S008-0420	S008-0410	Pipe Burst
S008	S008-0460	S008-0080	CMOM
S008	S008-0470	S008-0460	CMOM
S008	S008-0480	S008-0470	Pipe Burst
S008	S008-0490	S008-0460	CMOM
S008	S008-0500	S008-0490	CMOM
S008	S008-0510	S008-0500	CMOM
S008	S008-0520	S008-0510	CMOM
S008	S008-0530	S008-0520	CMOM
S008	S008-0540	S008-0530	CMOM
S008	S008-0550	S008-0490	CMOM
S008	S008-0560	S008-0550	CMOM
S008	S008-0570	S008-0560	CMOM
S008	S008-0580	S008-0570	Pipe Burst
S008	S008-0590	S008-0580	CMOM
S008	S008-0600	S008-0590	CMOM
S008	S008-0610	S008-0570	CMOM
S008	S008-0650	S008-0648	CMOM
S008	S008-0660	S008-0650	Pipe Burst
S008	S008-0670	S008-0660	Pipe Burst
S008	S008-0690	S008-0660	Pipe Burst
S008	S008-0700	S008-0690	Pipe Burst
S008	S008-0710	S008-0700	CMOM
S008	S008-0720	S008-0710	Pipe Burst
S008	S008-0730	S008-0720	CMOM
S008	S008-0740	S008-0730	CMOM
S008	S008-0750	S008-0740	CMOM
S008	S008-0760	S008-0660	CMOM
S008	S008-0770	S008-0760	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-0770A	S008-0770	CMOM
S008	S008-0780	S008-0770A	CMOM
S008	S008-0790	S008-0780	CMOM
S008	S008-0800	S008-0790	CMOM
S008	S008-0810	S008-0800	CMOM
S008	S008-0820	S008-0810	CMOM
S008	S008-0840	S008-0760	CMOM
S008	S008-0850	S008-0840	CMOM
S008	S008-0860	S008-0850	Pipe Burst
S008	S008-0870	S008-0860	Pipe Burst
S008	S008-0880	S008-0870	Pipe Burst
S008	S008-0890	S008-0880	Pipe Burst
S008	S008-0900	S008-0850	CIPP
S008	S008-0910	S008-0790	CMOM
S008	S008-0910	S008-0900	CMOM
S008	S008-0920	S008-0910	CMOM
S008	S008-0930	S008-0920	Point Repair and Cleaning
S008	S008-0940	S008-0890	Open Cut
S008	S008-0950	S008-0940	Open Cut
S008	S008-0960	S008-0950	CMOM
S008	S008-0970	S008-0960	Pipe Burst
S008	S008-0980	S008-0970	Pipe Burst
S008	S008-0980	S008-0910	Point Repair
S008	S008-0990	S008-0930	Point Repair and Cleaning
S008	S008-1000	S008-0670	Point Repair
S008	S008-1005	S008-1000	Pipe Burst
S008	S008-1010	S008-1000	CMOM
S008	S008-1020	S008-1000	Point Repair
S008	S008-1030	S008-1020	CMOM
S008	S008-1040	S008-1030	CMOM
S008	S008-1093	S008-1090	Open Cut
S008	S008-1096	S008-1093	Open Cut
S008	S008-1100	S008-1096A	Open Cut
S008	S008-1110	S008-1100	CMOM
S008	S008-1115	S008-1110	Pipe Burst
S008	S008-1120	S008-1115	Pipe Burst
S008	S008-1130	S008-1100	CMOM
S008	S008-1135	S008-1130	Point Repair and Cleaning
S008	S008-1140	S008-1135	Pipe Burst
S008	S008-1170	S008-1160	CMOM
S008	S008-1173	S008-1170	CMOM
S008	S008-1175	S008-1173	CMOM
S008	S008-1180	S008-1170	CMOM
S008	S008-1210	S008-1200	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-1220	S008-1210A	CMOM
S008	S008-1230	S008-1220	Point Repair
S008	S008-1240	S008-1230	CMOM
S008	S008-1250	S008-1240	Pipe Burst
S008	S008-1252	S008-1250	CMOM
S008	S008-1254	S008-1252	CMOM
S008	S008-1256	S008-1254	CMOM
S008	S008-1260	S008-1250	CMOM
S008	S008-1270	S008-1260	CMOM
S008	S008-1280	S008-1270	Capacity Assessment
S008	S008-1290	S008-1280	Capacity Assessment
S008	S008-1300	S008-1290	Pipe Burst
S008	S008-1320	S008-1300	CMOM
S008	S008-1320A	S008-1320	Pipe Burst
S008	S008-1330	S008-1320	Point Repair and Cleaning
S008	S008-1340	S008-1330	CMOM
S008	S008-1350	S008-1320A	CMOM
S008	S008-1370	S008-1350	CMOM
S008	S008-1380	S008-1370	CMOM
S008	S008-1390	S008-1380	CMOM
S008	S008-1400	S008-1390	CMOM
S008	S008-1410	S008-1400	CIPP
S008	S008-1420	S008-1370	CMOM
S008	S008-1440	S008-1420	CMOM
S008	S008-1450	S008-1440	CMOM
S008	S008-1470	S008-1450	CMOM
S008	S008-1470A	S008-1470	CMOM
S008	S008-1480	S008-1470A	CMOM
S008	S008-1484	S008-1480	CMOM
S008	S008-1770	S008-1760	CMOM
S008	S008-1790	S008-1780	CMOM
S008	S008-1800	S008-1770	CMOM
S008	S008-1810	S008-1800	Open Cut
S008	S008-1850	S008-1840A	CMOM
S008	S008-1850A	S008-1850	CMOM
S008	S008-1860	S008-1850	CMOM
S008	S008-1870	S008-1860	CMOM
S008	S008-1880	S008-1870	CMOM
S008	S008-1890	S008-1880	CMOM
S008	S008-1900	S008-1890	CMOM
S008	S008-1910	S008-1890	CMOM
S008	S008-1920	S008-1910	CMOM
S008	S008-1930	S008-1880	CMOM
S008	S008-1940	S008-1930	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-1960	S008-1940	CMOM
S008	S008-1970	S008-1960	CMOM
S008	S008-1975	S008-1970	CMOM
S008	S008-1980	S008-1980A	CMOM
S008	S008-1990	S008-1980	CMOM
S008	S008-1990A	S008-1990	CMOM
S008	S008-2000	S008-1990	Open Cut
S008	S008-2005	S008-2000	CMOM
S008	S008-2010	S008-1990A	Point Repair
S008	S008-2020	S008-2010	Pipe Burst
S008	S008-2030	S008-2020	CMOM
S008	S008-2040	S008-2030	Open Cut
S008	S008-2050	S008-2030	Pipe Burst
S008	S008-2060	S008-2050	Open Cut
S008	S008-2070	S008-2060	Pipe Burst
S008	S008-2080	S008-2070	Pipe Burst
S008	S008-2090	S008-2030	Pipe Burst
S008	S008-2100	S008-2090	Open Cut
S008	S008-2110	S008-2090	CMOM
S008	S008-2120	S008-2110	Pipe Burst
S008	S008-2130	S008-2120	Open Cut
S008	S008-2140	S008-2130	Open Cut
S008	S008-2150	S008-2140	Open Cut
S008	S008-2160	S008-2090	Pipe Burst
S008	S008-2170	S008-2160	Pipe Burst
S008	S008-2180	S008-2170	Pipe Burst
S008	S008-2190	S008-2180	CMOM
S008	S008-2200	S008-2190	Pipe Burst
S008	S008-2209	S008-2200	CMOM
S008	S008-2210	S008-2209	CMOM
S008	S008-2220	S008-2210	CMOM
S008	S008-2240	S008-2190	CMOM
S008	S008-2250	S008-2240	Pipe Burst
S008	S008-2260	S008-2250	Open Cut
S008	S008-2270	S008-2260	CIPP
S008	S008-2290	S008-2160	CMOM
S008	S008-2300	S008-2290	CMOM
S008	S008-2310	S008-2300	CMOM
S008	S008-2320	S008-2310	CMOM
S008	S008-2330	S008-2320	CMOM
S008	S008-2340	S008-2330	CMOM
S008	S008-2350	S008-2340	CIPP
S008	S008-2360	S008-2300	CMOM
S008	S008-2370	S008-2360	CMOM

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S008	S008-2380	S008-2370	CMOM
S008	S008-2390	S008-2380	CMOM
S008	S008-2400	S008-2390	CMOM
S008	S008-2410	S008-2360	CMOM
S008	S008-2420	S008-2410	CMOM
S008	S008-2430	S008-2420	CMOM
S008	S008-2440	S008-2430	CMOM
S008	S008-2450	S008-2440	CMOM
S008	S008-2460	S008-2410	CMOM
S008	S008-2470	S008-2460	CMOM
S008	S008-2480	S008-2460	CMOM
S008	S008-2500	S008-1980	CMOM
S008	S008-2510	S008-2500	Pipe Burst
S008	S008-2530	S008-2520	Open Cut
S008	S008-3000	S008-0400	CMOM
S008	S008-3010	S008-3000	CMOM
S008	S008-3020	S008-3010	Point Repair
S008	S008-3030	S008-3000	CMOM
S008	S008-3040	S008-3030	CMOM
S008	S008-3050	S008-3040	CMOM
S008	S008-4010	S008-0635	Open Cut
S008	S008-4020	S008-4010	CMOM
S008	S008-4030	S008-4020	CMOM
S008	S008-4035	S008-4030	CMOM
S008	S008-4100	S008-1080	CMOM
S008	S008-4100A	S008-4100	CMOM
S008	S008-4110	S008-4100A	CMOM
S009	EOL	S009-1192	Open Cut
S009	S009-0030	S009-0020	CMOM
S009	S009-0040	S009-0030	Open Cut
S009	S009-0050	S009-0040	Open Cut
S009	S009-0070	S009-0050	Open Cut
S009	S009-0075	S009-0070	CMOM
S009	S009-0080	S009-0070	Pipe Burst
S009	S009-0082	S009-0080	CMOM
S009	S009-0084	S009-0082	CMOM
S009	S009-0086	S009-0080	CMOM
S009	S009-0088	S009-0082	CMOM
S009	S009-0090	S009-0085	CMOM
S009	S009-0105	S009-0095	CMOM
S009	S009-0110	S009-0105	CMOM
S009	S009-0115	S009-0100	CMOM
S009	S009-0120	S009-0115	Pipe Burst
S009	S009-0130	S009-0120	Pipe Burst

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S009	S009-0140	S009-0130	Pipe Burst
S009	S009-0150	S009-0140	Open Cut
S009	S009-0160	S009-0150	CMOM
S009	S009-0170	S009-0150	CMOM
S009	S009-0180	S009-0140	Pipe Burst
S009	S009-0190	S009-0180	Pipe Burst
S009	S009-0200	S009-0190	Open Cut
S009	S009-0210	S009-0200	Pipe Burst
S009	S009-0220	S009-0200	Pipe Burst
S009	S009-0230	S009-0190	Pipe Burst
S009	S009-0240	S009-0230	CMOM
S009	S009-0250	S009-0240	Open Cut
S009	S009-0260	S009-0250	CMOM
S009	S009-0270	S009-0260	Open Cut
S009	S009-0280	S009-0270	Open Cut
S009	S009-0290	S009-0230	CMOM
S009	S009-0300	S009-0290	CMOM
S009	S009-0310	S009-0300	Pipe Burst
S009	S009-0320	S009-0310	Pipe Burst
S009	S009-0340	S009-0330	Open Cut
S009	S009-0350	S009-0340	CMOM
S009	S009-0360	S009-0350	Open Cut
S009	S009-0370	S009-0360	Pipe Burst
S009	S009-0380	S009-0370	Open Cut
S009	S009-0390	S009-0380	CMOM
S009	S009-0400	S009-0350	Pipe Burst
S009	S009-0410	S009-0400	Pipe Burst
S009	S009-0420	S009-0410	CMOM
S009	S009-0430	S009-0420	Pipe Burst
S009	S009-0440	S009-0430	CMOM
S009	S009-0450	S009-0400	CMOM
S009	S009-0460	S009-0450	Open Cut
S009	S009-0470	S009-0460	Open Cut
S009	S009-0480	S009-0470	Pipe Burst
S009	S009-0490	S009-0480	Open Cut
S009	S009-0500	S009-0450	CMOM
S009	S009-0510	S009-0500	CMOM
S009	S009-0520	S009-0510	Open Cut
S009	S009-0530	S009-0520	Open Cut
S009	S009-0540	S009-0510	CMOM
S009	S009-0550	S009-0540	Pipe Burst
S009	S009-0560	S009-0540	CMOM
S009	S009-0570	S009-0560	CMOM
S009	S009-0580	S009-0570	Pipe Burst

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S009	S009-0590	S009-0580	CMOM
S009	S009-0600	S009-0590	Pipe Burst
S009	S009-0610	S009-0600	Pipe Burst
S009	S009-0620	S009-0610	CMOM
S009	S009-0630	S009-0610	CMOM
S009	S009-0640	S009-0330	Open Cut
S009	S009-0650	S009-0640	CMOM
S009	S009-0655	S009-0650	CMOM
S009	S009-0660	S009-0650	Open Cut
S009	S009-0670	S009-0660	CMOM
S009	S009-0680	S009-0670	Open Cut
S009	S009-0690	S009-0680	Open Cut
S009	S009-0700	S009-0680	CMOM
S009	S009-0710	S009-0670	Open Cut
S009	S009-0712	S009-0710	CMOM
S009	S009-0720	S009-0710	CMOM
S009	S009-0730	S009-1620	Open Cut
S009	S009-0740	S009-0730	Pipe Burst
S009	S009-0750	S009-0740	Open Cut
S009	S009-0760	S009-0712	CMOM
S009	S009-0785	S009-0780	Open Cut
S009	S009-0800	S009-0788	CMOM
S009	S009-0810	S009-0800	CMOM
S009	S009-0820	S009-0810	Pipe Burst
S009	S009-0830	S009-0820	Pipe Burst
S009	S009-0840	S009-0830	CMOM
S009	S009-0850	S009-0800	CMOM
S009	S009-0860	S009-0850	CMOM
S009	S009-0870	S009-0860	CMOM
S009	S009-0880	S009-0870	CMOM
S009	S009-0890	S009-0880	CMOM
S009	S009-0900	S009-0850	Pipe Burst
S009	S009-0910	S009-0900	Pipe Burst
S009	S009-0920	S009-0910	CMOM
S009	S009-0930	S009-0920	Pipe Burst
S009	S009-0940	S009-0900	CMOM
S009	S009-0950	S009-0940	CMOM
S009	S009-0960	S009-0950	Open Cut
S009	S009-0970	S009-0960	Open Cut
S009	S009-0980	S009-0970	CMOM
S009	S009-0990	S009-0800	CMOM
S009	S009-1000	S009-0990	CMOM
S009	S009-1010	S009-1000	Pipe Burst
S009	S009-1020	S009-1010	CMOM

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S009	S009-1030	S009-1020	CMOM
S009	S009-1040	S009-1030	CMOM
S009	S009-1050	S009-1030	CMOM
S009	S009-1060	S009-1050	CMOM
S009	S009-1070	S009-1050	CMOM
S009	S009-1080	S009-1070	CMOM
S009	S009-1090	S009-1020	CMOM
S009	S009-1100	S009-1090	Open Cut
S009	S009-1110	S009-1100	Open Cut
S009	S009-1120	S009-1110	CMOM
S009	S009-1130	S009-1120	CMOM
S009	S009-1140	S009-1130	Pipe Burst
S009	S009-1150	S009-1120	CMOM
S009	S009-1160	S009-1150	CMOM
S009	S009-1170	S009-1160	CMOM
S009	S009-1175	S009-0100	CMOM
S009	S009-1180	S009-1175	CMOM
S009	S009-1190	S009-1180	CMOM
S009	S009-1192	S009-1190	CMOM
S009	S009-1200	S009-1190	Open Cut
S009	S009-1210	S009-1200	CMOM
S009	S009-1220	S009-1210	CMOM
S009	S009-1230	S009-1220	CMOM
S009	S009-1240	S009-1200	CMOM
S009	S009-1285	S009-1280	CMOM
S009	S009-1300	S009-1290	Open Cut
S009	S009-1310	S009-1300	CMOM
S009	S009-1320	S009-1310	CMOM
S009	S009-1330	S009-1300	CMOM
S009	S009-1331	S009-1330	Pipe Burst
S009	S009-1340	S009-1330	Pipe Burst
S009	S009-1350	S009-1290	CMOM
S009	S009-1360	S009-1350	Open Cut
S009	S009-1370	S009-1360	Open Cut
S009	S009-1400	S009-1390	Open Cut
S009	S009-1410	S009-1350	CMOM
S009	S009-1420	S009-1410	Open Cut
S009	S009-1430	S009-1420	Pipe Burst
S009	S009-1440	S009-1430	Open Cut
S009	S009-1450	S009-1440	Open Cut
S009	S009-1460	S009-1410	Open Cut
S009	S009-1470	S009-1460	Pipe Burst
S009	S009-1480	S009-1470	Open Cut
S009	S009-1490	S009-1460	Pipe Burst

Sewer Line Rehabilitation Recommendations

Sub-Basin	Upstream Manhole	Downstream Manhole	Rehabilitation Action
S009	S009-1500	S009-1490	Open Cut
S009	S009-1510	S009-1500	CMOM
S009	S009-1520	S009-1510	Open Cut
S009	S009-1530	S009-1500	Open Cut
S009	S009-1540	S009-1530	Open Cut
S009	S009-1550	S009-1530	Open Cut
S009	S009-1560	S009-1530	Pipe Burst
S009	S009-1570	S009-1560	Open Cut
S009	S009-1580	S009-1570	Open Cut
S009	S009-1585	S009-1580	Pipe Burst
S009	S009-1590	S009-1560	Pipe Burst
S009	S009-1600	S009-1590	Pipe Burst
S009	S009-1610	S009-1600	Open Cut
S009	S009-1620	S009-0720	CMOM

Attachment 4
Hydraulic Model Update Report

REPORT

Hydraulic Model Update

I certify, approve, and seal the following documents and all attachments thereto, in accordance with, and under penalty of, Arkansas State law and federal law as a licensed engineer in the State of Arkansas.

City of Fort Smith

March 2017

CDM Smith

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Section 1
Introduction

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Among other stipulations, the City is required to assess the capacity of the WCTS through use of an updated hydraulic model, to identify capacity constraints that may lead to sanitary sewer overflows (SSOs), and to develop capacity-related remedial measures to address those constraints.

As described in Article 4 of the Consent Decree, the City is required to submit a *Hydraulic Model Update Report* no later than March 31, 2017. The requirements of that work are briefly summarized below:

- Use of XPSWMM by XP Solutions or an alternative platform as the software platform for the hydraulic model;
- Include all pump stations, all force mains, all equalization facilities, and all gravity sewers 10-inches and larger in diameter in the hydraulic model;
- Include at least one pipe segment upstream of the locations of recurring wet weather SSOs in the hydraulic model;
- Update, calibrate, and verify the hydraulic model using currently accepted engineering procedures and, to the extent practical, the general guidelines established in the *Code of Practice for Hydraulic Modeling of Sewer Systems, Version 3.001* (December 2002 by the Chartered Institution of Water and Environmental Management (CIWEM), formerly Wastewater Planning Users Group (WaPUG)); and
- Calibrate and verify the hydraulic model utilizing not less than three sets of data.

In addition to using the *Code of Practice for Hydraulic Modeling of Sewer Systems, Version 3.001* for guidance, the *Hydraulic Model Update Report* also used EPA's *Computer Tools for Sanitary Sewer System Capacity Analysis and Planning* (October 2007) for further guidance.

1.1 Wastewater Collection & Transmission System

The City's WCTS system consists of approximately 530 miles of gravity main, 25 miles of force main, and 23 pump stations, which flow to two wastewater treatment plants (WWTPs) – the P Street WWTP and the Massard WWTP.

Figure 1-1 illustrates the six major areas of the WCTS delineated for the purposes of model development and analysis: Massard, Mill Creek, P Street, Pump Station 5, Sunnymede, and Zero Street. The Mill Creek, P Street, and Pump Station 5 areas flow into the P Street WWTP, while the Massard and Sunnymede areas flow to the Massard WWTP. The Zero Street area typically flows

to the Massard WWTP, although the City also has the capability of diverting up to 1 million gallons per day (mgd) to the P Street WWTP via the Mill Creek system.

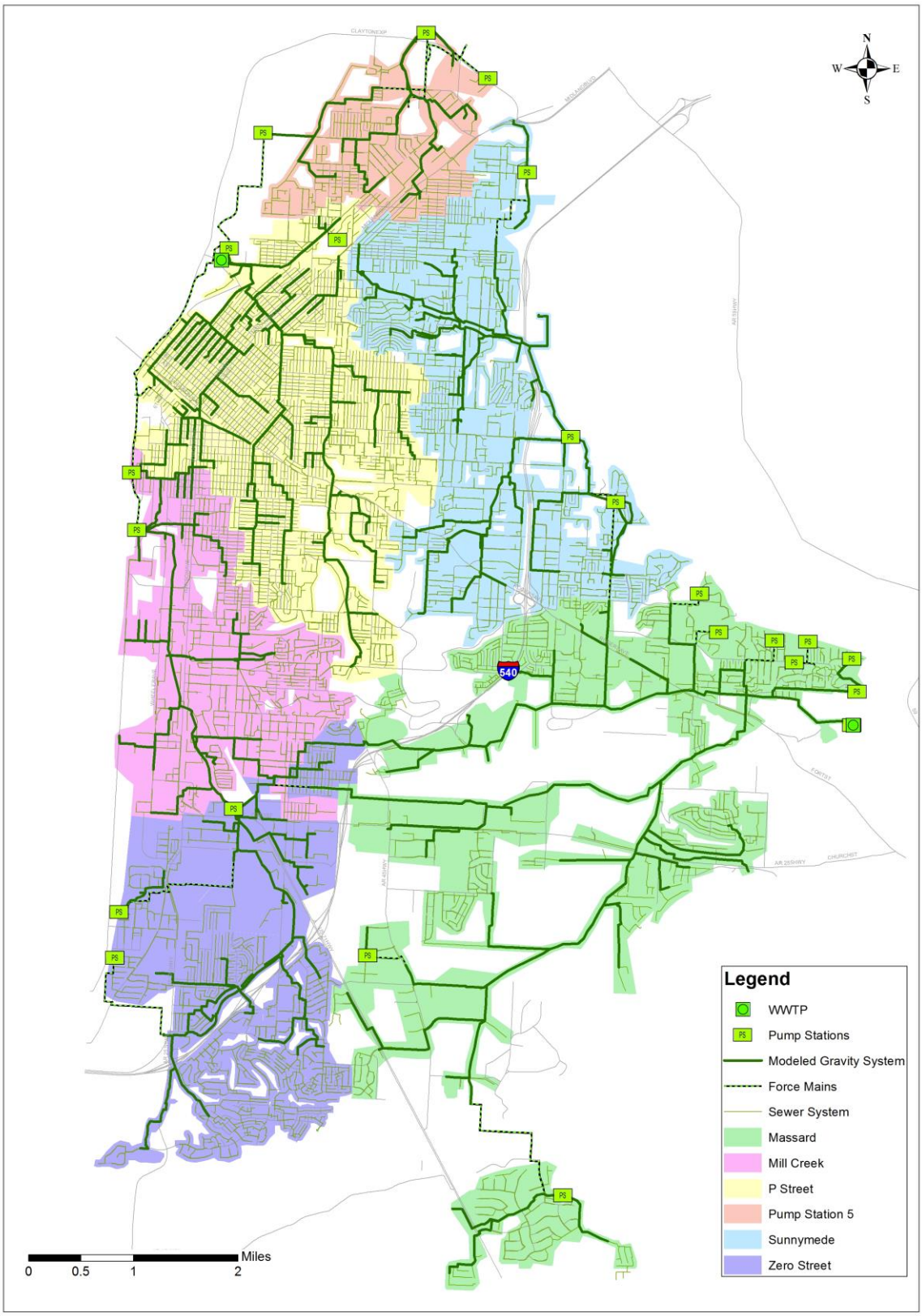

Figure 1-1 Overview of WCTS

1.2 Project Approach

The collection system hydrologic and hydraulic modeling was conducted using the XPSWWM software by XP Solutions. Model development consisted of three major parts: expansion of the previous hydraulic model to include additional sewers and pump stations, development of the dry weather flow and hydrologic model to generate system flows, and calibration of the overall collection system model. The dry weather flow model generates the amounts of sanitary sewage and groundwater infiltration (GWI) while the hydrologic (or wet weather flow) model predicts the rainfall dependent infiltration and inflow (RDII) produced by each delineated load area in the collection system service area. These flows are based on observed flow monitoring data.

The flow routing in the sewers is based on the fully complete Saint-Venant equations describing the free surface flow of a fluid in a closed conduit or an open channel. The hydraulic model requires sufficient physical data to describe the system. This physical data includes manhole ground elevations, sewer pipe diameters, pipe invert elevations, pipe roughness coefficients, and pump configuration, capacity, and operation data. The updated hydraulic model also includes equalization facilities within the WCTS that were in operation at the time of the temporary flow monitoring.

The approach to developing and updating the WCTS model consisted of collecting and reviewing the system infrastructure data, constructing the flow models, and constructing the hydraulic model. Once constructed, the model was calibrated to approximate monitored flow collected during 2013 and 2014. The hydraulic model was updated and calibrated to the general guidelines established in the *Code of Practice for the Hydraulic Modeling of Sewer Systems Version 3.001*, December 2002, prepared by CIWEM.

1.3 Organization of Report

This *Hydraulic Model Update Report* is organized into four sections as listed below. These document the background, the hydraulic model development, methodologies for analysis of wastewater flows, and calibration of the hydraulic model.

- Section 1 – Introduction
- Section 2 – Hydraulic Model Development
- Section 3 – Wastewater Flow Analysis
- Section 4 – Hydraulic Model Calibration

In addition to the *Hydraulic Model Update Report*, the City is required to submit a *Capacity Assessment Report* by March 31, 2018, and a *Capacity Remedial Measures Plan* by March 31, 2019. Those reports will identify locations of capacity-related constraints in the WCTS and will present remedial measures to address those constraints.

Section 2
Model Development

In addition to parameters to simulate wastewater flows and rainfall response, the hydraulic model consists of collection system infrastructure – manholes, pipe segments, pump stations. etc. For the purposes of evaluating system capacity, a skeletonized model of the system infrastructure has been used, including only critical system components and pipes that are 10 inches in size or greater.

This section discusses the development and expansion of the hydraulic model, utilizing infrastructure data provided by the City of Fort Smith.

2.1 History of Fort Smith Model

Originally, a steady-state model of the City's wastewater transmission system was developed as part of the 1993 *Wastewater Management Plan.* Subsequently, the City elected to develop a skeletonized, dynamic model of its sewer system using the XPSWMM software platform by XP Solutions, beginning in 2005. This work, conducted in 2005-2007, resulted in a calibrated hydraulic model typically containing sewers greater than 10 inches in diameter and major pump stations. This model was then used to assess the system's capacity under a one-year design storm and to validate recommendations made in the 1993 *Wastewater Management Plan*. The results of this effort were documented in four reports entitled *Sunnymede Sewer Basin Study* (August 2005), *P Street Sewer Basin Study* (October 2006), *Mill Creek, Zero Street, and Massard Sewer Basins Study* (October 2006), and *Pump Station 5 Sewer Basin Study* (February 2007).

In May of 2007, an additional report was prepared entitled *Wastewater Collection System Model Results 5-year, 24-hour Design Storm*. This report documented the additional improvements necessary to convey the larger design storm and was used in comparing affordability between the one-year and five-year storm events.

The dynamic hydraulic model developed in 2005-2007 has been regularly used by the City as a planning tool for the evaluation of proposed and constructed improvements. In order to continue to confirm that the model represents current conditions, periodic review of the modeled infrastructure (pipe diameters, pump station capacities, etc.) relative to recently constructed improvements was conducted. Adjustments to flow parameters were made only when additional flow monitoring data were available. Specific examples of the refinement and use of the hydraulic model since 2007 include the following:

- In 2010, the hydraulic model of the Sunnymede Basin was revised to reflect construction of six major interceptor sewer projects and the Sunnymede Basin Wet Weather Improvements.
- In 2010, additional wastewater flow and rainfall data were gathered within the Zero Street wastewater collection system. The datasets were utilized to adjust the dry weather and wet weather parameters included in the Zero Street Basin hydraulic model. Following those

updates, the model was used to analyze the design of three proposed interceptor sewer projects intended to convey peak design flows to the Zero Street wastewater pump station. The resulting model was also utilized to size the Zero Street Wet Weather Improvements. The results of this study were documented in a memorandum report dated December 10, 2010.

- In 2012, the City contracted for a sewer system evaluation study of the wastewater collection system within Basin 17, which includes the Riverlyn Pump Station. Included in the recommendations of the August 2013 final report was the preparation of a hydraulic model to determine if piping restrictions were contributing to wet weather overflows that have historically been documented within the basin. Because the previous hydraulic model did not extend into this portion of the collection system, the City authorized the consultant to prepare the model, analyze the performance of the existing system under both dry and wet weather conditions, and to make recommendations on improvements, including the wastewater lift station (Riverlyn) serving this basin. That work was completed in early 2014.

As noted, the City has continued to update and maintain the hydraulic model to reflect improvements in the system and to utilize the model as a tool to assess proposed infrastructure improvements prior to construction.

2.2 Consent Decree Model Update

In addition to requiring a review and update of the flow parameters, the Consent Decree requires that the existing skeletonized, hydraulic model be expanded to include additional pipe segments. This includes at least one pipe segment upstream of the locations of recurring wet weather SSOs (as defined from overflow data through 2014) and all gravity sewers 10-inches or larger in diameter. Combined, this resulted in a model expansion of approximately 49 miles, or an increase in the modeled system by approximately 60 percent. Pump stations downstream of sewers 10-inches or greater in diameter were also explicitly modeled along with their associated force mains. Contributions from the remaining pump stations are accounted for in the model, although are not explicitly modeled. These stations are typically less than 1 mgd in capacity, and assessment of their capacity is included in the *Pump Station / Force Main Evaluation Report*, which is currently under development.

2.3 Model Infrastructure

While updating the hydraulic model to meet the Consent Decree requirements, several sources of data were utilized to describe the infrastructure included in the model. These include the following data sources provided by the City:

- As-built drawings;
- CAD mapping;
- Pump curves; and
- Pump on/off settings.

Limited surveying was also performed in September 2015 to support the model expansion associated with recurring wet weather overflows. Infrastructure represented in the previous version of the model, which was provided by the City at the time of the original model development or subsequent updates, was assumed correct and largely remained unchanged.

The resulting hydraulic model includes approximately 132 miles of gravity sewer, 2910 manholes, 13 pump stations, and 16 miles of force mains. The modeled system is shown as **Figure 2-1**. **Table 2-1** includes the distribution of gravity sewer by diameter, and **Table 2-2** includes the pump stations that were explicitly modeled.

Table 2-1 Modeled Gravity Sewer System Distribution by Diameter

Pipe Diameter	Length (Feet)
Less than 10-inch	72,296
10-inch	215,859
12-inch	89,230
14- to 16-inch	59,546
18-inch	80,732
20- to 22-inch	39,971
24-inch	46,478
27-inch	6,408
30-inch	43,092
36-inch	32,917
42-inch	2,139
48-inch	8,079
60-inch	892

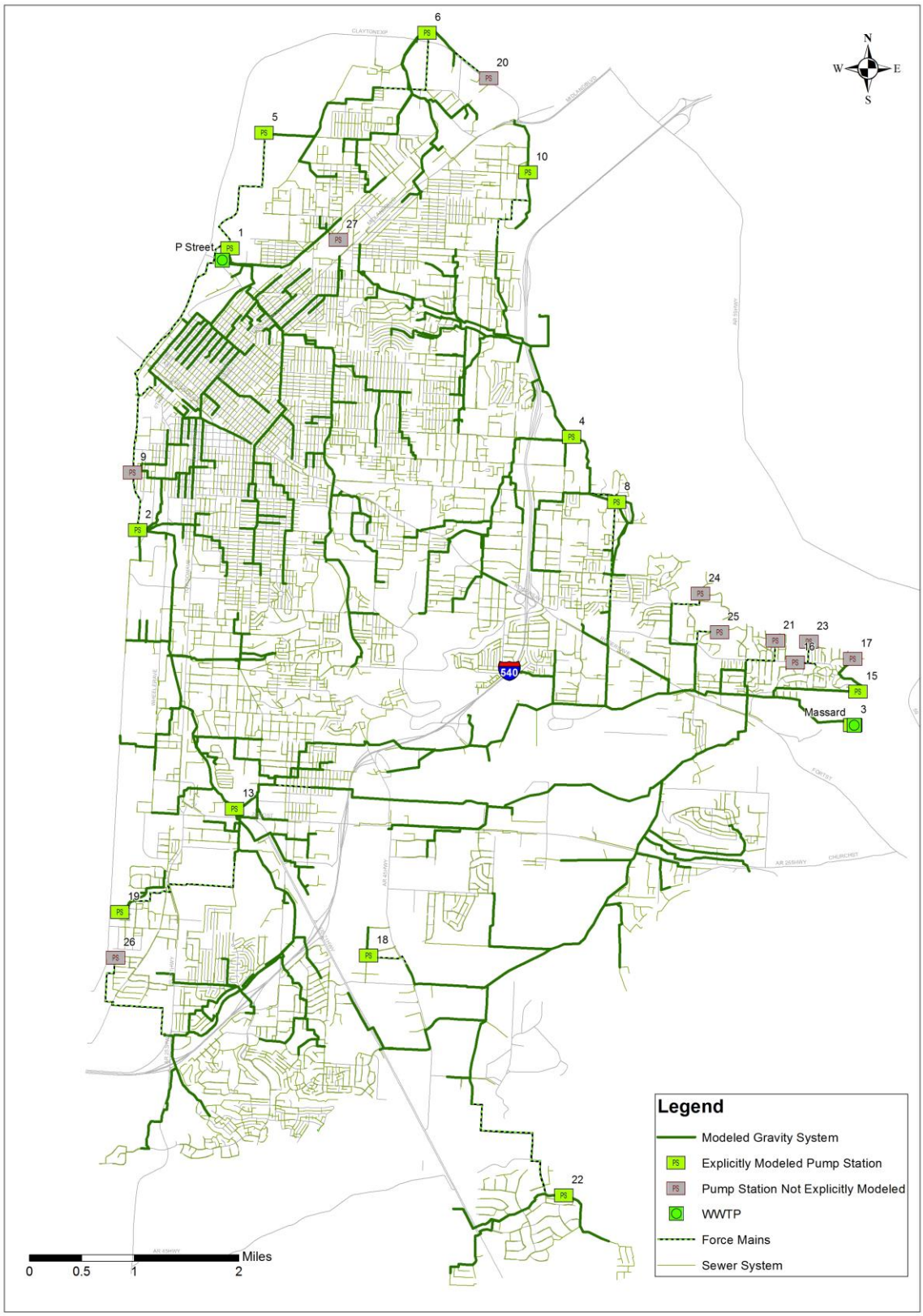

Figure 2-1 Modeled WCTS

Table 2-2 Modeled Pump Stations

Pump Station Number	Pump Station Name	Number of Pumps	Rated Capacity Per Pump[1]
1	P Street	2 Dry Weather 3 Wet Weather	6,000 gpm (2 pumps) 12,030 gpm (3 pumps)
2	Mill Creek[2]	2 Dry Weather 3 Wet Weather	3,472 gpm (2 pumps) 7,812 gpm (3 pumps)
3	Massard	3	8,900 gpm
4	Sunnymede	3 Dry Weather 3 Wet Weather	4,000 gpm (3 pumps) 8,500 gpm (3 pumps)
5	Walnut	3	4,250 gpm (2 pumps) 4,000 gpm (1 pump
6	Riverfront	2	3,500 gpm
8	Riverlyn	3	400 gpm (2 pumps) 550 gpm (1 pump)
10	Plum Street	2	600 gpm
13	Zero Street	2 Dry Weather 3 Wet Weather	2,083 gpm (2 pumps) 5,972 gpm (3 pumps)
15	Hunter's Point	2	450 gpm
18	Ball Road[3]	3	788 gpm (2 pumps) 750 gpm (1 pump)
19	Candle Stick	2	1,000 gpm
22	Riley Farms	2	365 gpm

1. Unless otherwise noted, pump capacities were taken from performance curves and historical data provided by the city.
2. Information shown includes the completed Mill Creek EQ Basin and Pump Station project.
3. A rated capacity was only available for pump #3 (750 gpm); drawdown testing by Hawkins-Weir estimated an average capacity of 788 gpm for pumps #1 and #2.

A majority of the infrastructure added in order to meet the Consent Decree requirements was provided by the City in a CAD database or through record drawings. Some assumptions or interpolations were necessary where data was missing. Approximately 79 percent of the invert elevations for modeled gravity pipe were available through the previous model, the CAD database, record drawings, or recent surveying of the Fort Smith system. Since the available data covered most of the major interceptors, the remaining unknown inverts were interpolated or assumed to have minimum slopes to maintain a velocity of 2 feet per second when flowing full. Additionally, manhole rim elevations were assumed to match ground surface elevations obtained from available Lidar data. Although these are reasonable assumptions, potential inaccuracies could be introduced in the model, especially locally, because of this. Table 2-3 shows the extent of assumptions required in the model.

The City intends to periodically review and update the infrastructure in the hydraulic model as additional data becomes available, including surveying conducted as part of the Sewer System Assessment (SSA) work required by the Consent Decree.

Table 2-3 Collection System Data by Source

Component	Previous Model	Survey	CAD from City	As-builts	Interpolated/ Assumed/ Lidar Data[1]
Manhole Invert Elevation	63%	2%	8%	6%	21%
Gravity Pipe Diameter	64%	>1%	34%	2%	0%
Manhole Rim Elevation	63%	2%	8%	6%	21%
Force Main Pipe Diameters	64%	0%	36%	0%	0%

1. Lidar data was obtained through the Unites States Department of Agriculture Natural Resources Conservation Service

Contributions from portions of the system that are not explicitly represented in the model are accounted for in the load areas. The load areas are the sewered areas that generate wastewater flows and wet weather flows; these were developed using sewer mapping and aerial photography. The flow generated from each load area is loaded to a single manhole in the model.

Section 3
Flow Monitoring and Rainfall Data Collection

Rainfall and flow monitoring data collected through the WCTS during three temporary monitoring periods provides a basis for understanding both dry weather and wet weather flow conditions. Data collected during the temporary monitoring periods is described in this section.

3.1 Temporary Flow Monitoring Studies

The City, through a contract with RJN Group, Inc. (RJN), conducted three temporary flow monitoring studies between October 2013 and December 2014, as follows:

- Fall 2013: During the Fall 2013 flow monitoring study, 45 flow monitors and nine rain gauges were installed in the WCTS from October through December 2013. The monitors were primarily located in the P Street, Sunnymede, and Zero Street areas, although individual meters were located in other areas. The data collection and preliminary analysis is described in the *Technical Memorandum 2013 Flow Monitoring*, submitted to the City on May 30, 2014.
- Spring 2014: During the Spring 2014 flow monitoring study, 11 flow monitors and three rain gauges were installed in the WCTS from April through July 2014. The monitors were primarily located in the Pump Station 5 area, with one meter located in the Sunnymede area. The data collection and preliminary analysis is described in the *Technical Memorandum 2014 Flow Monitoring*, submitted to the City on February 20, 2015.
- Fall 2014: During the Fall 2014 flow monitoring study, 34 flow monitors and eight rain gauges were installed in the WCTS from September through December 2014. The monitors were primarily located in the Mill Creek and Massard areas, although individual meters were located in other areas. The data collection and preliminary analysis is described in the *Technical Memorandum Fall 2014 Flow Monitoring*, submitted to the City on February 20, 2015.

Figure 3-1 shows the locations of flow monitors and rain gauges during each of the temporary flow monitoring periods. In general, temporary flow monitors were not reinstalled in locations previously monitored, although in some instances monitors were reinstalled when the original monitoring period produced poor quality or no data.

During the three temporary monitoring periods, monitors were numbered sequentially beginning with FS-01 for each temporary monitoring period. In order to better manage the flow monitoring data through analysis and model calibration, an alternative flow monitor identification number was assigned. These are included in **Table 3-1** along with the manhole number, the pipe diameter, and the timeframe the monitor was installed. For each flow monitor, any additional flow monitors installed upstream are also listed in Table 3-1. Table 3-1 also provides a summary of the sewered area upstream of each flow monitor and the length of sewer in the area. Note that the area and sewer length values represent only the incremental area, or the area between flow

monitors. For flow monitor locations with no upstream monitors, these represent the total upstream sewered area and length of sewer. When upstream monitors are noted, these values represent only the portion of the system that are unique to the monitor and not included in the areas or lengths of upstream monitors.

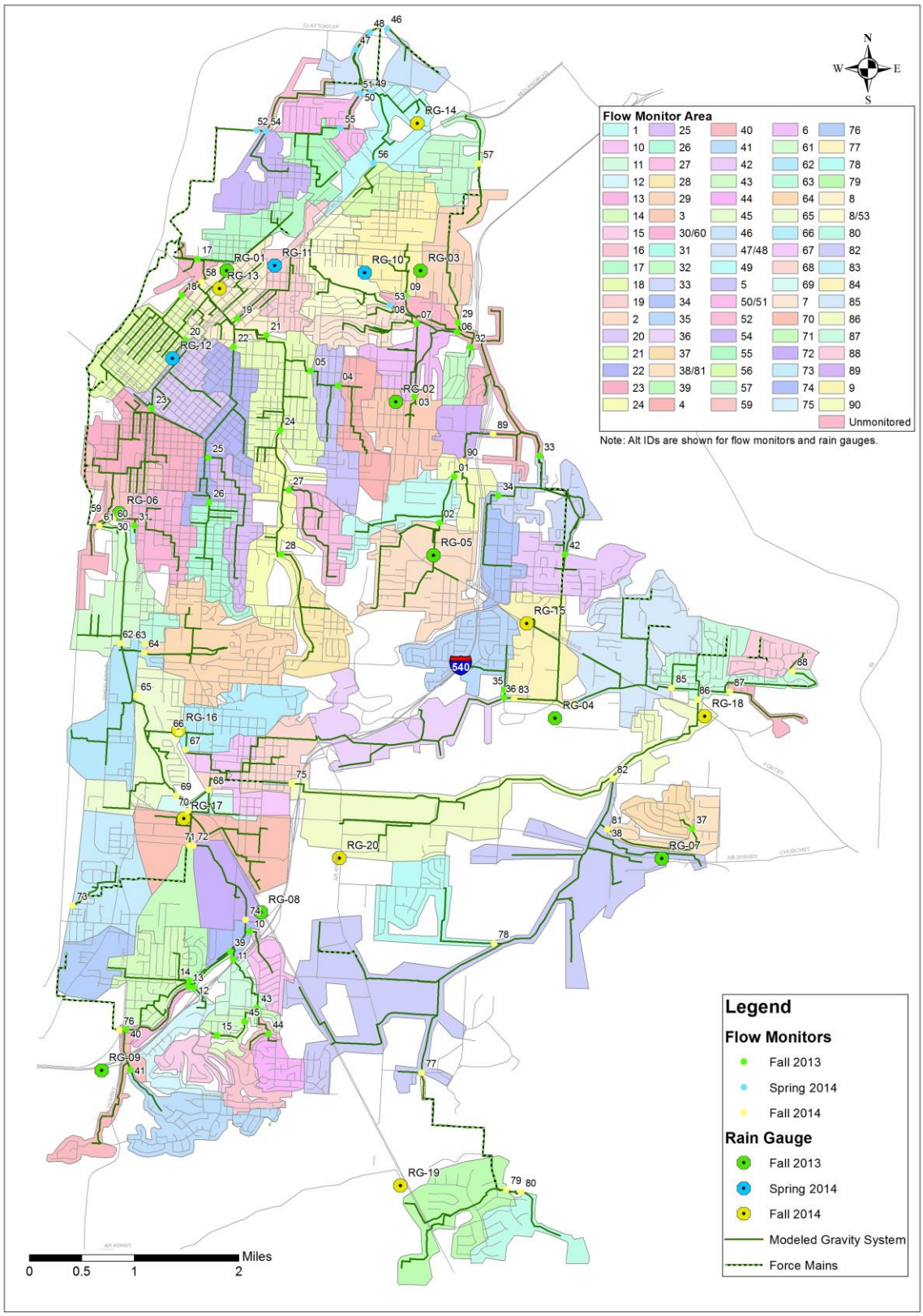

Figure 3-1 Flow Monitor and Rain Gauge Locations

Table 3-1 Flow Monitor Characteristics

Monitor ID	Manhole	Metering Period	Dates Active	Alt Monitor ID	Pipe Diameter at Meter (in)	Upstream Meters	Sewered Area (ac)[1]	Length of Pipe Upstream (mi)[1]
FS-01	S003-3360	Fall 2013	10/3/2013 – 12/2/2013	1	30	2	259	6
FS-02	S003-3490	Fall 2013	10/3/2013 – 12/2/2013	2	24	None	543	11.1
FS-03	S006-2820	Fall 2013	10/3/2013 – 12/2/2013	3	18	None	310	7.4
FS-04	P007-1280	Fall 2013	10/3/2013 – 12/2/2013	4	12	None	240	5.9
FS-05	P007-0080	Fall 2013	10/3/2013 – 12/2/2013	5	18	4	271	7.5
FS-06	S006-2580	Fall 2013	10/3/2013 – 12/2/2013	6	24	3, 7	217	6.4
FS-07	S007-0070	Fall 2013	10/3/2013 – 12/2/2013	7	18	None	177	5.8
FS-08	S008-0550	Fall 2013	10/3/2013 – 12/2/2013	8	12	None	348	9.3
FS-09	S008-0360	Fall 2013	10/3/2013 – 12/2/2013	9	18	None	366	9
FS-10	Z003-0020	Fall 2013	10/3/2013 – 12/2/2013	10	10	None	125	3.3
FS-11	Z003-1040	Fall 2013	10/3/2013 – 12/2/2013	11	15	43	106	2.3
FS-12	Z007-0020	Fall 2013	10/3/2013 – 12/2/2013	12	10	None	153	3.9
FS-13	Z006-3010	Fall 2013	10/3/2013 – 12/2/2013	13	18	40	47	1.3
FS-14	Z006-0510	Fall 2013	10/3/2013 – 12/2/2013	14	18	None	308	9
FS-15	Z005-0470	Fall 2013	10/3/2013 – 12/2/2013	15	8	None	129	3.6
FS-16	Z004-0040	Fall 2013	10/3/2013 – 12/2/2013	16	12	44	148	4.7
FS-17	P001-0080	Fall 2013	10/3/2013 – 12/2/2013	17	18	None	200	6.6
FS-18	P002-0130	Fall 2013	10/3/2013 – 12/2/2013	18	30	20	378	10.1
FS-19	P004-0170	Fall 2013	10/3/2013 – 12/2/2013	19	12	None	226	6
FS-20	P002-2130	Fall 2013	10/3/2013 – 12/2/2013	20	24	23	267	7.5
FS-21	P005-0110	Fall 2013	10/3/2013 – 12/2/2013	21	24	5, 24	471	13.9
FS-22	P005-0840	Fall 2013	10/3/2013 – 12/2/2013	22	21	25, 26	343	10.9
FS-23	P011-0050	Fall 2013	10/3/2013 – 12/2/2013	23	21	None	387	9.2
FS-24	P008-1840	Fall 2013	10/3/2013 – 12/2/2013	24	15	27, 28	372	9.8

Monitor ID	Manhole	Metering Period	Dates Active	Alt Monitor ID	Pipe Diameter at Meter (in)	Upstream Meters	Sewered Area (ac)[1]	Length of Pipe Upstream (mi)[1]
FS-25	P006-1550	Fall 2013	10/3/2013 – 12/2/2013	25	21	None	213	6.2
FS-26	P006-0330	Fall 2013	10/3/2013 – 12/2/2013	26	15	None	218	6
FS-27	P008-2460	Fall 2013	10/3/2013 – 12/2/2013	27	12	None	194	4.5
FS-28	P009-1200	Fall 2013	10/3/2013 – 12/2/2013	28	12	None	258	6.8
FS-29	S005-0140	Fall 2013	10/3/2013 – 12/2/2013	29	18	57	300	6.6
FS-30	MC02-0040	Fall 2013	10/3/2013 – 12/2/2013	30	18	31	261	6.7
FS-31	MC02-0110	Fall 2013	10/3/2013 – 12/2/2013	31	8	None	5	.1
FS-32	S002-1440	Fall 2013	10/3/2013 – 12/2/2013	32	12	None	78	2.1
FS-33	S001-0017	Fall 2013	10/3/2013 – 12/2/2013	33	24	34, 42	110	6.7
FS-34	S001-0510	Fall 2013	10/3/2013 – 12/2/2013	34	15	None	189	3.9
FS-35	M007-0010	Fall 2013	10/3/2013 – 12/2/2013	35	12	None	346	9.5
FS-36	M005-0190	Fall 2013	10/3/2013 – 12/2/2013	36	24	None	417	6.0
FS-37	SK01-1320	Fall 2013	10/3/2013 – 12/2/2013	37	8	None	155	3.9
FS-38	SK01-1060	Fall 2013	10/3/2013 – 12/2/2013	38	12	37	161	3.4
FS-39	Z006-2890	Fall 2013	10/3/2013 – 12/2/2013	39	30	12, 13, 14	74	2.2
FS-40	Z006-2810	Fall 2013	10/3/2013 – 12/2/2013	40	15	41, 76	152	3.0
FS-41	Z008-0170	Fall 2013	10/3/2013 – 12/2/2013	41	10	None	328	8.9
FS-42	RL01-0680	Fall 2013	10/3/2013 – 12/2/2013	42	10	None	323	8.7
FS-43	Z003-1510	Fall 2013	10/3/2013 – 12/2/2013	43	12	16, 45	75	2.0
FS-44	Z004-0220	Fall 2013	10/3/2013 – 12/2/2013	44	8	None	126	4.2
FS-45	Z005-0200	Fall 2013	10/3/2013 – 12/2/2013	45	8	15	37	1.2
FS-01	FL01-1930	Spring 2014	4/266/2014-7/13/2014	46	24	None	108	0.9
FS-02	FL01-0050	Spring 2014	4/26/2014-7/13/2014	47	18	49, 50, 51	114	3.6
FS-03	FL01-2020	Spring 2014	4/26/2014-7/13/2014	48	24	49, 50, 51	114	3.6

Monitor ID	Manhole	Metering Period	Dates Active	Alt Monitor ID	Pipe Diameter at Meter (in)	Upstream Meters	Sewered Area (ac)[1]	Length of Pipe Upstream (mi)[1]
FS-04	FL01-0008	Spring 2014	4/262014-7/13/2014	49	16	56	305	5.7
FS-05	FL01-0230	Spring 2014	4/26/2014-7/13/2014	50	15	55	179	4.7
FS-06	FL01-0390	Spring 2014	4/26/2014-7/13/2014	51	18	55	179	4.7
FS-07	W001-0070	Spring 2014	4/26/2014-7/13/2014	52	30	46, 47, 48, 54	46	1.3
FS-08	S008-0550	Spring 2014	4/26/2014-7/13/2014	53	18	None	348	9.3
FS-09	W001-0080	Spring 2014	4/26/2014-7/13/2014	54	12	None	249	6.8
FS-10	FL01-1140	Spring 2014	4/26/2014-7/13/2014	55	10	None	164	4.5
FS-11	FL02-0810	Spring 2014	4/26/2014-7/13/2014	56	10	None	158	4.0
FS-01	PL01-0010	Fall 2014	9/25/2014 – 12/1/2014	57	10	None	206	5.0
FS-02	P003-0010	Fall 2014	9/25/2014 – 12/2/2014	58	30	19, 21, 22	321	9.5
FS-03	MC01-0430	Fall 2014	9/25/2014 – 12/2/2014	59	21	None	165	3.7
FS-04	MC02-0040	Fall 2014	9/25/2014 – 12/2/2014	60	18	31	261	6.7
FS-05	MC03-0001	Fall 2014	9/25/2014 – 12/2/2014	61	30	62	339	5.2
FS-06	MC04-0020	Fall 2014	9/25/2014 – 12/1/2014	62	27	63, 64, 65	113	2.9
FS-07	MC05-0090	Fall 2014	9/25/2014 – 12/1/2014	63	8	None	50	1.2
FS-08	MC05-0341	Fall 2014	9/25/2014 – 12/1/2014	64	21	None	594	17.2
FS-09	MC06-0010	Fall 2014	9/25/2014 – 12/2/2014	65	18	66, 69	736	14.0
FS-10	MC07-0010	Fall 2014	9/25/2014 – 12/2/2014	66	18	67	316	7.8
FS-11	MC08-0015	Fall 2014	9/25/2014 – 12/2/2014	67	12	None	186	4.6
FS-12	Z001-0050	Fall 2014	9/25/2014 – 12/2/2014	68	10	None	273	6.2
FS-13	MC06-1890	Fall 2014	9/25/2014 – 12/2/2014	69	18	68, 70	89	1.8
FS-14	Z001-0752	Fall 2014	9/25/2014 – 12/2/2014	70	36	71, 72	468	6.0
FS-15	Z002-0020	Fall 2014	9/25/2014 – 12/2/2014	71	12	73	188	2.0
FS-16	Z002-0380	Fall 2014	9/25/2014 – 12/2/2014	72	30	74	258	2.3

Monitor ID	Manhole	Metering Period	Dates Active	Alt Monitor ID	Pipe Diameter at Meter (in)	Upstream Meters	Sewered Area (ac)[1]	Length of Pipe Upstream (mi)[1]
FS-17	CS01-0020	Fall 2014	9/25/2014 – 12/2/2014	73	15	None	463	7.4
FS-18	Z002-0550	Fall 2014	9/25/2014 – 12/2/2014	74	30	10, 11, 39	80	1.6
FS-19	M002-1370	Fall 2014	9/25/2014 – 12/2/2014	75	21	68, 70	7	6.5
FS-20	Z006-2830	Fall 2014	9/25/2014 – 12/1/2014	76	12	None	212	4.0
FS-21	LF01-0140	Fall 2014	9/25/2014 – 12/2/2014	77	18	79, 80	6	0.3
FS-22	M003-0695	Fall 2014	9/25/2014 – 12/2/2014	78	10	None	304	6.5
FS-23	RF01-2750	Fall 2014	9/25/2014 – 12/2/2014	79	18	None	437	8.3
FS-24	RF01-1210	Fall 2014	9/25/2014 – 12/2/2014	80	10	None	189	3.8
FS-25	SK01-1060	Fall 2014	9/25/2014 – 12/2/2014	81	12	37	161	3.4
FS-26	M003-0005	Fall 2014	9/25/2014 – 12/2/2014	82	30	38, 77, 78, 81	1490	20.7
FS-27	M005-0180	Fall 2014	9/25/2014 – 12/1/2014	83	30	35, 36	6	0.3
FS-28	M004-0730	Fall 2014	9/23/2014 – 12/1/2014	84	36	6, 9, 29, 32, 33, 64, 83, 89	380	6.8
FS-29	M001-0920	Fall 2014	9/25/2014 – 12/2/2014	85	36	84	660	11.8
FS-30	M002-0010	Fall 2014	9/23/2014 – 12/1/2014	86	36	75, 82	976	13.1
FS-31	M001-0090	Fall 2014	9/25/2014 – 12/2/2014	87	48	85, 86, 88	310	8.9
FS-32	HP01-0150	Fall 2014	9/25/2014 – 12/2/2014	88	10	None	157	3.4
FS-33	S002-0230	Fall 2014	9/25/2014 – 12/2/2014	89	30	90	128	2.0
FS-34	S002-2160	Fall 2014	9/25/2014 – 12/2/2014	90	30	1	136	2.6

1. These values listed are incremental for each flow monitor

3.2 Summary of Rainfall Data

As noted, the temporary flow monitoring studies also included the temporary installation of rain gauges throughout the WCTS, as shown in Figure 3-1. As with the flow monitors, RJN numbered the rain gauges sequentially, beginning with one, for each temporary monitoring period. In order to better manage the rain gauge data through analysis and model calibration, an alternative rain gauge identification number was assigned. The RJN rain gauge number, the alternative rain gauge number, the location, and the time period installed are provided in **Table 3-2**.

Table 3-2 Rain Gauge Information

Rain Gauge ID	Alternative Rain Gauge ID	Location	Metering Period	Metering Dates
RG-01	1	2005 N 6th St	Fall 2013	9/23/2013-3/7/2014
RG-02	2	4701 Grand Ave	Fall 2013	9/20/2013-3/7/2014
RG-03	3	2501 N 50th St	Fall 2013	9/20/2013-2/27/2014
RG-04	4	Louisville St And S 74th St	Fall 2013	9/23/2013-3/7/2014
RG-05	5	5411 Euper Ln	Fall 2013	9/23/2013-3/7/2014
RG-06	6	9105 Zero St	Fall 2013	9/20/2013-2/13/2014
RG-07	7	1700 Wheeler	Fall 2013	9/20/2013-2/13/2014
RG-08	8	3112 Cavanaugh Rd	Fall 2013	9/20/2013-2/13/2014
RG-09	9	880 Hwy 271	Fall 2013	9/20/2013-3/7/2014
FSRG01	10	2417 N. Albert Pike Ave	Spring 2014	4/10/2014-9/13/2014
FSRG02	11	2423 Midland Ave	Spring 2014	4/10/2014-9/13/2014
FSRG03	12	623 N 9th Street	Spring 2014	4/10/2014-9/13/2014
FSRG-01	13	4901 Midland Blvd	Fall 2014	9/15/2014-12/6/2014
FSRG-02	14	710 Division St	Fall 2014	9/15/2014-12/6/2014
FSRG-03	15	6905 Rogers Ave	Fall 2014	9/15/2014-12/6/2014
FSRG-04	16	1823 Phoenix Ave	Fall 2014	9/15/2014-12/6/2014
FSRG-05	17	5703 Jenny Lind Rd	Fall 2014	9/15/2014-12/6/2014
FSRG-06	18	9608 Rogers Ave	Fall 2014	9/15/2014-12/6/2014
FSRG-07	19	5424 East Hwy 45	Fall 2014	9/15/2014-12/6/2014
FSRG-08	20	6301 Hwy 45	Fall 2014	9/15/2014-12/6/2014

1. RG-08 (Alt ID 8) and FSRG-06 (Alt ID 18) provided inconsistent data relative to other gauges and were not utilized for analysis purposes

Figures 3-2, 3-3 and **3-4** show the average daily rainfall measured by the rain gauges during each of the temporary monitoring periods. These graphs also show the variability across the rain gauges. During the temporary flow monitoring period, the following average daily rainfall totals exceeded one inch:

- Fall 2013:
  - 10/15/2013: 1.14 inches
- Spring 2014:
  - 5/8/2014: 1.46 inches
  - 5/12/2014: 1.44 inches
  - 6/25/2014: 1.23 inches
- Fall 2014:
  - 10/10/2014: 1.89 inches

- 10/11/2014: 1.03 inches
- 10/13/2014: 1.81 inches
- 11/22/2014: 1.05 inches

Understanding the amount of rainfall that fell on a given sewered area is critical to evaluating the wet weather response of the WCTS. To estimate the rainfall for each flow monitor, the centroid of the spatial area of each delineated incremental flow monitoring area was calculated, and the distance from the centroid to each rain gauge was measured. The inverse distance squared weighting method was then applied to develop an estimated rainfall pattern appropriate for each flow monitor.

Generally, the largest storm events were selected for calibration and verification of the hydraulic model in order to minimize the impacts of variables such as initial abstraction. In addition, some events where eliminated for usage because of factors such as high variability of rainfall across the study area or incomplete or suspicious data from one or more gauges.

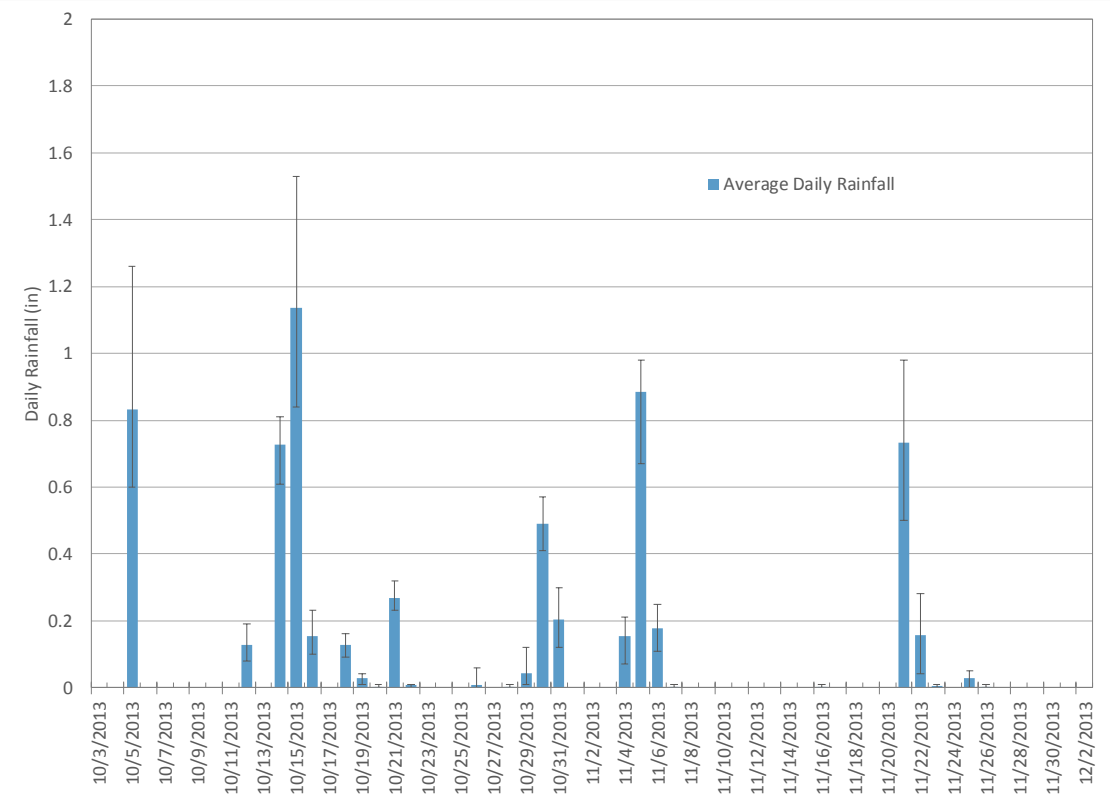

Figure 3-2 Fall 2013 Rainfall Summary

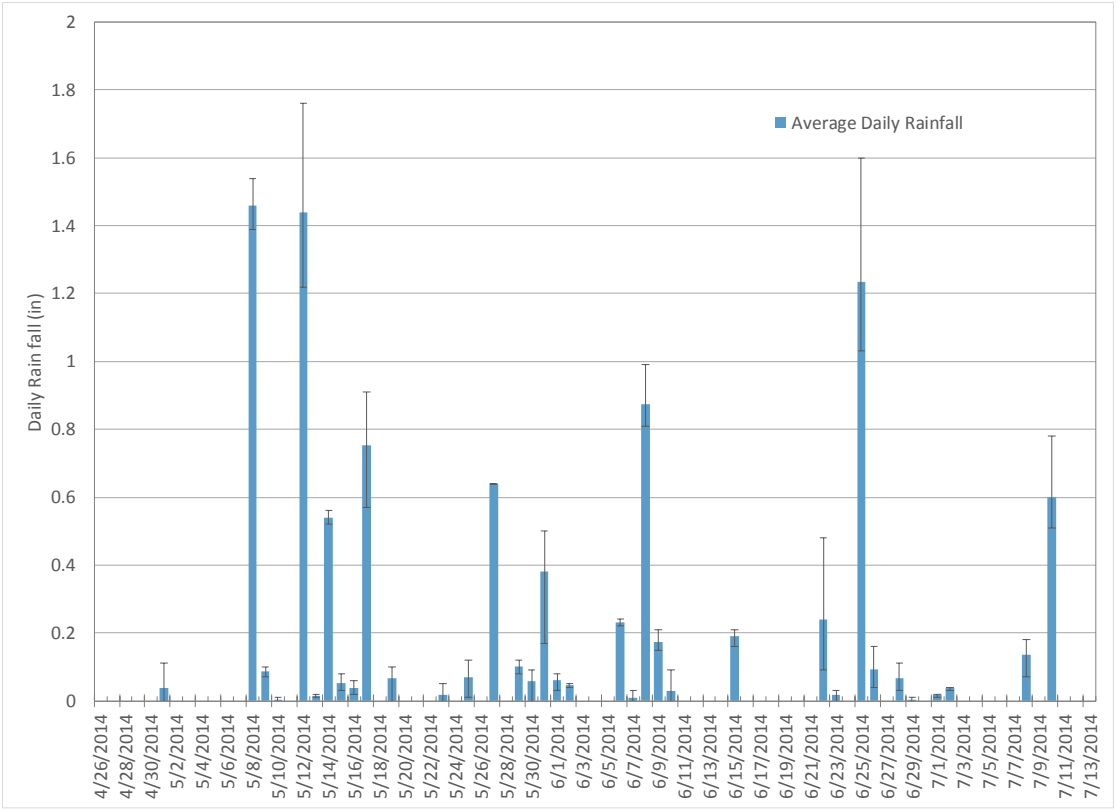

Figure 3-3 Spring 2014 Rainfall Summary

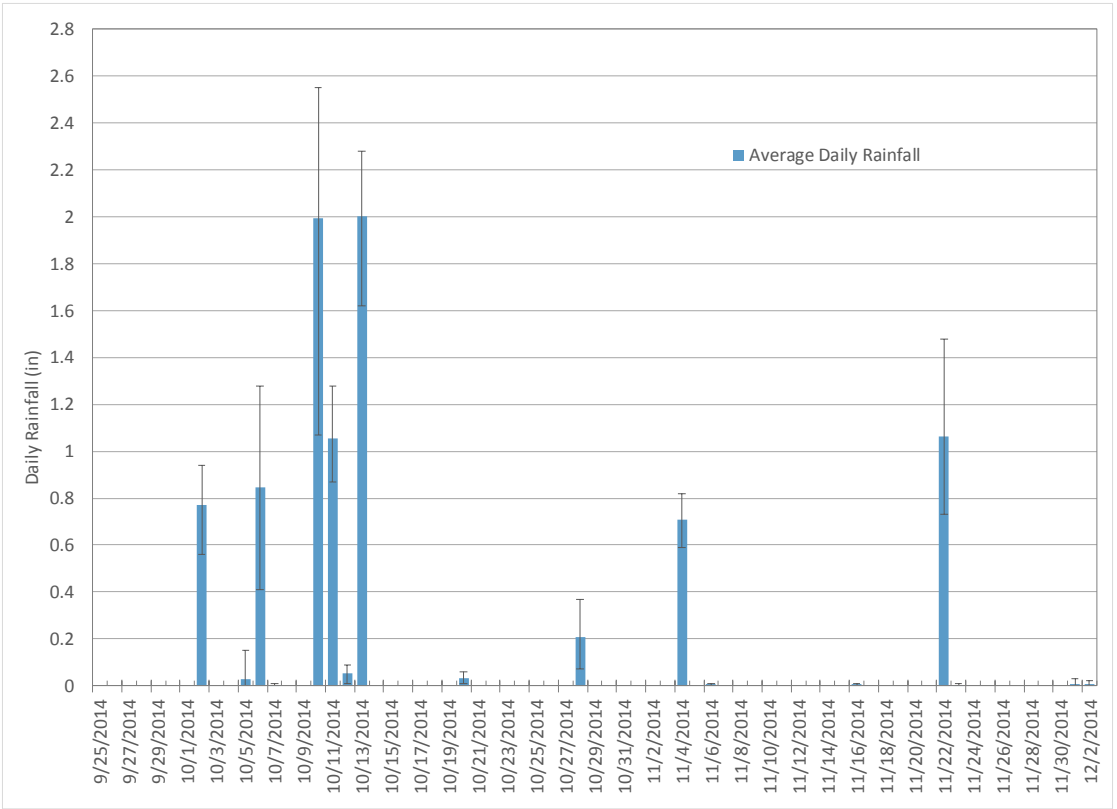

Figure 3-4 Fall 2014 Rainfall Summary

Section 4
Wastewater Flows Analysis

The rainfall and flow monitoring data, described in Section 2, were analyzed to assess existing wastewater flows throughout the Fort Smith WCTS during both dry weather and wet weather periods. The parameters describing these flows served as the initial inputs for calibration of the hydraulic model.

4.1 Wastewater Flow Components

The wastewater flows for the Fort Smith service area were analyzed using the wastewater flow and rainfall data collected in order to develop flow parameters for the hydraulic model. After characterizing the flow meter areas and the associated rainfall, the flow was divided into the following components:

- Groundwater infiltration (GWI) and base wastewater flow (BWF), which make up dry weather flow; and
- Rainfall-Dependent Inflow and Infiltration (RDII).

The sum of dry weather flow and RDII is referred to as wet weather flow. Peak wet weather flow, typically referred to as the peak flow or design flow, is the peak of the combined dry weather flow and RDII. **Figure 4-1** illustrates all the components that make up wastewater flow as a stacked area graph. Another wastewater flow term that is used in the Consent Decree is infiltration and inflow (I&I). RDII and GWI are both forms of I&I, but RDII is specifically due to rainfall while GWI is a relatively constant flow that occurs during dry and wet weather.

The following sections further describe these components of wastewater flow.

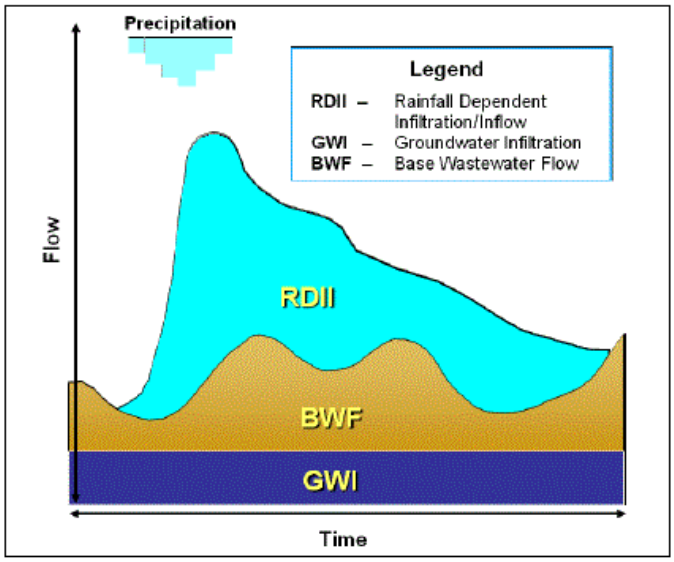

Figure 4-1 Components of Wastewater Flow

4.1.1 Dry Weather Flow

Dry weather flow consists of GWI and BWF. GWI is groundwater that leaks into the system through cracks in pipes, joints, and other structural defects. The magnitude of GWI depends on the depth of the groundwater table in relation to the sewer infrastructure, the percentage of the system that is submerged, and the physical condition of the infrastructure. The variation in groundwater level is seasonal, which typically results in a seasonal variation in GWI. GWI is typically a relatively constant flow throughout the day. For the purposes of this analysis, GWI is distinct from wet-weather induced flows in that GWI occurs even under dry weather flow conditions.

BWF consists of residential and non-residential sanitary wastewater flows that enter the wastewater collection system from everyday water uses. It is affected by population and land use, and unlike GWI, BWF usually follows a diurnal pattern that varies throughout the day in response to personal habits and business operations.

4.1.2 Rainfall-Dependent Inflow and Infiltration (RDII)

RDII refers to the stormwater that enters the WCTS in direct response to the intensity and duration of rainfall events. RDII is made up of inflow and infiltration. Rainfall-dependent inflow is rainfall runoff that directly enters the collection system through holes in manhole covers, direct connections from rooftop downspouts, and other illicit stormwater connections. The flow response to inflow is usually relatively rapid, with flows following rainfall patterns closely. Rainfall-dependent infiltration occurs when groundwater in saturated soils leaks into the collection system through cracks in pipes, leaky joints, and similar defects. Infiltration usually occurs slowly, peaking after peak rainfall and taking hours or days to recede.

Factors that affect the characteristics of RDII can include:

- Age, material, and construction quality of sewer pipes;
- Local soil properties; and
- Permeability of ground cover (land use).

4.2 Wastewater Flows Analysis

The flow monitoring and rainfall data was reviewed for quality assurance, and the data was then analyzed to develop the wastewater flow parameters for use in the hydraulic model. This was done utilizing the Sanitary Sewer Overflow Analysis and Planning (SSOAP) Toolbox developed by the Environmental Protection Agency and CDM Smith (formerly known as SHAPE). The basic steps of the flow monitoring analysis process are as follows:

- Assess the quality of the flow monitoring data;
- Separate flow into dry weather flow and RDII;
- Summarize dry weather flow; and
- Characterize RDII.

Initial wastewater flow parameters were developed from this analysis and finalized during calibration of the hydraulic model. The final calibrated parameters used in the model are presented in **Section 4.2.**

4.2.1 Flow Monitoring Quality Review

Since the collected flow monitoring data serves as the basis for model calibration, it is important that the data be reliable. RJN Group was tasked with reviewing the rainfall and flow monitoring data as it was collected and following completion of the temporary monitoring periods.

The flow monitoring was further reviewed for appropriateness of use during model calibration. That review consisted of plotting the data over time to confirm that there are no unjustified changes in dry weather flow and that the flow is of sufficient quantity to be measured by the flow monitor. To further verify the hydraulic behavior of the flow monitoring site and consistency in the flow depth and velocity relationships, scatterplots showing depth versus velocity were also prepared and reviewed. Missing, unreliable, or suspect flow data was flagged and was excluded (in whole or in part) from the model calibration process.

4.2.2 Dry Weather Flow Analysis

With rainfall defined for each flow monitored area, dry weather days were determined for each flow monitor in order to develop flow parameters using the SSOAP Toolbox. This tool can be used to develop an average dry weather flow hydrograph for a typical weekday or weekend day from the observed flow monitoring data during dry weather conditions. Flow monitoring data was excluded from the dry weather flow hydrograph development if rainfall was observed on the day of or the day before or if they were considered statically different from the other days included. Holidays were also removed due to the varied flow pattern. Finally, the days used for analysis were further refined by reviewing the flow hydrographs and manually adding or removing days.

These weekday and weekend average dry weather flow values were used as initial parameters for the hydraulic model, which were then adjusted, as needed, during calibration. Diurnal curves describing the dry weather flow pattern were also included in the hydraulic models for weekdays. Although separate weekday and weekend diurnal curves can be developed each flow monitor, XPSWMM software is limited to one normalized diurnal curve that represents both weekday and weekend patterns. The average dry weather flow, however, was adjusted in the model to represent weekday and weekend day flows. This approach ignores that in residential areas, the weekend curve generally lags behind the weekday curve.

Weekday dry weather flows, as well as weekday diurnal curves, are provided in **Appendix A.**

Review of the weekday diurnal curves show patterns that are typical of residential areas in many locations. For instance, flow monitor 41, as shown in **Figure 4-2**, is a primarily residential area. That diurnal pattern shows low overnight flows when most people are sleeping, a significant peak flow in the morning, and a smaller peak flow in the evening. In contrast, the diurnal curves for commercial, industrial, and institutional areas are driven by the hours and nature of the facilities. For instance, flow monitor 36, also shown in Figure 4-3, includes the Fort Smith Regional Airport and adjacent commercial areas.

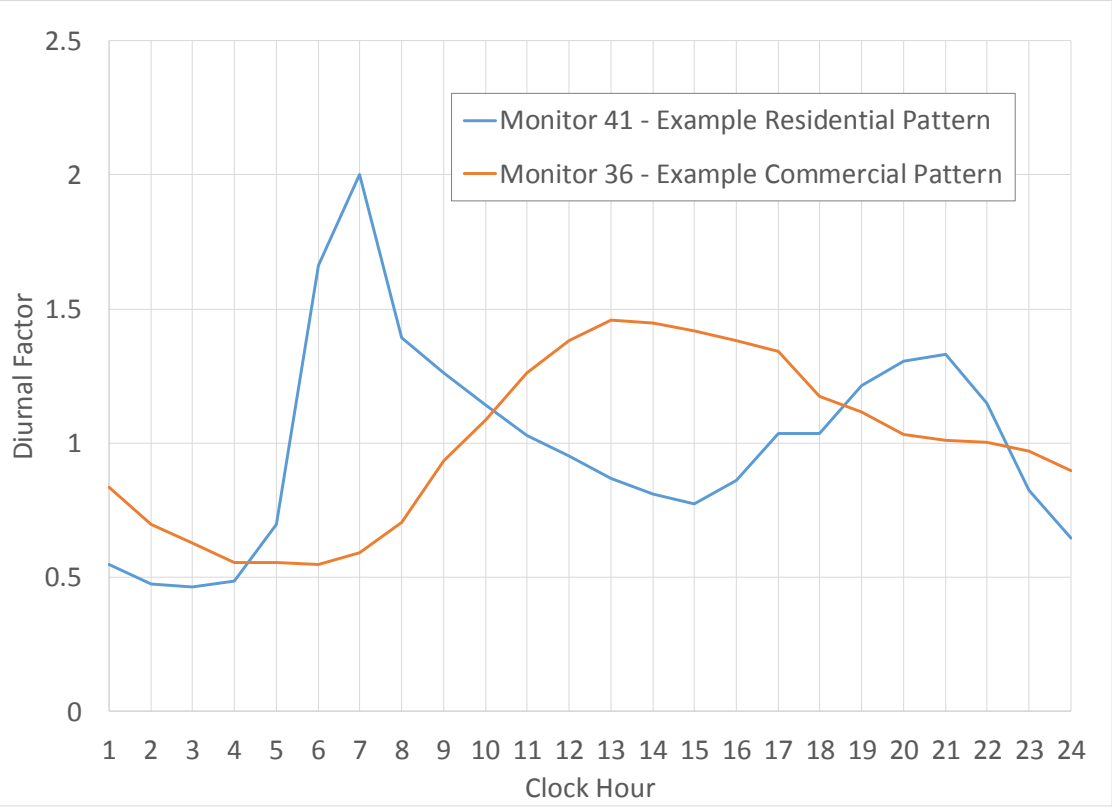

Figure 4-2 Example Diurnal Patterns

4.2.3 Wet Weather Flow Analysis

The wet-weather flow component, or RDII, is the flow in excess of the dry weather flow. Once the hydrograph decomposition is completed for each monitor, the volume of RDII is compared to the volume of rainfall that fell on the area contributing flow to each monitor, and the shape of the wet-weather response can be evaluated.

4.2.3.1 R-value

The ratio of RDII volume to rainfall volume, which is the depth of rain multiplied by the sewered area, is defined as the R-value. In other words, the R-value is the fraction of rainfall from a storm event that enters the sewer system as RDII. The higher the R-value, the more inflow and infiltration a sewer system conveys.

R-values can vary for each storm event, depending in large part on antecedent moisture conditions (AMC), season, and groundwater elevation. Rainfall characteristics can also affect the R-value determined. Additionally, changes in the sewershed over time, such as zoning or land use, sewer degradation, or rehabilitation, can have an effect on the R-value.

4.2.3.2 Unit Hydrograph Method

The unit hydrograph method was used to characterize RDII through definition of specific parameters. This method is based on fitting three triangular unit hydrographs to an actual RDII hydrograph. A unit hydrograph is defined as the flow response that results from one unit of

rainfall during one unit of time. For this study, a time unit was defined as five minutes. A graphical representation of the unit hydrograph summation method is presented in **Figure 4-3**.

The first step was to define three parameters, R, T, and K for each of the three unit hydrographs. "R" represents the fraction of rainfall entering the sewer system as RDII for each of the three unit hydrographs (called R1, R2, and R3, respectively), and the three Rs sum to the total R-value for the storm event, as defined in Section 4.2.3.1. "T" is the time to the peak RDII flow, and "K" is the ratio of the time of recession to the time of peak for each of the three unit hydrographs.

Three unit hydrographs are generally used because the shape of an RDII hydrograph is often too complex to be well represented by a single unit hydrograph. The first triangle represents the most rapidly responding flow component (including stormwater inflow), and generally had a T-value of less than two hours in this study. The second triangle includes both rainfall-dependent inflow and infiltration, and has a T-value longer than T1, but less than T3. The third triangle includes infiltration that may continue long after the storm event has ended and has the longest T-value, on the order of four to fourteen hours for this study.

The second step of the unit hydrograph methodology was to sum all of the unit hydrographs developed for each unit of time to develop a total RDII hydrograph. The bottom of Figure 4-3 illustrates the summation of three hydrographs. This represents the hydrograph from a storm lasting three five-minute steps, or 15 minutes. If a storm event has rainfall over a period of one hour (12 time steps), then the hydrograph developed by this method would be the summation of the 36 unit hydrographs that resulted from each five-minute rainfall increment.

The SSOAP Toolbox was used to find the combination of R, T, and K values for each of the three unit hydrographs that would result in a hydrograph that best matched the RDII hydrographs from the flow monitoring data. This process is referred to as calibrating the unit hydrographs. To calibrate the unit hydrographs, first the flow monitoring data was decomposed into the dry weather flow and RDII components. The dry weather flow component was then subtracted from the total hydrograph to leave only the RDII component. A suitable combination of the R, T, and K values for each of the three triangular unit hydrographs was determined iteratively until the predicted RDII hydrograph closely approximates the RDII hydrograph from the flow monitor.

R, T, and K parameters (collectively RTK) that were developed for flow monitored areas based on rainfall events are presented in **Appendix B**. For a given area, the parameters may vary due to antecedent moisture conditions, groundwater infiltration, and other parameters that cannot be easily determined. RTK parameters were initially used as developed in the SSOAP Toolbox and were adjusted during calibration.

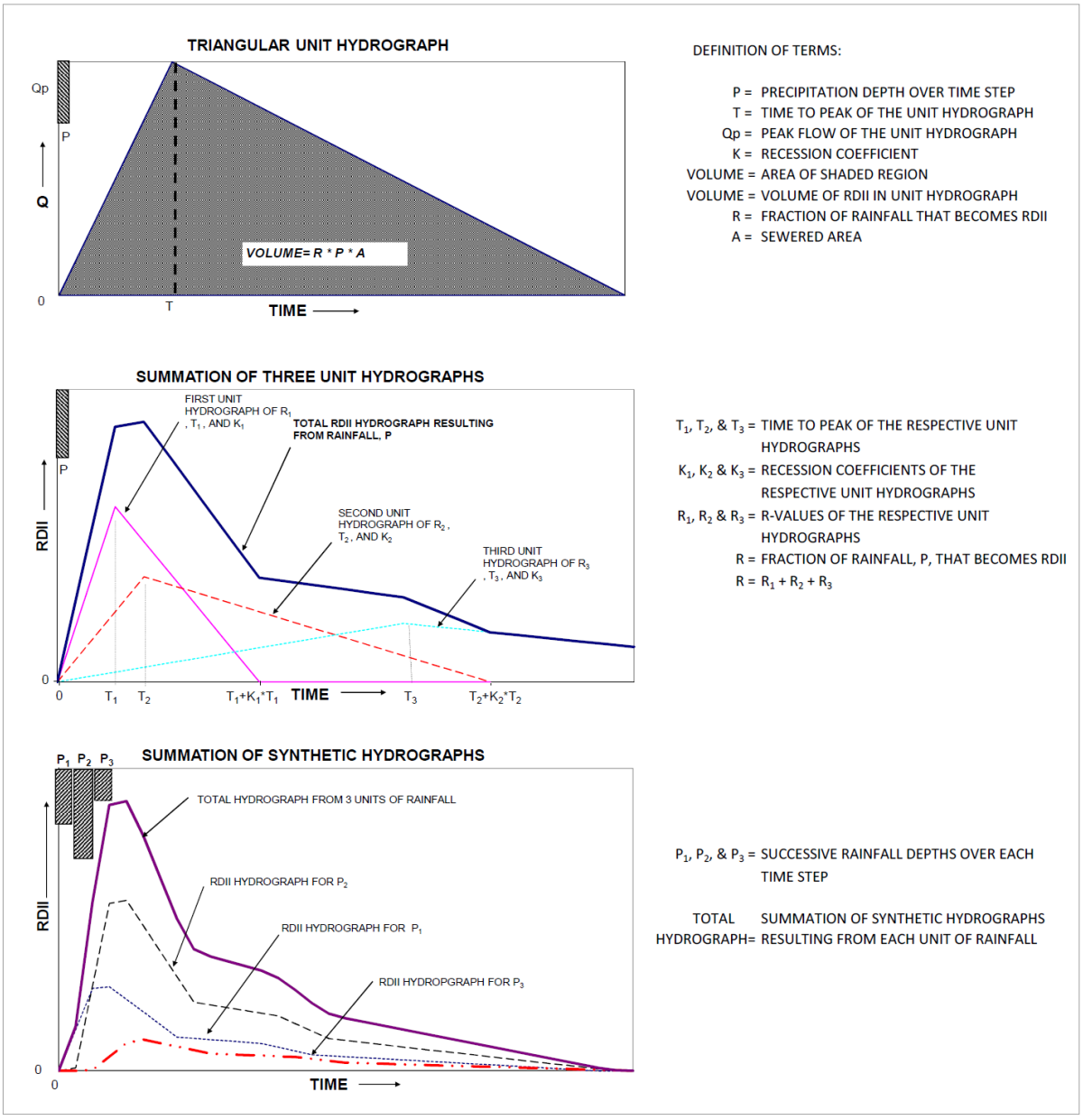

Figure 4-3 Triangular Unit Hydrograph

Section 5
Hydraulic Model Calibration & Verification

The hydraulic model was initially developed from information gathered about the physical components of the wastewater collection system and the wastewater flow analysis results. The model was then calibrated to the available rainfall and flow monitoring data. A final verification step was performed utilizing flow monitors located in the downstream portion of the system.

5.1 Model Calibration

Model calibration involves adjusting model input parameters to match actual field data. Calibration is necessary to ensure that the model represents real-world conditions as closely as possible. The flow monitoring data provides the real-world conditions to compare against the hydraulic model results. A calibrated model also provides confidence in the results when simulating design conditions. It is important for the hydraulic model to be calibrated in order to have confidence in the results based on the design storm, since those results cannot be compared to observed data and will serve as the basis for future capacity analyses.

The hydraulic model was calibrated using the flow and rainfall data collected during flow monitoring, excluding the flow monitors designated as verification monitors. The model was initially loaded with the parameters established through the flow monitoring analyses, although these were adjusted, as needed, during model calibration. The model was initially calibrated to dry weather flow then further calibration was performed under wet weather flow conditions. In general, the most upstream flow monitor locations were calibrated, followed by downstream monitors. Adjustments were sometimes necessary when different temporary monitoring periods were considered to account for seasonal and antecedent moisture conditions. The calibration process and results are described in the following subsections.

5.1.1 Dry Weather Flow Calibration

The XPSWMM software simulates flows during the entire diurnal cycle, including high and low daily flows. Therefore, it is important to consider the shape of the diurnal flow hydrograph, in addition to the peak and average flows determined through the flow monitoring data. Although the *Code of Practice for the Hydraulic Modelling of Sewer Systems* does not establish calibration targets, the following guidelines are included for model verification and were generally used in the model calibration for dry weather flows:

- The timing of peaks and troughs should be within one hour.
- The peak flow rates should be in the range of +/- 10 percent.
- The volume of flow should be in the range of +/- 10 percent.

In general, the hydraulic model simulated dry weather flows that reasonably match the observed flow monitoring data, as shown in **Figure 5-1**, which presents a comparison of the modeled and observed volume. In some cases, the percent difference exceeds the 10 percent guideline,

primarily due to variations that are believed to be within the error of the flow monitor. Calibration graphs and summary tables are included in **Appendix C**.

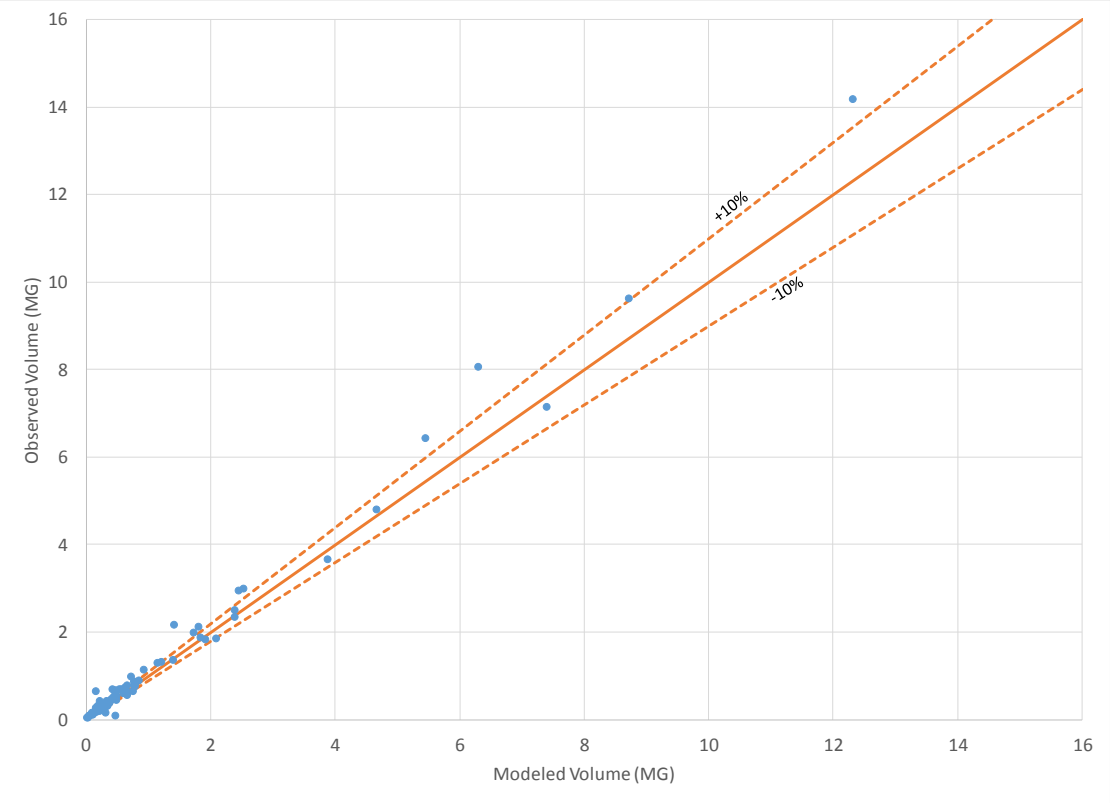

Figure 5-1 Dry Weather Flow Volume Comparison

Dry weather flow calibration was primarily achieved by adjusting average dry weather flow values, diurnal patterns, Manning's coefficient, and entrance and exit losses, although in some cases sediment was included in the model to better mimic observed dry weather depths. Although sediment was observed at some flow monitoring locations, at most locations where sediment was added to the model it was not actually observed, and thus it may represent debris downstream of the monitor location, offset joints, reverse slopes, or other defects within the WCTS.

Figure 5-2 presents the calibrated dry weather flow by load area used in the hydraulic model.

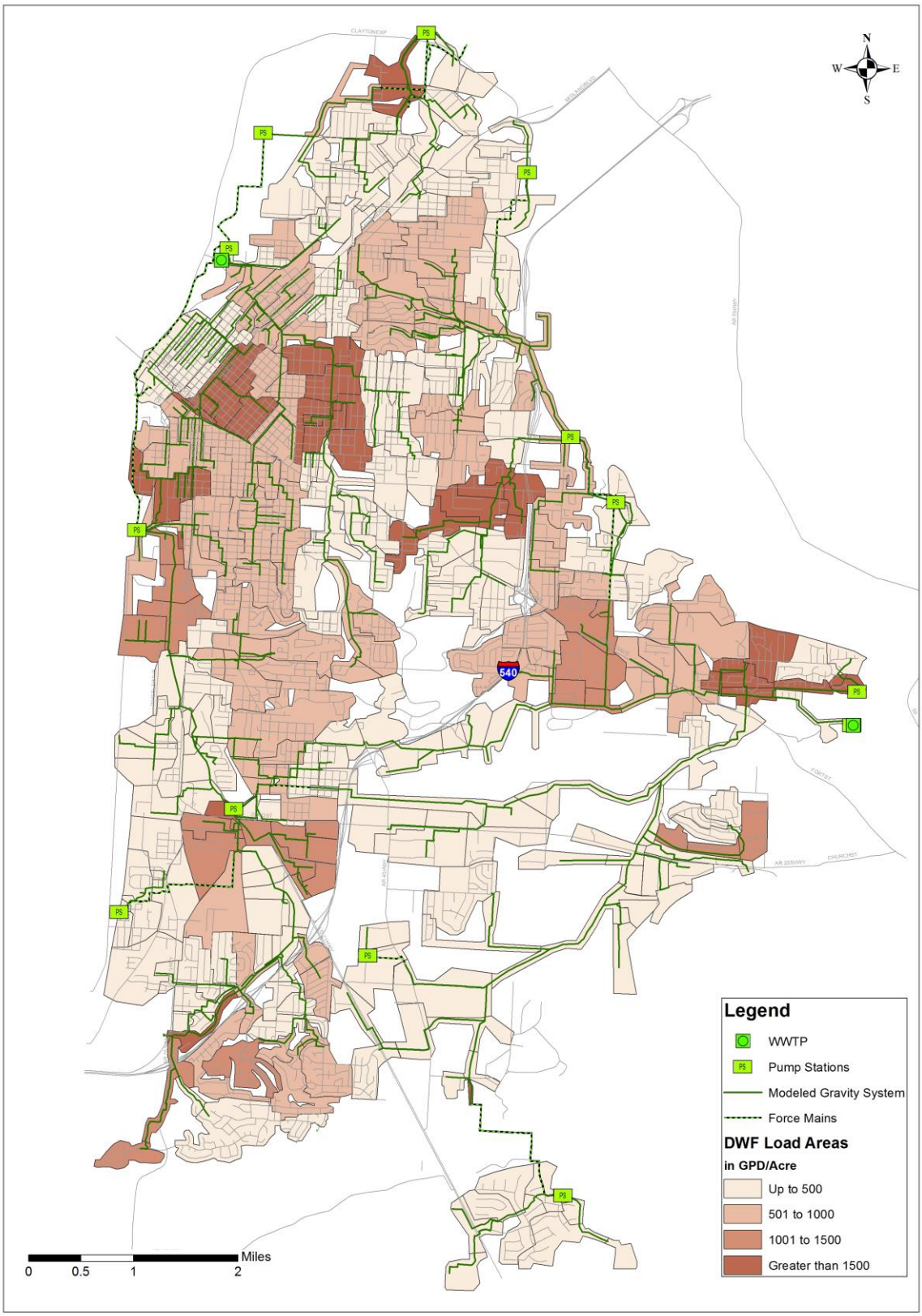

Figure 5-2 Calibrated Dry Weather Flow Parameters

5.1.2 Wet Weather Flow Calibration

The second step of model calibration involved comparing the predicted flows during wet weather events to those observed during the temporary monitoring periods. The general shape of the simulated and observed wet weather flow hydrographs as well as the wet weather flow volume, peak flow, and maximum depth for calibration events were considered in determining if the model was calibrated.

Ideally, all of the flow monitored areas would be calibrated to the same rainfall events, but the three temporary monitoring periods required that different events be used for various portions of the system. In general, the model was calibrated over a several week period, although the primary focus was to match peak flows and volumes for the following storm events:

- Fall 2013:
  - 11/4/2013-11/9/2013
  - 11/21/2013-11/25/2013
- Spring 2014:
  - 5/8/2014-5/10/2014
  - 5/12/2014-5/16/2014
- Fall 2014:
  - 10/10/2014-10/12/2014
  - 10/13/2014-10/19/2014

These storms were selected due their rainfall totals, availability of data, and antecedent moisture conditions. Although the *Code of Practice for the Hydraulic Modelling of Sewer Systems* does not establish calibration targets, the following guidelines are included for model verification and were generally used in the model calibration for total flows (including wet weather flows):

- The timing of peaks and troughs should be similar with regard to the duration of the event.
- The peak flow rates at each significant peak should be in the range +25 percent to -15 percent and should be generally similar throughout the event.
- The volume of flow should be in the range of +20 percent to -10 percent. Care should be taken to exclude periods of missing or inaccurate data.
- The depth of surcharge should be in the +0.5m to -0.1m (or +20 inches to -4 inches)
- The unsurcharged depth at any key points, where this is important having regard to the objectives, should be within the range of ±100mm (or 4 inches).

The guidance for verification indicates that two of three storm events should meet the above criteria.

In general, the hydraulic model simulated wet weather flows that reasonably match the observed flow monitoring data, as shown in **Figures 5-3, 5-4**, and **5-5** for peak flow, volume, and depth, respectively. In some cases, the differences exceed the values in the guidelines due to the differences in the responses between observed events, error associated with rainfall or flow monitoring measurements, or other factors. In most cases where the peak depth is significantly under-predicted by the model, there is a model-predicted overflow in proximity which dictates the peak hydraulic grade line in the system. Calibration graphs and summary tables are included in **Appendix C**.

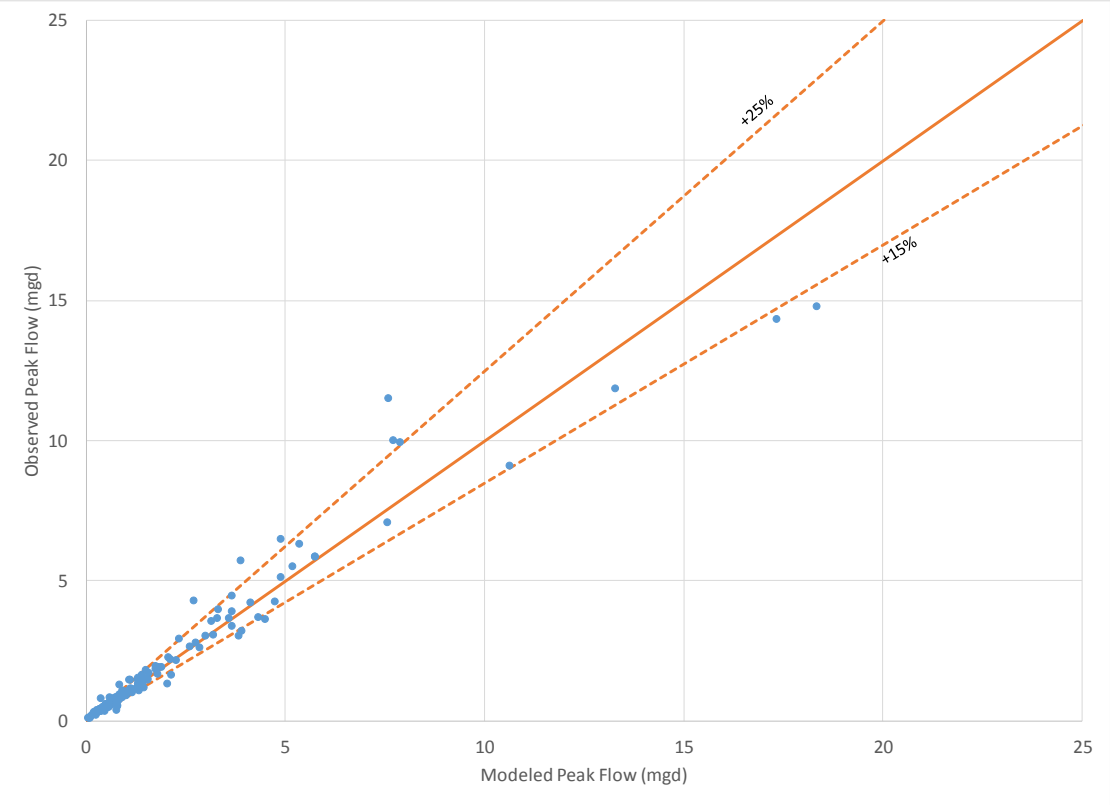

Figure 5-3 Wet Weather Peak Flow Comparison

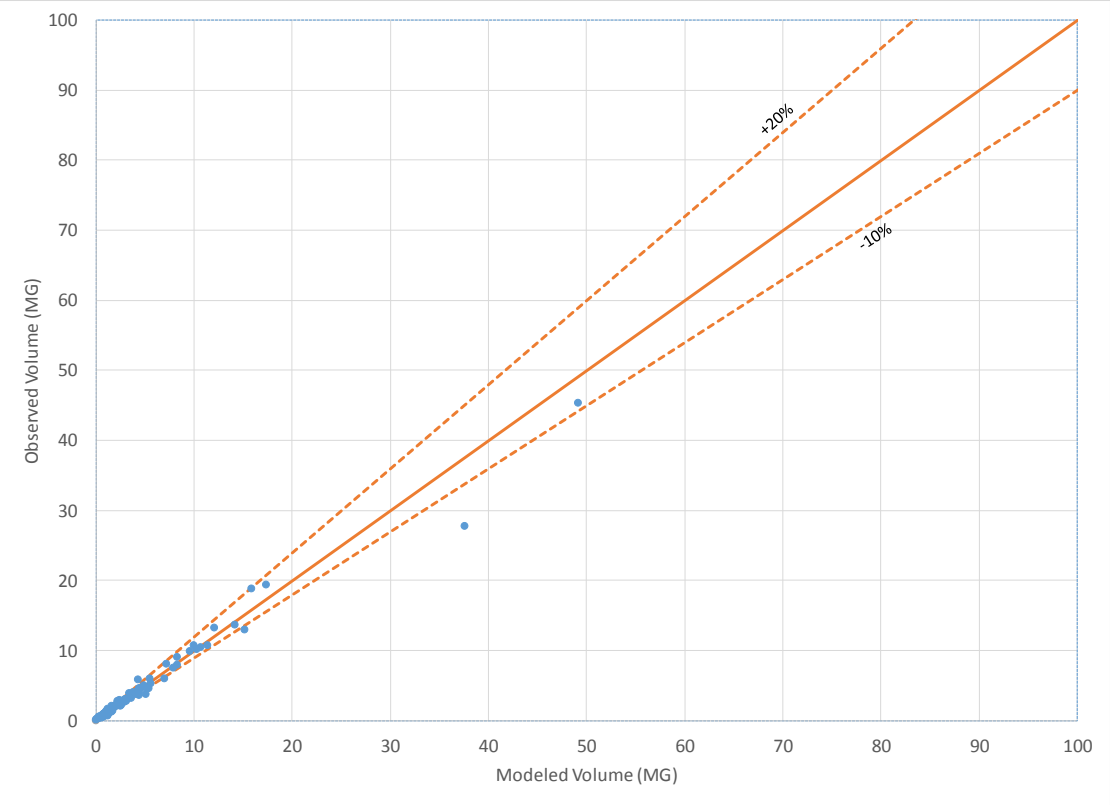

Figure 5-4 Wet Weather Volume Comparison

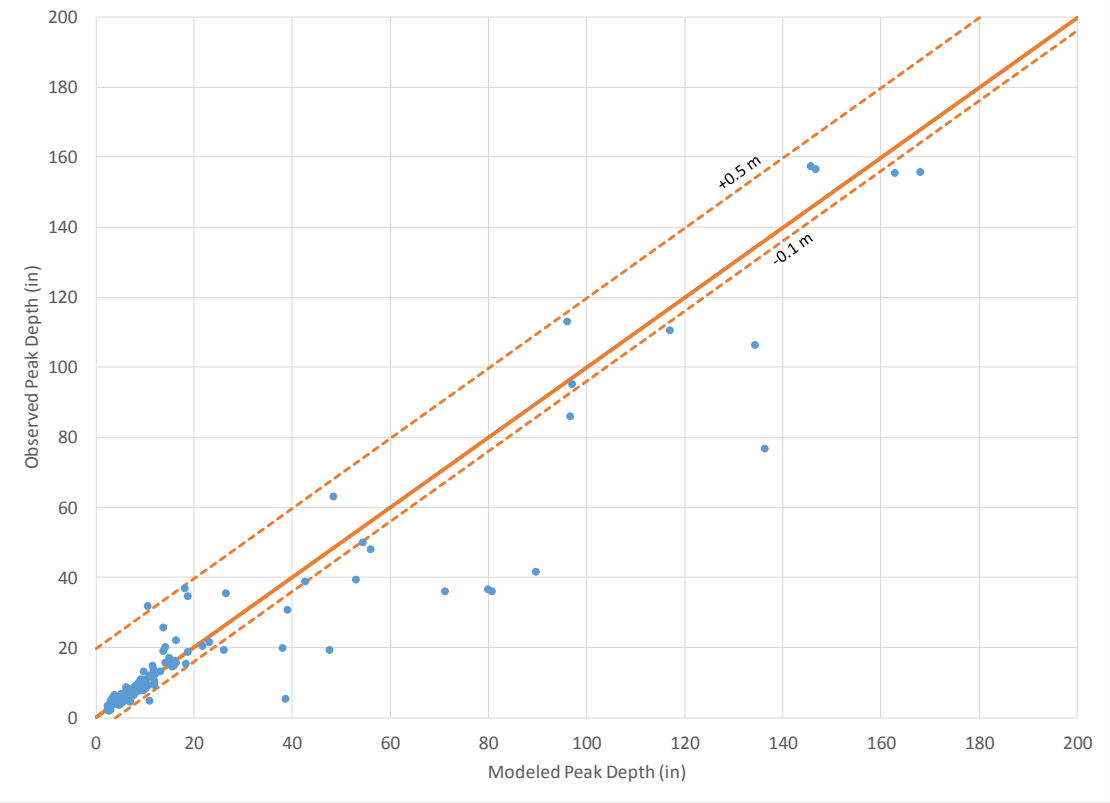

Figure 5-5 Wet Weather Peak Depth Comparison

Wet weather flow calibration was primarily achieved by adjusting RTK parameters, Manning's coefficient, and entrance and exit losses. Because it is not useful to use a different set of RTK parameters for each rainfall event in the hydraulic model, the parameters that resulted in the "best fit" for the targeted rainfall events were developed and applied in the hydraulic model.

Figure 5-6 presents the calibrated R-value by load area used in the hydraulic model. This value indicates how much RDII enters the system, with larger values representing areas of the system that are more "leaky". The calibrated total R values range from 0.5 percent to over 15 percent. Calibrated RTK parameters are included in **Appendix B.**

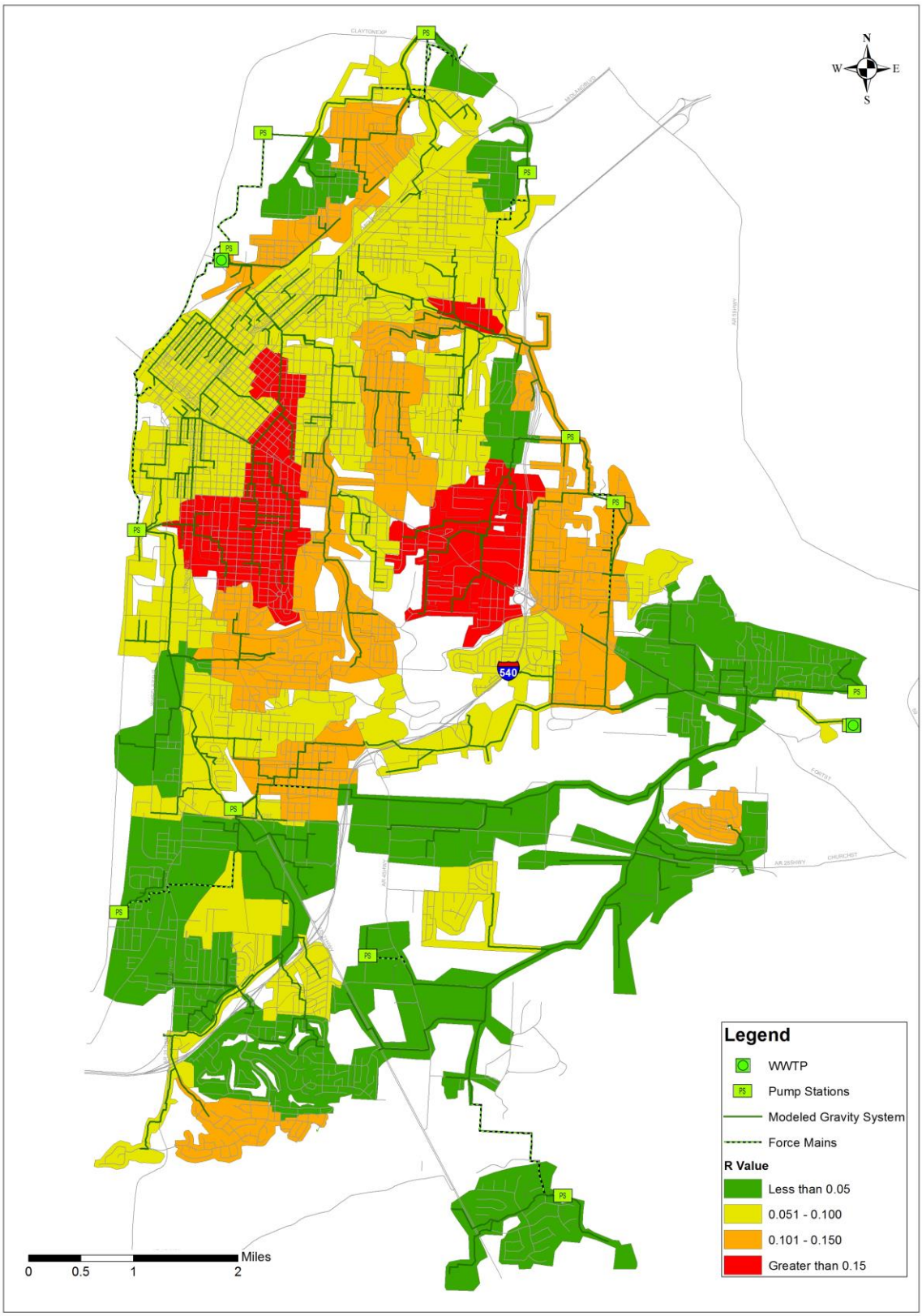

Figure 5-6 Calibrated R-values

5.2 Model Verification

Following model calibration, the hydraulic models underwent a verification step, which uses an independent data set to determine its accuracy. Due to the limited duration of the temporary monitoring periods (and limited storm events under similar antecedent moisture conditions), downstream monitors were selected as verification monitors. These include the flow monitors shown on **Figure 5-7** and listed in **Table 5-1**.

Table 5-1 Verification Flow Monitors

Monitor ID	Manhole	Metering Period	Dates Active	Alt Monitor ID	Pipe Diameter at Meter (in)	Total Sewered Area (ac)	Total Length of Pipe Upstream (mi)
FS-06	S006-2580	Fall 2013	10/3/2013 – 12/2/2013	6	24	704	19.6
FS-22	P005-0840	Fall 2013	10/3/2013 – 12/2/2013	22	21	774	23.1
FS-24	P008-1840	Fall 2013	10/3/2013 – 12/2/2013	24	15	824	21
FS-39	Z006-2890	Fall 2013	10/3/2013 – 12/2/2013	39	30	1,274	32.3
FS-07	W001-0070	Spring 2014	5/16/2014-7/13/2014	52	30	1,324	31.5
FS-05	MC03-0001	Fall 2014	9/25/2014 – 12/2/2014	61	30	6,172	134
FS-09	MC06-0010	Fall 2014	9/25/2014 – 12/2/2014	65	18	5,077	107.5
FS-16	Z002-0380	Fall 2014	9/25/2014 – 12/2/2014	72	30	2,359	57.5
FS-31	M001-0090	Fall 2014	9/25/2014 – 12/2/2014	87	48	13,441	278.7
FS-33	S002-0230	Fall 2014	9/25/2014 – 12/2/2014	89	30	1,066	21.8

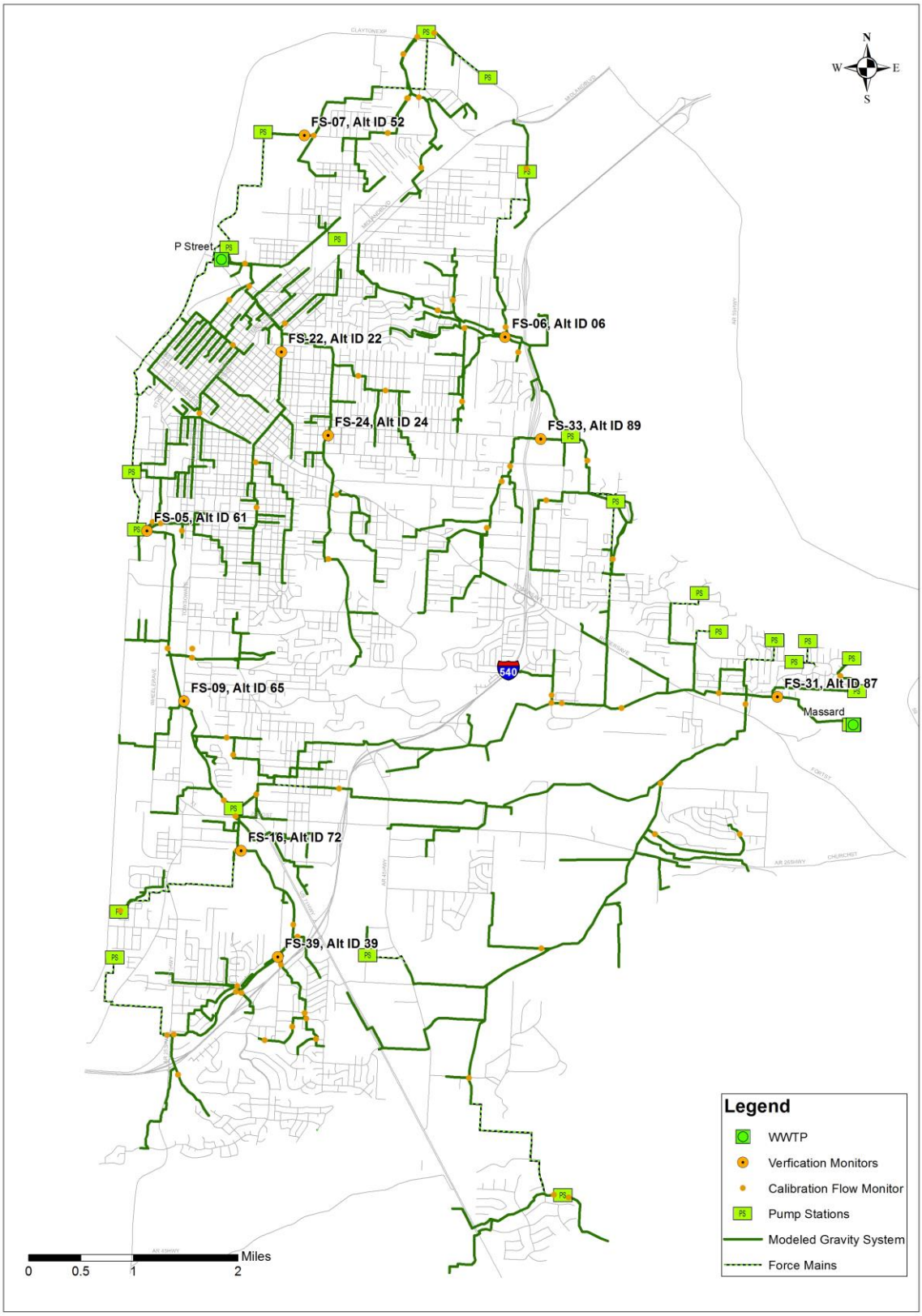

Figure 5-7 Verification Flow Monitors

The *Code of Practice for the Hydraulic Modelling of Sewer Systems* establishes the following guidelines for model verification during dry weather and wet weather flow:

Dry weather verification

- The timing of peaks and troughs should be within one hour.
- The peak flow rates should be in the range of +/- 10 percent.
- The volume of flow should be in the range of +/- 10 percent.

Wet weather verification with goal of meeting for two-thirds of events

- The timing of peaks and troughs should be similar with regard to the duration of the event.
- The peak flow rates at each significant peak should be in the range +25 percent to -15 percent and should be generally similar throughout the event.
- The volume of flow should be in the range of +20 percent to -10 percent. Care should be taken to exclude periods of missing or inaccurate data.
- The depth of surcharge should be in the +0.5m to -0.1m (or +20 inches to -4 inches)
- The unsurcharged depth at any key points, where this is important having regard to the objectives, should be within the range of ±100mm (or 4 inches).

Table 5-2 summarizes the dry weather verification, and **Table 5-3** summarizes the wet weather verification. As shown in the tables, the hydraulic model is reasonably accurate and appropriate for use in assessing the capacity of the WTCS. The following exceptions, however, are noted:

- Dry weather flow statistics, particularly peak flow and peak depth, are often sensitive to errors in the meter data, inconsistent discharges, transient debris, etc. The model attempts to represent a typical diurnal pattern observed during the monitoring period and thus may not precisely represent any specific day.
- For Monitor 87, the peak depth measurements were limited to approximately 150 inches during the monitoring period; however, this appears to be a limitation of the meter and higher depths predicted in the model are believed to be reasonable.
- No velocity data was recorded for Monitor 61 during the verification period; only depth was used for comparison.
- The majority of the verification monitors installed during Fall 2014 experienced significant surcharging during the October storm events. For Monitors 61, 65, 72, and 87, the modeled peak depth, or hydraulic grade line, is limited by an adjacent model-predicted overflow.
- In some cases, the nearest rain gauge was located a significant distance from the centroid of the flow monitor sewered area and may increase the uncertainty in the model calibration and verification. For instance, Monitor 72 captured flow from the majority of the Zero Street basin; however, no rain gauges were located in the sewered area of that monitor and

the nearest gauge during the Fall 2014 monitoring period was over 2 miles from the centroid.

- Portions of the WCTS appear to be sensitive to changes in groundwater levels and antecedent moisture conditions. The time periods selected for model calibration and verification attempt to minimize the potential impact by selecting storm events under similar conditions; however, in some cases this results in an over- or under-prediction within the model.

Table 5-2 Dry Weather Verification Summary

Alt Monitor ID	Season	Modeled			Observed			Volume Difference (Percent)	Peak Flow Difference (Percent)	Depth Difference (inches)
		Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)			
6	Fall 2013	0.86	0.52	4.4	0.88	0.56	4.6	-2%	-7%	-0.2
22	Fall 2013	1.15	0.71	4.5	1.28	0.88	5.5	-10%	-19%	-1.0
24	Fall 2013	0.65	0.41	3.1	0.67	0.53	6.6	-3%	-23%	-3.4
39	Fall 2013	1.40	0.96	7.3	1.35	1.02	7.77	4%	-6%	-0.5
52	Spring 2014	1.84	1.00	8.5	1.86	0.90	10.1	-1%	11%	-1.6
61	Fall 2014	NA	NA	13.2	NA	NA	22.2	NA	NA	-9.0
65	Fall 2014	4.68	2.67	11.2	4.8	2.93	10.3	-3%	-9%	0.9
72	Fall 2014	2.45	1.58	7.6	2.94	2.03	7.7	-17%	-22%	-0.2
87	Fall 2014	6.14	7.28	16.9	6.35	7.67	14.8	-3%	-5%	2.1
89	Fall 2014	1.82	1.09	6.7	2.11	1.30	6.0	-14%	-16%	0.7

Table 5-3 Wet Weather Verification Summary

Alt Monitor ID	Season	Storm Event	Modeled			Observed			Volume Difference (Percent)	Peak Flow Difference (Percent)	Depth Difference (inches)
			Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)			
6	Fall 2013	11/4-11/9	4.25	1.89	8.2	4.22	2.18	8.4	1%	-13%	-0.2
6	Fall 2013	11/21-11/25	2.96	1.46	7.2	2.81	1.48	6.8	5%	-1%	0.3
22	Fall 2013	11/4-11/9	4.69	3.15	9.8	4.57	3.43	0.9	3%	-8%	8.9
22	Fall 2013	11/21-11/25	3.91	3.00	9.6	3.26	2.53	8.4	20%	19%	1.2
24	Fall 2013	11/4-11/9	3.45	2.29	10.3	3.45	2.24	12.0	0%	2%	-1.7
24	Fall 2013	11/21-11/25	2.61	1.91	9.5	2.68	1.83	9.4	-3%	4%	0.1
39	Fall 2013	11/4-11/9	5.98	2.28	10.2	6.15	2.43	11.0	-3%	-6%	-0.8
39	Fall 2013	11/21-11/25	5.11	2.54	10.8	4.87	2.14	10.5	5%	19%	0.3
52	Spring 2014	5/8-5/10	4.90	4.95	18.7	4.26	4.57	19.9	15%	8%	-1.2
52	Spring 2014	5/12-5/16	9.06	5.46	19.6	9.96	5.82	21.4	-9%	-6%	-1.8
61	Fall 2014	10/10-10/12	NA	NA	128.3	NA	NA	125.1	NA	NA	3.2
61	Fall 2014	10/13-10/19	NA	NA	131.2	NA	NA	177.0	NA	NA	-45.8
65	Fall 2014	10/10-10/12	12.28	4.90	92.7	11.74	4.74	111.1	5%	3%	-18.4
65	Fall 2014	10/13-10/19	15.09	4.97	108.9	15.51	4.42	122.1	-3%	13%	-13.3
72	Fall 2014	10/10-10/12	11.14	5.61	29.1	12.15	7.88	75.9	-8%	-29%	-46.8
72	Fall 2014	10/13-10/19	12.53	7.71	85.1	14.78	11.36	103.5	-15%	-32%	-18.4
87	Fall 2014	10/10-10/12	55.38	22.27	191.8	54.04	22.22	150.6	2%	0%	NA
87	Fall 2014	10/13-10/19	68.57	22.20	191.7	74.21	23.99	150.5	-8%	-7%	NA
89	Fall 2014	10/10-10/12	15.50	10.81	21.6	13.85	10.03	18.8	12%	8%	2.8
89	Fall 2014	10/13-10/19	14.57	13.36	24.9	14.56	12.44	24.2	0%	7%	0.7

5.3 Model Update Summary

The updated hydraulic model is reasonably accurate and appropriate for use in assessing the capacity of the WTCS, including identification of capacity constraints in the WCTS that must be eliminated in order to achieve the objectives of the Consent Decree.

In addition to the specific items noted in this report, the following items should be considered as the hydraulic model of the WCTS is used in the capacity assessment and development of capacity remedial measures.

- Locations of interpolated, extrapolated, or otherwise assumed infrastructure data;
- The potential for seasonal variability in GWI and RDII responses; and
- Inaccuracies and inconsistencies in rainfall and flow monitoring data associated with the model calibration and verification.

As capacity is assessed, the City will evaluate the results of the hydraulic model relative to these items and will continue to review and update the hydraulic model as additional, pertinent information is gathered about the system through Sewer System Assessments (SSA) or other means.

Appendix A

Dry Weather Flow Information

Weekday Dry Weather Flow Model Loads

Load Manhole	Dry Weather Flow Rate (mgd)
B001-0130	0.012
B001-0220	0.006
CS01-0020	0.014
CS01-0150	0.002
CS01-0200	0.027
CS01-0480	0.029
CS01-0770	0.059
CS01-0800	0.003
CS01-0860	0.050
FL01-0060	0.118
FL01-0300	0.081
FL01-0405	0.070
FL01-0439	0.048
FL01-0930	0.020
FL01-1190	0.010
FL01-1440	0.007
FL01-1800	0.022
FL01-1970	0.004
FL01-1990	0.005
FL02-0270	0.034
FL02-0528	0.026
FL02-0670	0.022
FL02-0680	0.021
FL02-0820	0.029
FL02-1270	0.017
FL02-1420	0.024
HP01-0010	0.040
HP01-0150	0.015
HP01-0210	0.034
HP01-0270	0.014
LF01-0010	0.006
LF01-0140	0.003
LF01-0260	0.067
LF01-2310	0.003
M001-0060	0.024
M001-0350	0.058
M001-0510	0.087
M001-0970	0.021
M001-1160	0.031
M001-1400	0.040
M001-1450	0.068
M001-1460	0.176
M002-0100	0.020
M002-0230	0.059
M002-0720	0.057
M002-0800	0.032
M002-1020	0.037
M002-2700	0.060
M003-0015	0.004
M003-0120	0.008
M003-0390	0.007
M003-0520	0.003
M003-0560	0.012
M003-0970	0.022
M003-1260	0.009
M003-1430	0.009
M003-2000	0.034
M003-2280	0.067

Load Manhole	Dry Weather Flow Rate (mgd)
M003-3380	0.007
M003-3870	0.005
M003-3970	0.004
M003-4090	0.005
M003-4320	0.004
M003-5270	0.007
M004-0020	0.024
M004-0060	0.106
M004-0147	0.046
M004-0490	0.055
M004-0500	0.035
M004-0610	0.032
M004-0830	0.046
M004-0950	0.029
M005-0020	0.038
M005-0050	0.057
M005-0217	0.164
M005-0721	0.130
M005-0750	0.019
M006-0020	0.006
M006-0090	0.019
M006-0220	0.010
M006-0370	0.028
M006-0510	0.032
M006-1120	0.015
M007-0025	0.006
M007-0060	0.021
M007-0290	0.080
M007-0860	0.043
M007-1220	0.091
MC01-0120	0.057
MC01-0720	0.082
MC01-1060	0.121
MC01-1160	0.020
MC01-1280	0.018
MC01-1340	0.050
MC02-0120	0.084
MC02-0350	0.060
MC02-0650	0.030
MC02-0790	0.015
MC02-1330	0.031
MC02-1382	0.048
MC03-0060	0.059
MC03-0220	0.104
MC03-0590	0.149
MC03-0840	0.148
MC04-0150	0.004
MC04-0220	0.003
MC04-0460	0.001
MC04-0660	0.002
MC04-0820	0.003
MC04-0940	0.003
MC05-0070	0.004
MC05-0076	0.001
MC05-0415	0.022
MC05-0540	0.073
MC05-1055	0.036
MC05-1300	0.037
MC05-1750	0.053
MC05-4960	0.066

Load Manhole	Dry Weather Flow Rate (mgd)
MC05-5030	0.077
MC06-0016	0.003
MC06-0020	0.004
MC06-0260	0.002
MC06-0335	0.002
MC06-0750	0.004
MC06-1150	0.005
MC06-1760	0.005
MC06-1890	0.041
MC07-2230	0.018
MC07-2300	0.180
MC08-0075	0.032
MC08-0270	0.030
MC08-0332	0.074
P001-0100	0.016
P001-0370	0.015
P001-0530	0.011
P001-0700	0.029
P002-0020	0.031
P002-0310	0.006
P002-0470	0.009
P002-0880	0.013
P002-1180	0.006
P002-1380	0.005
P002-1520	0.006
P002-1770	0.006
P002-2040	0.006
P002-2250	0.009
P002-2470	0.024
P003-0282	0.017
P003-0405	0.011
P003-0540	0.022
P003-0810	0.025
P003-1140	0.049
P003-1270	0.126
P004-0010	0.048
P004-0230	0.029
P004-0380	0.010
P004-0590	0.029
P004-1100	0.034
P005-0120	0.163
P005-0617	0.170
P005-0890	0.036
P005-1340	0.024
P005-1590	0.022
P005-2220	0.050
P006-0010	0.021
P006-0250	0.023
P006-0450	0.089
P006-1030	0.007
P006-1250	0.086
P006-1580	0.035
P006-1850	0.053
P006-2290	0.056
P006-2740	0.036
P007-0202	0.033
P007-0370	0.039
P007-0510	0.060
P007-1490	0.008
P007-1550	0.012

Load Manhole	Dry Weather Flow Rate (mgd)
P007-1660	0.027
P007-2080	0.037
P007-2260	0.024
P008-0040	0.009
P008-0280	0.070
P008-0590	0.081
P008-0910	0.022
P008-1060	0.084
P008-1260	0.131
P008-1850	0.005
P008-2506	0.038
P008-2825	0.025
P008-3440	0.021
P008-3580	0.002
P008-3640	0.003
P008-4520	0.012
P009-0290	0.015
P009-0802	0.011
P009-1280	0.050
P009-1720	0.040
P009-2040	0.055
P009-2170	0.034
P009-2900	0.003
P010-0010	0.097
P010-0090	0.097
P010-0210	0.028
P010-0360	0.038
P010-0650	0.127
P010-1280	0.157
P011-0100	0.022
P011-0130	0.036
P011-0270	0.018
P011-0330	0.019
P011-0516	0.021
P011-0640	0.043
P011-0930	0.034
P011-1420	0.040
P011-1690	0.059
P011-2720	0.052
P012-0050	0.014
PL01-0020	0.061
PL01-0650	0.012
PL01-0700	0.017
RF01-1290	0.004
RF01-1320	0.021
RF01-1780	0.019
RF01-2000	0.017
RF01-2230	0.006
RF01-2770	0.016
RF01-2830	0.023
RF01-2840	0.024
RF01-2870	0.018
RL01-0168	0.008
RL01-0390	0.016
RL01-0510	0.006
RL01-0745	0.036
RL01-1070	0.010
RL01-1100	0.050
RL01-1750	0.065
RL02-0030	0.010

Load Manhole	Dry Weather Flow Rate (mgd)
S001-0360	0.100
S001-0570	0.033
S001-0720	0.025
S001-0910	0.039
S001-1130	0.013
S002-0090	0.039
S002-0950	0.037
S002-1330	0.068
S002-1450	0.020
S002-2000	0.020
S002-2060	0.030
S002-2150	0.018
S003-0100	0.136
S003-0240	0.054
S003-0620	0.155
S003-0790	0.096
S003-1260	0.088
S003-1780	0.033
S003-2030	0.017
S003-3350	0.066
S003-3380	0.061
S004-0034	0.050
S004-0640	0.042
S004-1050	0.030
S004-1420	0.035
S005-0130	0.041
S005-0160	0.030
S005-0260	0.014
S005-0330	0.013
S006-0808	0.078
S006-1230	0.077
S006-2600	0.022
S006-2850	0.019
S006-2870	0.028
S007-0220	0.018
S007-0450	0.012
S007-0490	0.024
S007-0780	0.043
S007-1130	0.017
S007-1380	0.045
S007-1560	0.024
S007-3290	0.021
S008-0490	0.025
S008-0760	0.048
S008-1270	0.021
S008-1760	0.072
S008-2160	0.115
S009-0010	0.040
S009-0330	0.151
S009-1270	0.061
SK01-0020	0.018
SK01-0200	0.022
SK01-0210	0.015
SK01-1165	0.039
SK01-1200	0.043
SK01-1300	0.103
SP01-0120	0.023
W001-0130	0.050
W001-0290	0.018
W001-0860	0.009

Load Manhole	Dry Weather Flow Rate (mgd)
W001-1070	0.007
WL01-0020	0.006
Z001-0130	0.019
Z001-0350	0.005
Z001-0483	0.006
Z001-0560	0.058
Z001-0670	0.138
Z001-1030	0.088
Z001-1240	0.034
Z001-1270	0.102
Z001-1670	0.011
Z001-1680	0.046
Z001-2310	0.033
Z001-2830	0.011
Z001-2920	0.022
Z001-3160	0.003
Z001-3180	0.030
Z002-0030	0.135
Z002-0400	0.003
Z002-0450	0.004
Z002-0490	0.009
Z002-0990	0.010
Z003-0070	0.030
Z003-0560	0.058
Z003-0980	0.003
Z003-1050	0.002
Z003-1220	0.006
Z003-1485	0.005
Z003-1890	0.002
Z004-0030	0.002
Z004-0180	0.013
Z004-0340	0.070
Z004-0750	0.100
Z005-0050	0.009
Z005-0230	0.033
Z005-0480	0.160
Z006-0490	0.056
Z006-0540	0.004
Z006-0610	0.017
Z006-1150	0.022
Z006-1830	0.032
Z006-1940	0.010
Z006-2330	0.008
Z006-2660	0.009
Z006-2720	0.075
Z006-2850	0.050
Z007-0093	0.026
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Z008-0277	0.006
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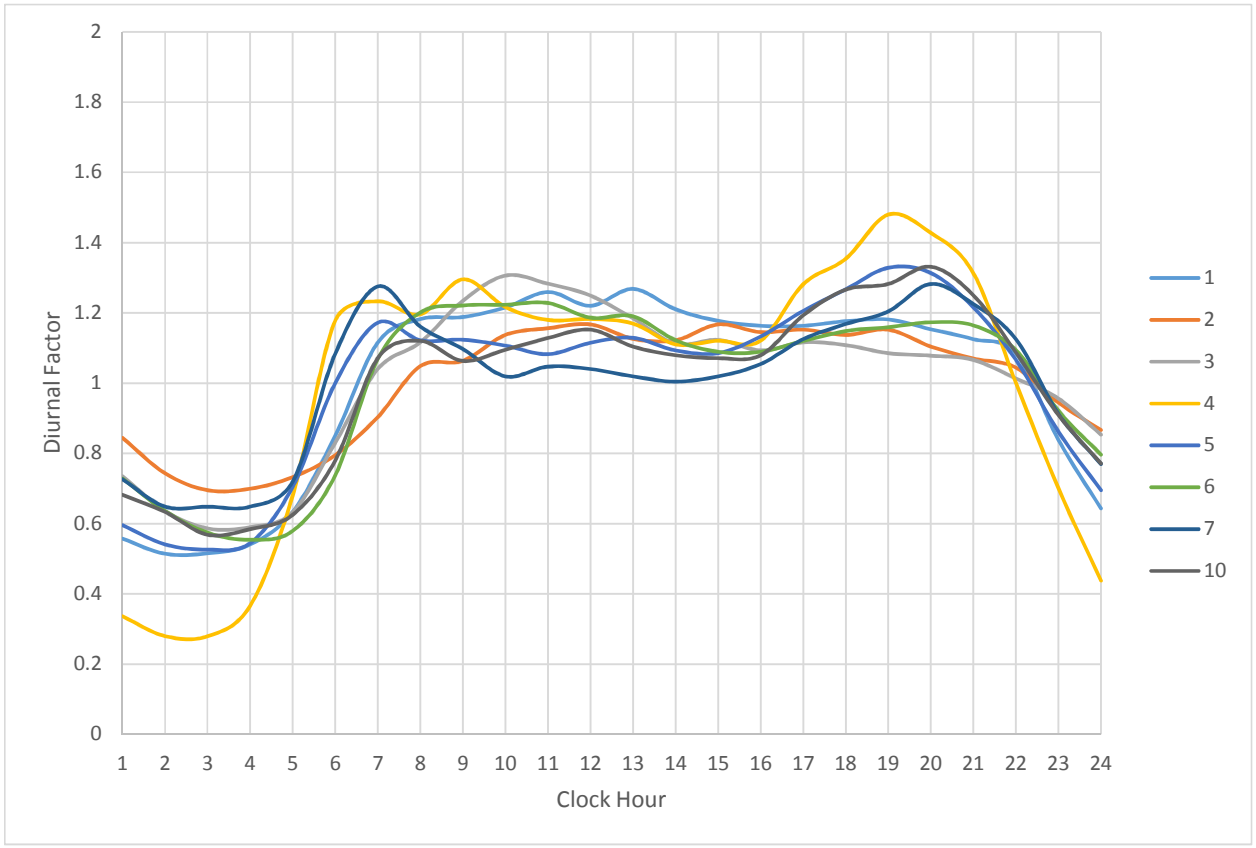
Z008-4220	0.085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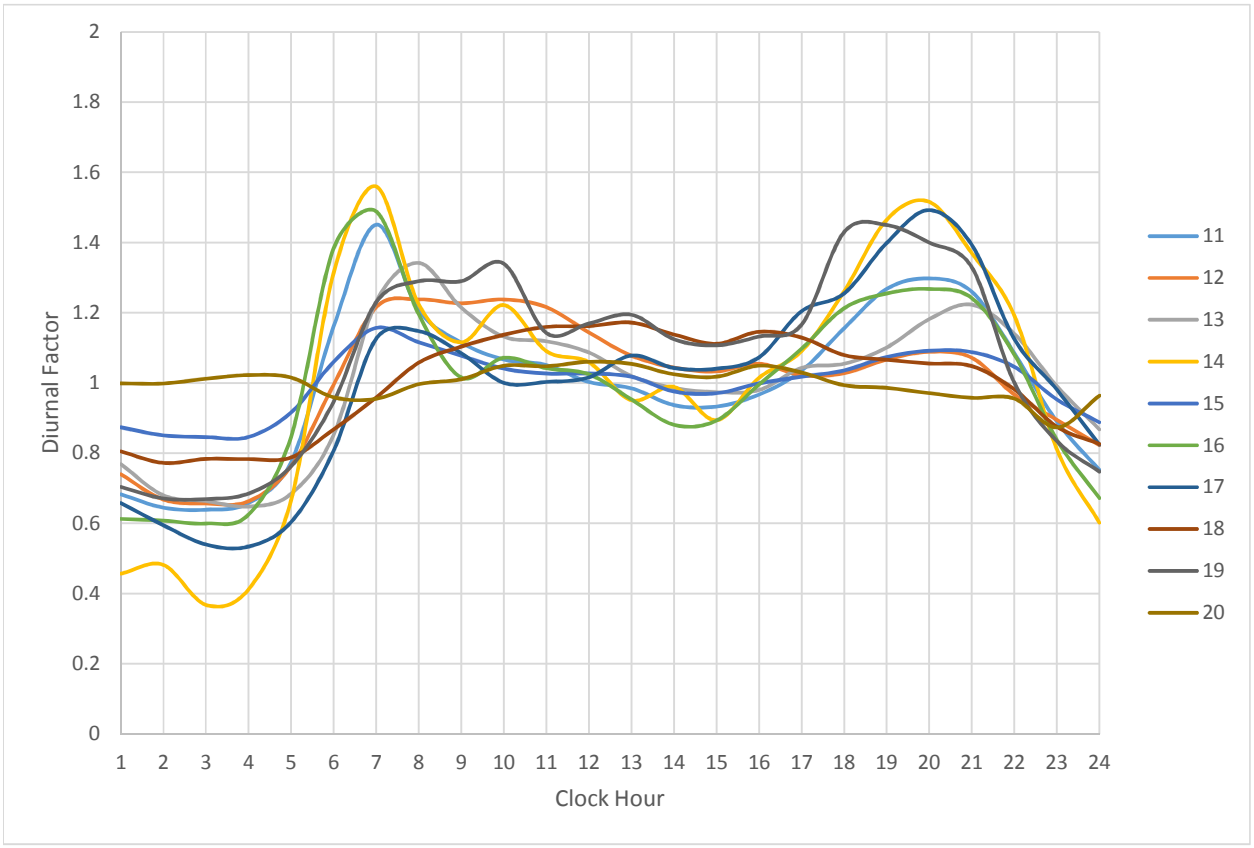
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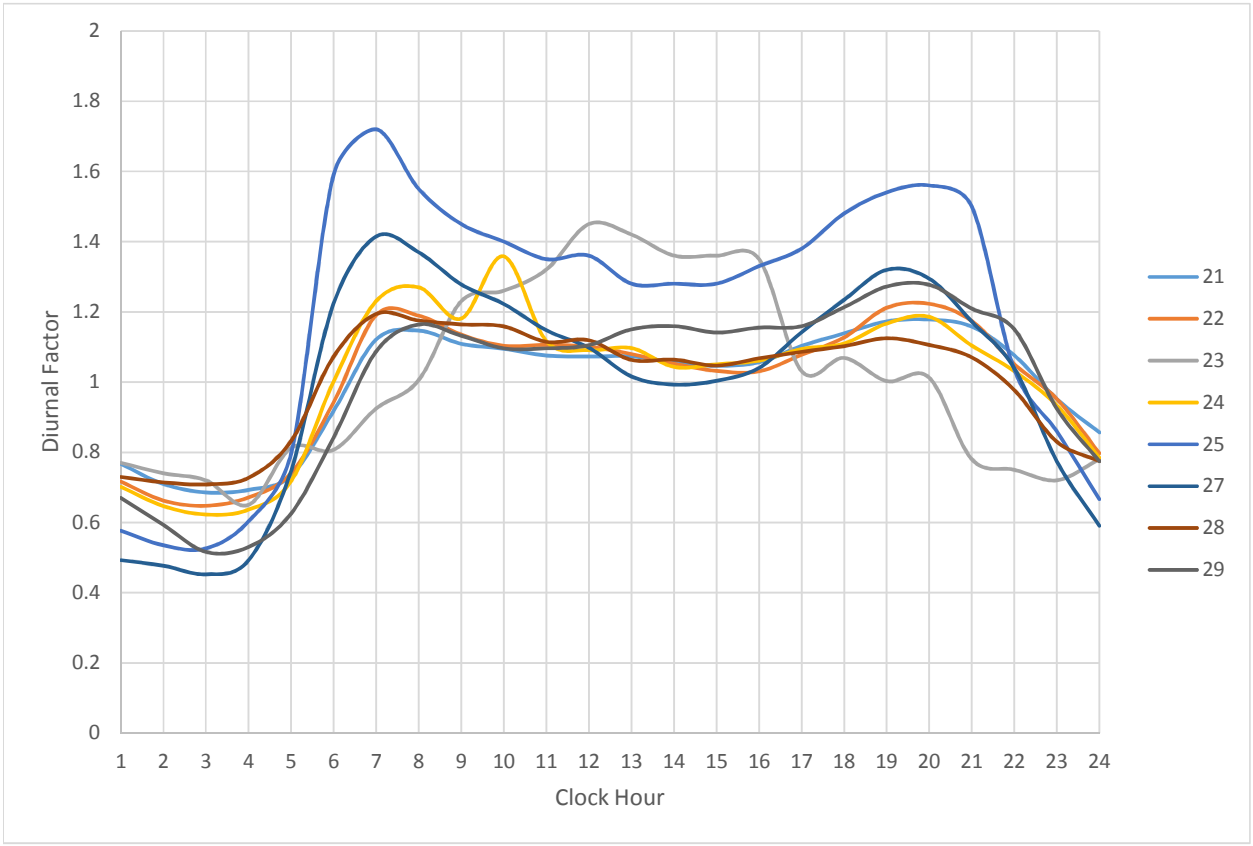
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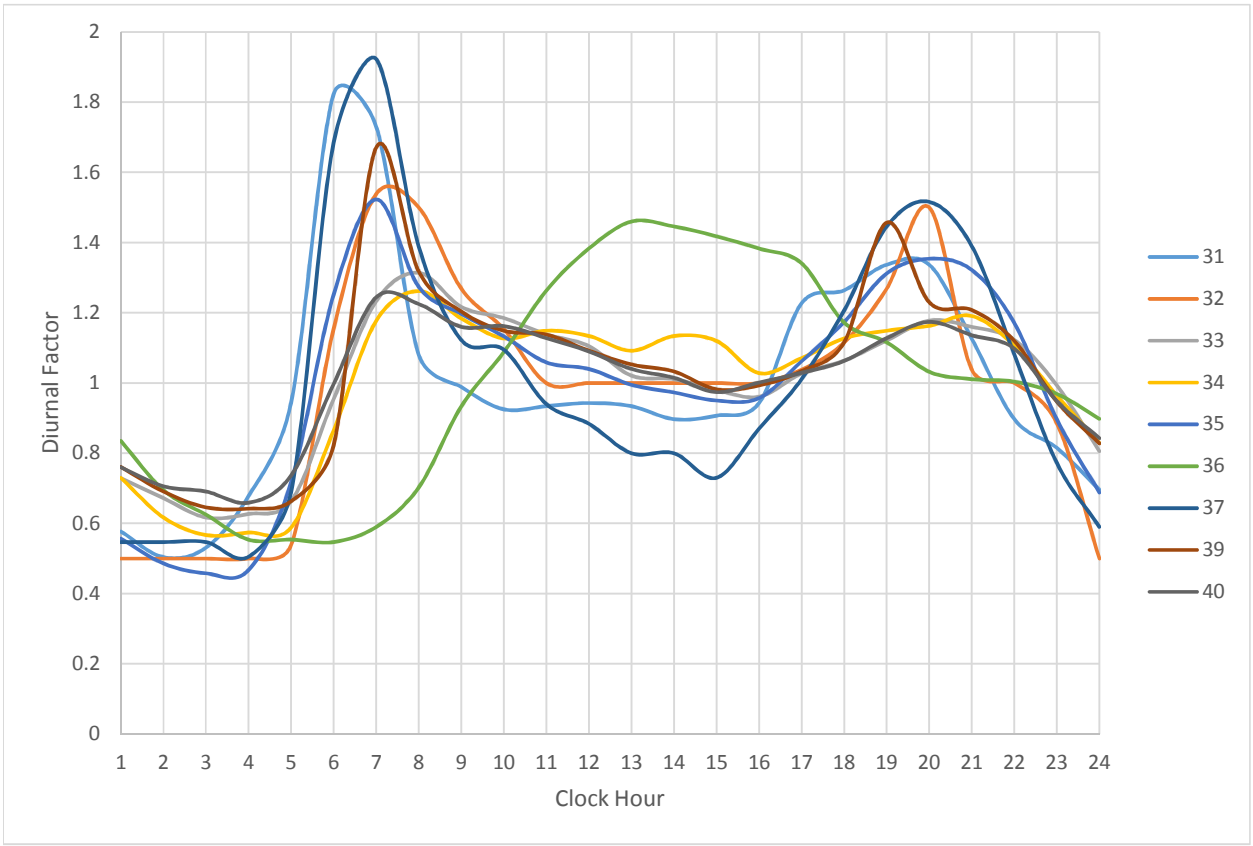
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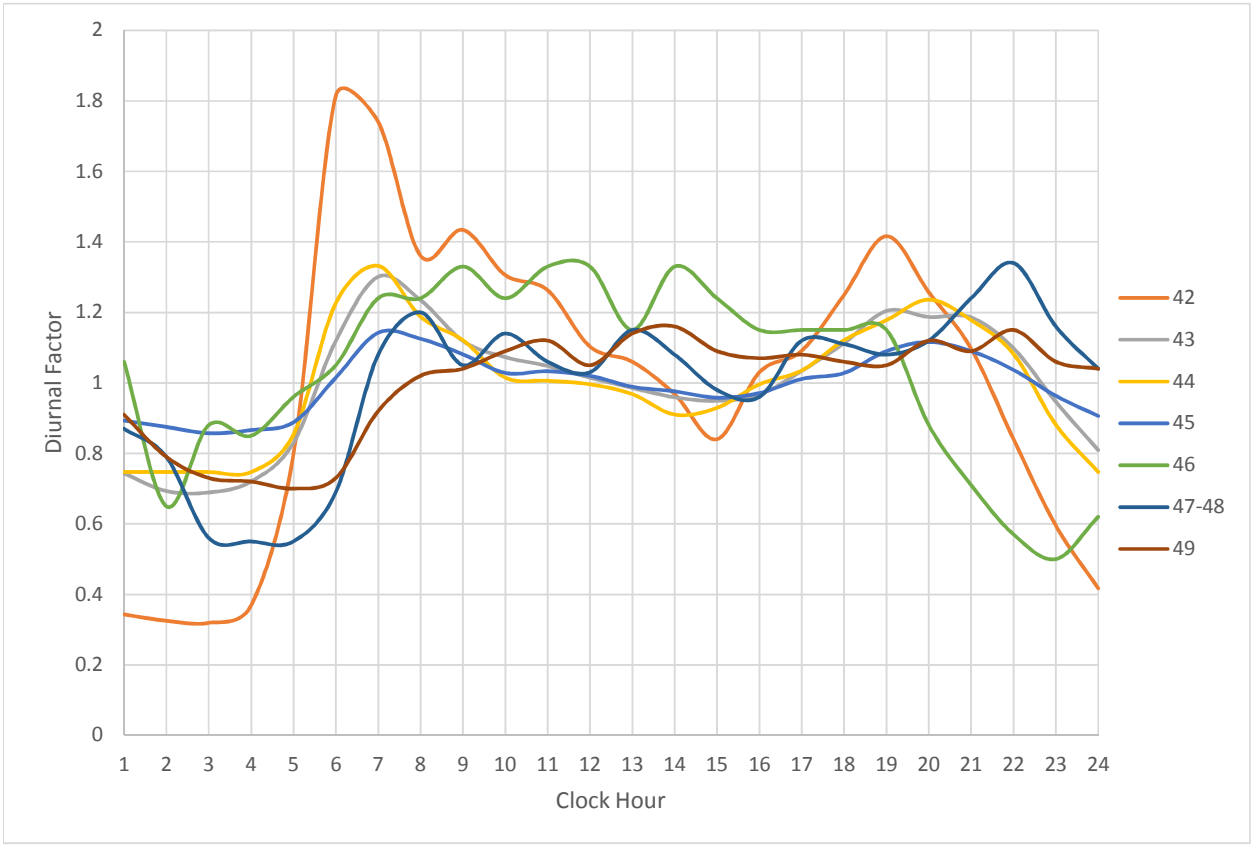
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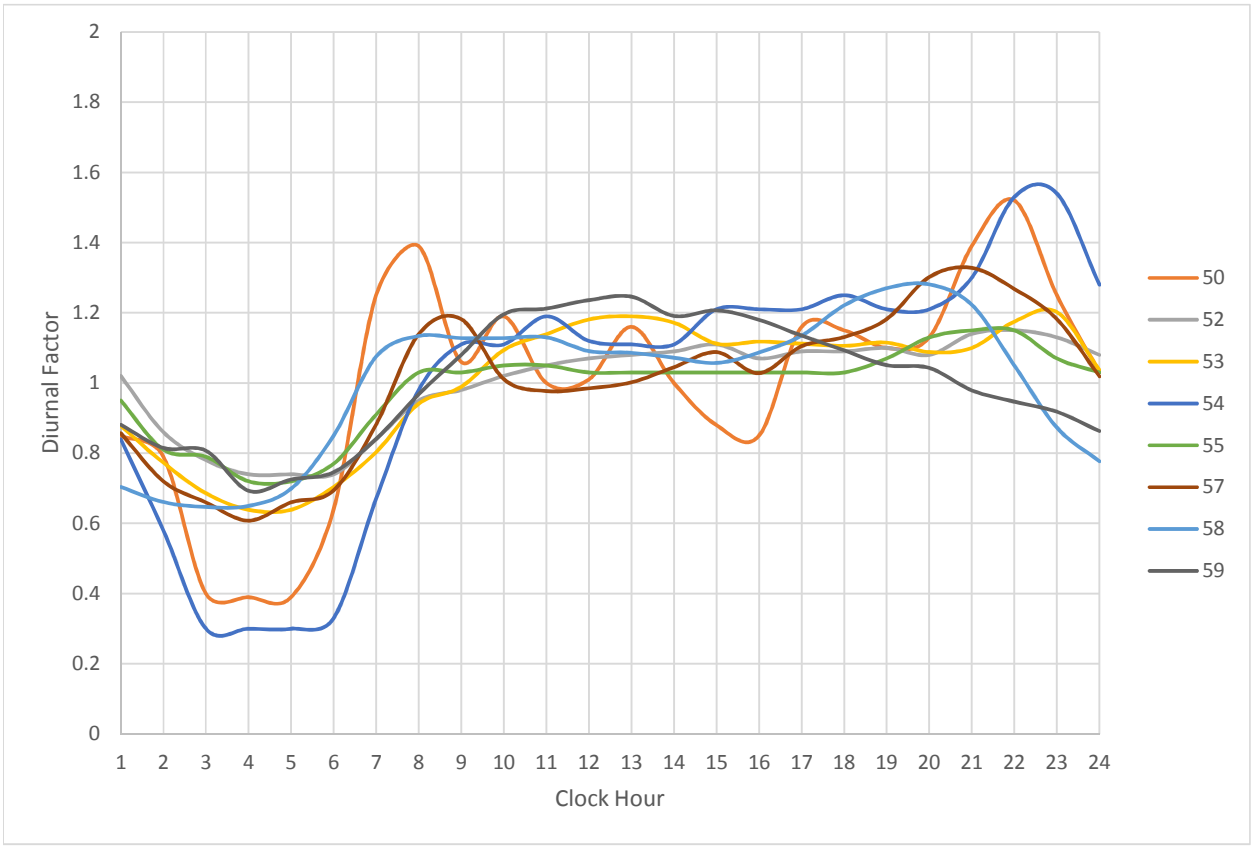
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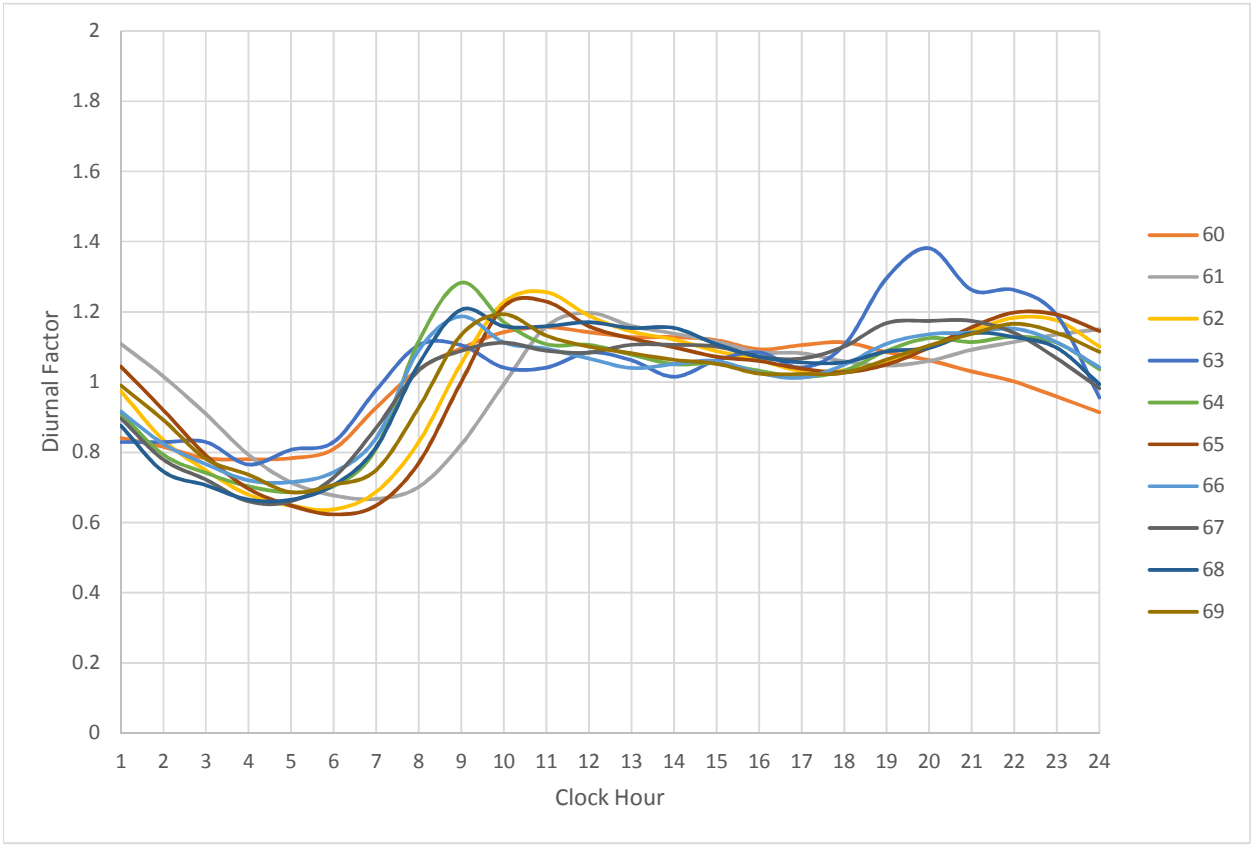
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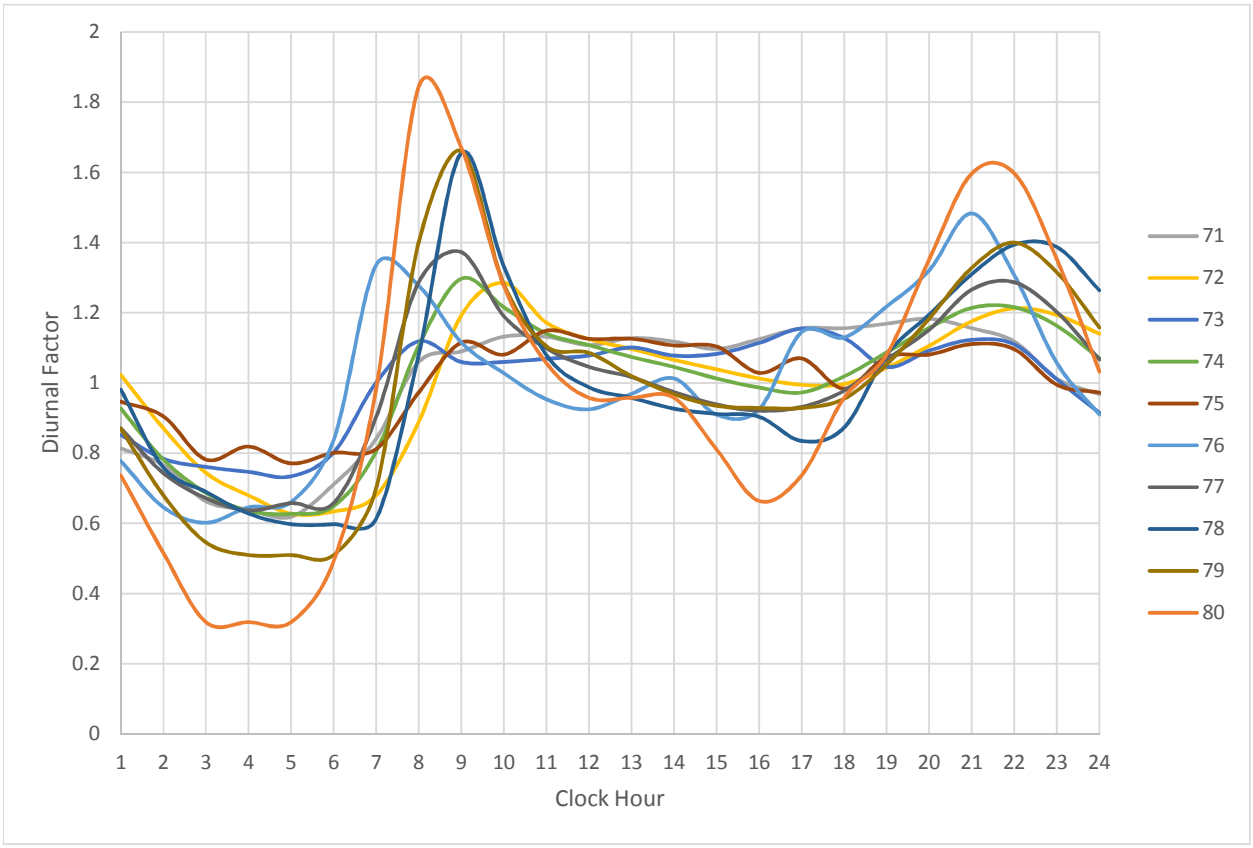
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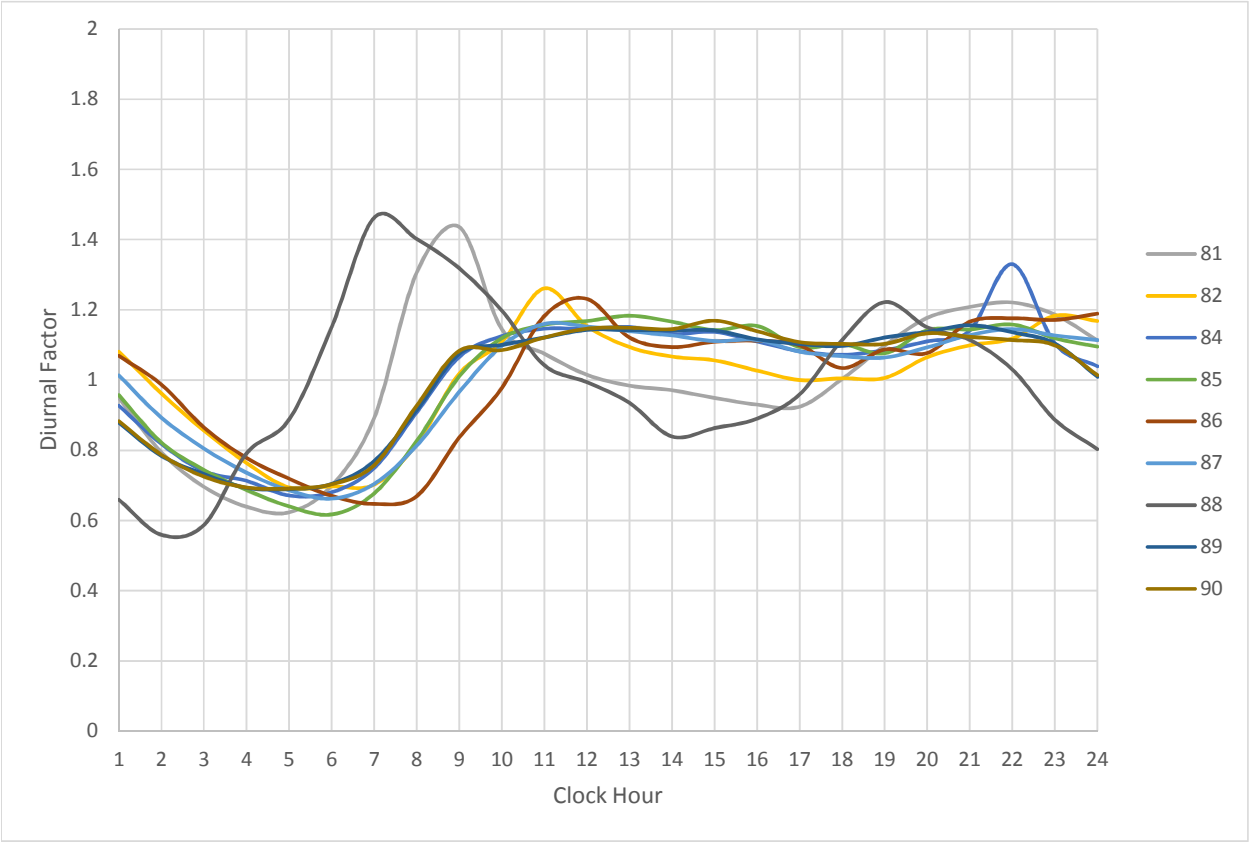


Notes:
Numbers represent the Alt Monitor ID.
Those not shown had poor data quality or were otherwise not used.

Appendix B

Wet Weather Flow Parameters

Calibrated Wet Weather (RTK) Parameters

Alt Flow Monitor ID	R1	R2	R3	T1	T2	T3	K1	K2	K3	Total R Value
1	0.027	0.070	0.080	1	4	9	1	6	10	0.177
2	0.027	0.070	0.080	1	4	9	2	6	10	0.177
3	0.017	0.022	0.056	0.75	3	9	2	4	10	0.095
4	0.025	0.020	0.057	1	4	9	3	6	11	0.102
5	0.023	0.030	0.050	1	4	9	4	7	11	0.103
6	0.010	0.010	0.035	2	3	4.5	2	4	13	0.055
7	0.015	0.015	0.090	1	3	6	3	4	13	0.120
8	0.015	0.005	0.030	1	4	6	3	5	14	0.050
9	0.028	0.002	0.025	2	3	4	3	5	15	0.055
10	0.006	0.006	0.072	1.1	4	8	2.5	3	11	0.084
11	0.020	0.006	0.052	1	4	6	2	5	12	0.078
12	0.005	0.006	0.021	1.3	3	6	3	5	10	0.032
13	0.009	0.015	0.046	1	4	6	4	8	12	0.070
14	0.004	0.004	0.011	0.7	3	4	3	6	16	0.019
15	0.004	0.010	0.033	2	4	6	3	5	20	0.047
16	0.003	0.003	0.031	0.75	2	5	1.5	3	12	0.037
17	0.057	0.010	0.045	1	5	6	4	6	8	0.112
18	0.030	0.010	0.028	0.8	3	6	4	5	12	0.068
19	0.035	0.010	0.025	1	5	6	4	7	7	0.070
20	0.030	0.001	0.035	1	3	6	4	6	7	0.066
21	0.022	0.018	0.027	1	3	10	5	8	10	0.067
22	0.030	0.030	0.110	1	3	11	3	5	12	0.170
23	0.020	0.008	0.035	1	2	4	2	4	8	0.063
24	0.028	0.016	0.068	1	3	8	6	7	8	0.012
25	0.060	0.025	0.110	1	4	7	3	5	9	0.195
26	0.020	0.030	0.110	1	3	11	3	5	12	0.160
27	0.011	0.010	0.055	1	2	9	3	3	9	0.076
28	0.020	0.050	0.070	1	4	8	4	7	12	0.140
29	0.020	0.010	0.025	1	3	5	3	6	10	0.055
30	0.030	0.100	0.100	2	4	12	2	6	18	0.230
31	0.030	0.100	0.100	2	4	12	2	6	18	0.230
32	0.010	0.010	0.020	1	2	5	2	6	9	0.040
33	0.018	0.006	0.100	1	3	10	5	6	12	0.124
34	0.016	0.053	0.035	1	2	9	2	5	11	0.104
35	0.011	0.004	0.046	1	2	7	2	5	8	0.061
36	0.012	0.024	0.035	1	3	8	2	4	13	0.071
37	0.008	0.040	0.100	1	3	9	3	6	13	0.148
38	0.030	0.000	0.000	2	2	6	2	5	16	0.030
39	0.010	0.007	0.075	2	4	5	2	4	12	0.092
40	0.014	0.004	0.052	1	4	6	4	8	12	0.070
41	0.011	0.036	0.077	1	4	9	5	9	17	0.124
42	0.020	0.020	0.070	1	3	8	5	6	9	0.110
42a	0.004	0.032	0.060	0.5	1.5	8	2	8	10	0.096
42b	0.008	0.050	0.060	0.5	2	8	3	6	10	0.118
43	0.005	0.012	0.030	1.5	3	6	3	7	12	0.047
44	0.006	0.003	0.020	1	2	6	2	5	9	0.029
45	0.005	0.012	0.030	1.5	3	6	3	7	12	0.047
46	0.002	0.002	0.010	1.5	4	5	3	5	8	0.014
47	0.010	0.026	0.033	1	3	6	3	4	12	0.069
48	0.010	0.026	0.033	1	3	6	3	4	12	0.069
49	0.008	0.012	0.065	1	3	4	3	5	18	0.085
50	0.022	0.040	0.070	1	2	7	4	9	12	0.132
51	0.022	0.040	0.070	1	2	7	4	9	12	0.132
52	0.010	0.025	0.030	1	3	6	3	4	12	0.065
53	0.015	0.005	0.030	1	4	6	3	5	14	0.050
54	0.008	0.013	0.025	2	3	6	3	4	12	0.046
55	0.016	0.030	0.080	2	3	8	4	5	12	0.126
56	0.008	0.012	0.065	1	3	4	3	5	18	0.085
57	0.003	0.002	0.013	1	1.5	8	2	5	12	0.018

Alt Flow Monitor ID	R1	R2	R3	T1	T2	T3	K1	K2	K3	Total R Value
58	0.013	0.023	0.042	1	4	12	4	6	12	0.078
59	0.002	0.030	0.060	0.5	2	6	1	2	14	0.092
60	0.030	0.100	0.100	2	4	12	2	6	18	0.230
61	0.020	0.020	0.020	2	4	12	4	9	12	0.060
62	0.005	0.005	0.010	2	6	8	3	6	11	0.020
63	0.020	0.010	0.060	1.2	2.5	4	2	5	18	0.090
64	0.027	0.030	0.060	2	4	9	3	8	20	0.117
65	0.020	0.020	0.040	2	6	8	3	6	11	0.080
66	0.015	0.030	0.040	1.5	4.5	5.5	3	7	25	0.085
67	0.013	0.025	0.033	2	4	7	2	8	18	0.071
68	0.047	0.010	0.060	2	4	9	6	8	20	0.117
69	0.029	0.014	0.029	2	4	8	3	5	8	0.072
71	0.001	0.030	0.030	1	4	6	2.5	6	12	0.061
72	0.010	0.005	0.040	1	2	6	2	5	12	0.055
73	0.010	0.010	0.010	0.5	2	6	4	6.5	14	0.030
74	0.001	0.001	0.004	1	2	6	2	5	12	0.006
76	0.003	0.004	0.009	3	4	5	2	5	12	0.016
77	0.005	0.002	0.005	2	4	7	2	6	12	0.012
78	0.014	0.014	0.040	3	4	7	2	5	20	0.068
79	0.003	0.009	0.025	2	4	10	3	5	12	0.037
80	0.003	0.004	0.008	2	5	8	2	8	15	0.015
81	0.030	0.000	0.000	2	2	6	2	5	16	0.030
82	0.009	0.000	0.018	2	0	9	3	0	12	0.027
84	0.018	0.022	0.073	2	5	12	2	5	12	0.113
85	0.000	0.000	0.005	1	2	12	2	4	15	0.005
86	0.005	0.010	0.015	1	2	6	2	4	14	0.030
87	0.008	0.005	0.010	1	2	4	2	3	6	0.023
88	0.015	0.008	0.001	1	2	4	2	3	6	0.024
89	0.006	0.000	0.015	2	6	8	3	7	9	0.021
90	0.000	0.000	0.200	0	0	14	0	0	18	0.200
Riverlyn Pump Station	0.006	0.041	0.060	0.5	1.75	8	2.5	7	10	0.107
Mill Creek Unmonitored	0.092	0.030	0.060	0.5	2	6	1	2	14	0.182
P Street Unmonitored	0.028	0.019	0.058	1	3	8	4	6	10	0.105
Massard Unmonitored	0.002	0.030	0.060	0.5	2	6	1	2	14	0.092

Notes:

FM42, FM42a, and FM42b represent patterns retained from the previous study of the Riverlyn Pump Station area.

RTK parameters were not developed for the following flow monitors (Alt ID): 70, 75, 83

For locations where flow monitors during more than one period, both listed monitors are listed.

Appendix C

Calibration and Verification Graphs

Fort Smith Model Dry Weather Calibration and Verification Statistics

Note: Normal variations in day-to-day flows and pump station influences are not accounted for in the data comparison.
The results presented compare the average daily flow modeled to an actual / observed period.

		Modeled			Observed					
Alt Monitor ID	Verification Meter?	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (% Difference)	Peak Flow (% Difference)	Depth Difference (inches)
1	No	1.21	0.74	4.88	1.3	1.23	5.29	-7%	-40%	-0.4
2	No	0.41	0.24	3.38	0.47	0.55	4.47	-13%	-56%	-1.1
3	No	0.41	0.26	2.82	0.43	0.34	3.7	-5%	-24%	-0.9
4	No	0.22	0.16	2.14	0.21	0.29	3.45	5%	-45%	-1.3
5	No	0.48	0.33	5.82	0.56	0.45	6.95	-14%	-27%	-1.1
6	Yes	0.86	0.52	4.4	0.88	0.56	4.6	-2%	-7%	-0.2
7	No	0.24	0.15	2.62	0.27	0.2	3.36	-11%	-25%	-0.7
8	No	Poor data. Not used.								
9	No	Poor data. Not used.								
10	No	0.18	0.1176	3.204	0.17	0.134	3.59	6%	-12%	-0.4
11	No	0.79	0.513	3.8	0.8	0.7	2.98	-1%	-27%	0.8
12	No	0.29	0.18	3.38	0.29	0.26	4.29	0%	-31%	-0.9
13	No	0.79	0.55	5.29	0.75	0.73	6.49	5%	-25%	-1.2
14	No	0.21	0.15	2.93	0.25	0.28	3.76	-16%	-46%	-0.8
15	No	0.32	0.19	3.61	0.35	0.21	4.22	-9%	-10%	-0.6
16	No	0.36	0.26	3.16	0.38	0.35	4.04	-5%	-26%	-0.9
17	No	0.14	0.10	2.33	0.15	0.13	2.63	-7%	-23%	-0.3
18	No	2.09	1.35	7.22	1.84	1.23	6.77	14%	10%	0.5
19	No	0.22	0.15	6.00	0.2	0.17	6.14	10%	-12%	-0.1
20	No	1.92	1.24	17.47	1.82	1.19	18.25	5%	4%	-0.8
21	No	2.39	1.46	9.17	2.34	1.64	9.54	2%	-11%	-0.4
22	Yes	1.15	0.71	4.5	1.28	0.88	5.5	-10%	-19%	-1.0
23	No	0.78	0.64	13.19	0.85	0.93	13.18	-8%	-31%	0.0
24	Yes	0.65	0.41	3.1	0.67	0.53	6.6	-3%	-23%	-3.4
25	No	0.43	0.31	4.08	0.68	0.51	4.36	-37%	-39%	-0.3
26	No	Poor data. Not used.								
27	No	0.17	0.12	2.08	0.16	0.16	2.52	6%	-25%	-0.4
28	No	0.36	0.22	5.76	0.39	0.29	6.06	-8%	-24%	-0.3
29	No	0.35	0.23	2.60	0.30	0.22	3.57	17%	5%	-1.0
30	No	Poor data. Not used.								
31	No	Data used only for input development.								
32	No	0.04	0.03	1.04	0.04	0.04	1.84	0%	-25%	-0.8
33	No	0.76	0.77	0.54	0.63	2.18	2.73	21%	-65%	-2.2
34	No	0.22	0.14	2.22	0.18	0.13	2.34	22%	8%	-0.1
35	No	0.49	0.37	4.39	0.50	0.42	5.32	-2%	-12%	-0.9

		Modeled			Observed					
Alt Monitor ID	Verification Meter?	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (% Difference)	Peak Flow (% Difference)	Depth Difference (inches)
36	No	0.22	0.16	2.02	0.22	0.19	2.65	0%	-16%	-0.6
37	No	0.11	0.10	1.74	0.10	0.13	1.72	10%	-23%	0.0
38	No	Poor data. Not used.								
39	Yes	1.40	0.96	7.3	1.35	1.02	7.8	4%	-6%	-0.5
40	No	0.64	0.45	4.33	0.72	0.67	6.49	-11%	-33%	-2.2
41	No	Poor velocity data. Only depth used.		3.02			3.85			-0.8
42	No	0.32	0.29	2.46	0.27	0.31	3.04	19%	-6%	-0.6
43	No	0.77	0.50	4.67	0.77	0.57	4.66	0%	-12%	0.0
44	No	0.14	0.10	3.54	0.15	0.15	5.06	-7%	-33%	-1.5
45	No	0.38	0.22	3.25	0.37	0.24	3.96	3%	-8%	-0.7
46	No	0.03	0.01	0.72	0.03	0.06	1.90	0%	-81%	-1.2
47	No	0.66	0.33	10.80	0.54	0.21	10.56	22%	55%	0.2
48	No	0.93	0.45	10.56	1.13	0.53	11.38	-18%	-15%	-0.8
49	No	0.50	0.22	3.84	0.52	0.31	4.01	-4%	-29%	-0.2
50	No	0.32	0.15	2.44	0.14	0.15	2.84	129%	-2%	-0.4
51	No	Poor data. Not used.								
52	Yes	1.84	1.00	8.5	1.86	0.90	10.1	-1%	11%	-1.6
53	No	Data used only for input development.								
54	No	0.10	0.05	2.11	0.1	0.10	2.22	0%	-47%	-0.1
55	No	0.11	0.04	3.73	0.12	0.14	5.30	-8%	-69%	-1.6
56	No	Poor data. Not used.								
57	No	0.18	0.12	2.89	0.23	0.19	3.7	-22%	-37%	-0.8
58	No	Data used only for input development.								
59	No	0.58	0.36	4.37	0.68	0.49	4.02	-15%	-26%	0.3
60	No	0.54	0.31	3.70	0.68	0.44	5.73	-21%	-29%	-2.0
61	Yes	6.31	3.81	13.2	8.06	4.31	22.2	-22%	-12%	-9.0
62	No	5.45	3.1	13.40	6.42	4.17	14.11	-15%	-26%	-0.7
63	No	Data used only for input development.								
64	No	0.73	0.46	4.28	0.97	0.64	4.79	-25%	-28%	-0.5
65	Yes	4.68	2.67	11.2	4.8	2.93	10.3	-3%	-9%	0.9
66	No	0.67	0.39	4.32	0.77	0.47	5.36	-13%	-17%	-1.0
67	No	0.27	0.16	3.65	0.35	0.22	4.45	-23%	-28%	-0.8
68	No	0.23	0.14	14.34	0.42	0.25	3.29	-45%	-45%	11.1
69	No	3.88	2.31	12.47	3.65	2.37	11.75	6%	-3%	0.7
70	No	Poor data. Not used.								
71	No	0.6	0.56	5.65	0.59	0.38	4.49	2%	49%	1.2
72	Yes	2.45	1.58	7.6	2.94	2.03	7.7	-17%	-22%	-0.2
73	No	0.34	0.2	4.28	0.41	0.28	3.75	-17%	-29%	0.5
74	No	2.4	1.55	7.85	2.48	1.66	8.49	-3%	-7%	-0.6
75	No	0.5	2.28	10.44	0.43	0.36	7.18	16%	535%	3.3
76	No	0.08	0.06	13.78	0.1	0.09	2.73	-20%	-35%	11.1

		Modeled			Observed					
Alt Monitor ID	**Verification Meter?**	**Volume (MG)**	**Peak Flow (mgd)**	**Depth (inches)**	**Volume (MG)**	**Peak Flow (mgd)**	**Depth (inches)**	**Volume (% Difference)**	**Peak Flow (% Difference)**	**Depth Difference (inches)**
77	No	0.45	0.34	4.01	0.51	0.38	4.85	-12%	-11%	-0.8
78	No	0.2	0.16	4.25	0.3	0.26	2.33	-33%	-38%	1.9
79	No	0.23	0.19	6.19	0.32	0.26	3.07	-28%	-27%	3.1
80	No	0.06	0.06	1.82	0.09	0.11	2.46	-33%	-46%	-0.6
81	No	0.48	0.33	6.74	0.65	0.47	2.80	-26%	-30%	3.9
82	No	1.42	0.98	6.58	2.16	1.40	5.79	-34%	-30%	0.8
83	No	0.17	0.45	4.62	0.64	0.45	4.05	-73%	0%	0.6
84	No	7.41	4.32	14.30	7.14	4.32	15.53	4%	0%	-1.2
85	No	8.73	NA - PS influence	20.41	9.61	NA - PS influence	14.68	-9%	NA - PS influence	5.7
86	No	2.53	1.73	6.74	2.99	2.05	12.40	-15%	-16%	-5.7
87	Yes	6.14	7.28	16.9	6.35	7.67	14.8	-3%	-5%	2.1
88	No	0.1	0.07	1.86	0.15	0.14	3.35	-33%	-49%	-1.5
89	Yes	1.82	1.09	6.7	2.11	1.30	6.0	-14%	-16%	0.7
90	No	1.73	1.04	4.27	1.97	1.21	5.88	-12%	-14%	-1.608

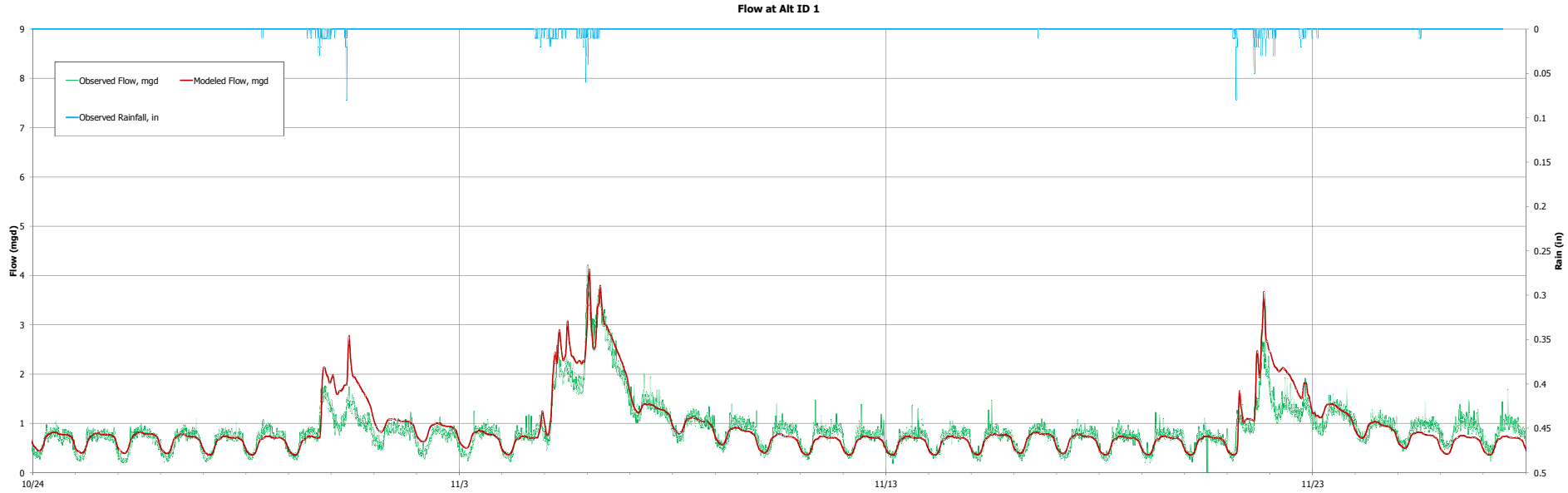
Fort Smith Model Wet Weather Calibration and Verification Statistics

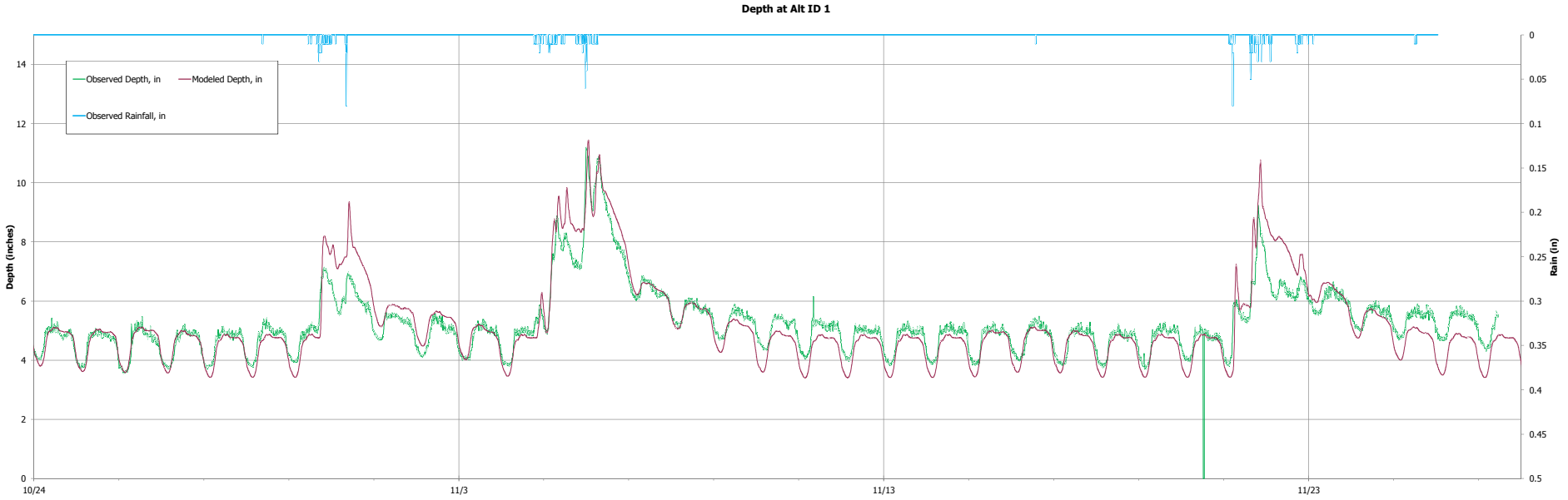
				Modeled			Observed					
Alt Monitor ID	Verification Meter?	Season	Storm Event	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (% Difference)	Peak Flow (% Difference)	Depth Difference (inches)
1	No	Fall 2013	11/4-11/9	7.88	4.13	11.45	7.43	4.21	11.2	6%	-2%	0.3
1	No	Fall 2013	11/21-11/25	5.45	3.67	10.78	4.6	3.37	9.23	18%	9%	1.6
2	No	Fall 2013	11/4-11/9	4.36	2.71	9.12	5.83	4.26	12.06	-25%	-36%	-2.9
2	No	Fall 2013	11/21-11/25	2.89	2.34	8.39	2.77	2.9	8.79	4%	-19%	-0.4
3	No	Fall 2013	11/4-11/9	2.01	1.02	5.66	1.99	1.03	6.11	1%	-1%	-0.5
3	No	Fall 2013	11/21-11/25	1.35	0.79	4.97	1.24	0.74	5.36	9%	7%	-0.4
4	No	Fall 2013	11/4-11/9	1.00	0.76	4.62	0.96	0.81	5.03	4%	-6%	-0.4
4	No	Fall 2013	11/21-11/25	0.72	0.56	3.96	0.65	0.48	4.31	11%	17%	-0.4
5	No	Fall 2013	11/4-11/9	2.17	1.58	10.08	2.20	1.70	11.96	-1%	-7%	-1.9
5	No	Fall 2013	11/21-11/25	1.59	1.16	9.35	1.63	1.09	9.82	-2%	6%	-0.5
6	Yes	Fall 2013	11/4-11/9	4.25	1.89	8.2	4.22	2.18	8.38	1%	-13%	-0.2
6	Yes	Fall 2013	11/21-11/25	2.96	1.46	7.15	2.81	1.48	6.82	5%	-1%	0.3
7	No	Fall 2013	11/4-11/9	1.29	0.58	4.75	1.21	0.62	6.97	7%	-6%	-2.2
7	No	Fall 2013	11/21-11/25	0.92	0.4	3.92	0.9	0.42	5.1	2%	-5%	-1.2
8	No	Fall 2013	11/4-11/9	Poor data. Not used.								
8	No	Fall 2013	11/21-11/25	Poor data. Not used.								
9	No	Fall 2013	11/4-11/9	1.91	0.94	4.75	2.02	1.02	3.07	-5%	-8%	1.7
9	No	Fall 2013	11/21-11/25	Poor data. Not used.								
10	No	Fall 2013	11/4-11/9	0.66	0.21	3.61	0.59	0.24	4.84	12%	-13%	-1.2
10	No	Fall 2013	11/21-11/25	0.51	0.24	4	0.54	0.31	5.46	-6%	-23%	-1.5
11	No	Fall 2013	11/4-11/9	3	1.12	5.71	3.03	1.44	4.05	-1%	-22%	1.7
11	No	Fall 2013	11/21-11/25	2.47	1.39	6.43	2.49	1.29	3.92	-1%	8%	2.5
12	No	Fall 2013	11/4-11/9	0.91	0.29	4	0.93	0.38	4.94	-2%	-24%	-0.9
12	No	Fall 2013	11/21-11/25	0.75	0.34	4.22	0.74	0.36	4.83	1%	-6%	-0.6
13	No	Fall 2013	11/4-11/9	3.77	1.4	8.56	4.04	1.64	9.84	-7%	-15%	-1.3
13	No	Fall 2013	11/21-11/25	3.25	1.55	9.04	3.04	1.48	9.26	7%	5%	-0.2
14	No	Fall 2013	11/4-11/9	0.83	0.36	4.68	0.91	0.41	4.57	-9%	-12%	0.1
14	No	Fall 2013	11/21-11/25	0.72	0.51	5.42	0.83	0.59	5.36	-13%	-14%	0.1
15	No	Fall 2013	11/4-11/9	1.03	0.3	4.4	1.06	0.34	5.27	-3%	-12%	-0.9
15	No	Fall 2013	11/21-11/25	0.83	0.31	4.48	0.87	0.3	4.97	-5%	3%	-0.5
16	No	Fall 2013	11/4-11/9	1.26	0.49	4.36	1.34	0.57	5.38	-6%	-14%	-1.0
16	No	Fall 2013	11/21-11/25	1.04	0.6	4.84	1.13	0.5	5.11	-8%	20%	-0.3
17	No	Fall 2013	11/4-11/9	0.70	0.83	6.64	0.58	0.71	5.25	21%	17%	1.4
17	No	Fall 2013	11/21-11/25	Poor data. Not used.								
18	No	Fall 2013	11/4-11/9	4.95	3.66	13.06	4.92	3.89	13.29	1%	-6%	-0.2
18	No	Fall 2013	11/21-11/25	4.39	2.76	10.79	4.02	2.78	10.17	9%	-1%	0.6
19	No	Fall 2013	11/4-11/9	0.80	0.85	9.37	0.68	0.76	10.12	18%	11%	-0.7
19	No	Fall 2013	11/21-11/25	0.59	0.46	7.74	0.38	0.39	9.00	55%	18%	-1.3
20	No	Fall 2013	11/4-11/9	4.08	2.61	21.50	3.65	2.63	23.21	12%	-1%	-1.7
20	No	Fall 2013	11/21-11/25	3.64	2.12	20.16	3.21	2.18	21.69	13%	-3%	-1.5
21	No	Fall 2013	11/4-11/9	8.34	5.18	18.49	7.90	5.50	18.85	6%	-6%	-0.4
21	No	Fall 2013	11/21-11/25	6.99	4.51	16.93	5.91	3.60	14.96	18%	25%	2.0
22	Yes	Fall 2013	11/4-11/9	4.69	3.15	9.84	4.57	3.43	0.93	3%	-8%	8.9
22	Yes	Fall 2013	11/21-11/25	3.91	3.00	9.58	3.26	2.53	8.42	20%	19%	1.2
23	No	Fall 2013	11/4-11/9	1.80	1.32	15.96	1.92	1.31	15.92	-6%	0%	0.0
23	No	Fall 2013	11/21-11/25	1.61	1.15	15.12	1.61	1.12	15.22	0%	3%	-0.1
24	Yes	Fall 2013	11/4-11/9	3.45	2.29	10.30	3.45	2.24	12.05	0%	2%	-1.8
24	Yes	Fall 2013	11/21-11/25	2.61	1.91	9.49	2.68	1.83	9.39	-3%	4%	0.1

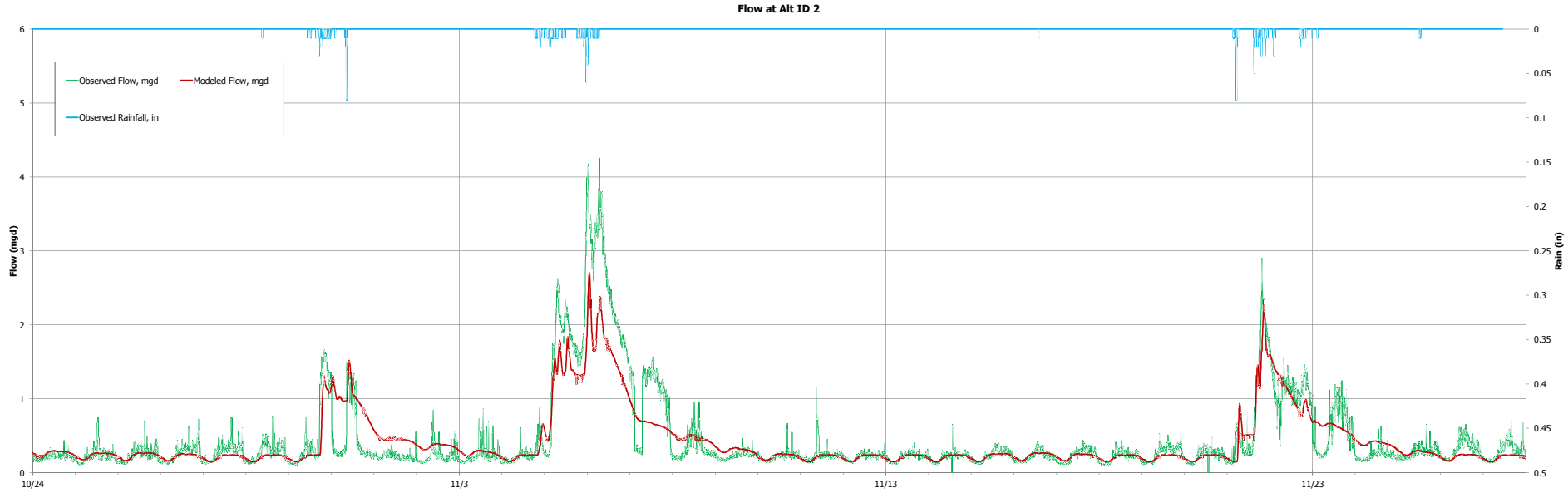
				Modeled			Observed					
Alt Monitor ID	Verification Meter?	Season	Storm Event	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (% Difference)	Peak Flow (% Difference)	Depth Difference (inches)
25	No	Fall 2013	11/4-11/9	1.74	1.39	8.00	1.74	1.48	8.61	0%	-6%	-0.6
25	No	Fall 2013	11/21-11/25	1.40	1.26	7.48	1.24	1.13	6.68	13%	12%	0.8
26	No	Fall 2013	11/4-11/9	Poor data. Not used.								
26	No	Fall 2013	11/21-11/25	Poor data. Not used.								
27	No	Fall 2013	11/4-11/9	0.64	0.41	4.24	0.62	0.44	4.11	3%	-7%	0.1
27	No	Fall 2013	11/21-11/25	0.51	0.37	3.94	0.46	0.33	3.59	11%	12%	0.4
28	No	Fall 2013	11/4-11/9	1.49	0.88	9.80	1.53	0.91	8.80	-3%	-3%	1.0
28	No	Fall 2013	11/21-11/25	1.16	0.75	8.94	1.13	0.66	8.03	3%	14%	0.9
29	No	Fall 2013	11/4-11/9	1.36	0.59	4.28	1.28	0.56	5.28	6%	5%	-1.0
29	No	Fall 2013	11/21-11/25	1.01	0.47	3.78	0.72	0.32	4.09	40%	47%	-0.3
30	No	Fall 2013	11/4-11/9	Poor data. Not used.								
30	No	Fall 2013	11/21-11/25	Poor data. Not used.								
31	No	Fall 2013	11/4-11/9	Data used only for input development.								
31	No	Fall 2013	11/21-11/25	Data used only for input development.								
32	No	Fall 2013	11/4-11/9	0.22	0.14	2.24	0.23	0.15	2.96	-4%	-7%	-0.7
32	No	Fall 2013	11/21-11/25	0.15	0.11	2	0.15	0.1	2.41	0%	10%	-0.4
33	No	Fall 2013	11/4-11/9	4.49	2.27	4.44	4.49	2.14	4.91	0%	6%	-0.5
33	No	Fall 2013	11/21-11/25	3.11	2.05	4.21	2.72	1.3	3.62	14%	58%	0.6
34	No	Fall 2013	11/4-11/9	1.19	0.77	5.45	1.05	0.83	4.58	13%	-7%	0.9
34	No	Fall 2013	11/21-11/25	0.81	0.76	5.41	0.51	0.37	3.42	59%	105%	2.0
35	No	Fall 2013	11/4-11/9	1.94	0.84	7.07	1.89	0.86	7.04	3%	-2%	0.0
35	No	Fall 2013	11/21-11/25	1.45	0.8	6.86	1.34	0.54	6.16	8%	48%	0.7
36	No	Fall 2013	11/4-11/9	1.45	0.91	4.92	1.43	0.81	5.42	1%	12%	-0.5
36	No	Fall 2013	11/21-11/25	0.95	0.8	4.6	0.86	0.52	4.42	10%	54%	0.2
37	No	Fall 2013	11/4-11/9	0.81	0.38	3.36	0.8	0.36	2.52	1%	6%	0.8
37	No	Fall 2013	11/21-11/25	0.64	0.32	3.06	0.65	0.34	2.7	-2%	-6%	0.4
38	No	Fall 2013	11/4-11/9	Poor data. Not used.								
38	No	Fall 2013	11/21-11/25	Poor data. Not used.								
39	Yes	Fall 2013	11/4-11/9	5.98	2.28	10.16	6.15	2.43	10.96	-3%	-6%	-0.8
39	Yes	Fall 2013	11/21-11/25	5.11	2.54	10.81	4.87	2.14	10.51	5%	19%	0.3
40	No	Fall 2013	11/4-11/9	3.39	1.31	7.81	3.91	1.51	9.73	-13%	-13%	-1.9
40	No	Fall 2013	11/21-11/25	2.94	1.45	8.4	2.91	1.18	8.56	1%	23%	-0.2
41	No	Fall 2013	11/4-11/9	Poor velocity data. Only depth used.		5.45			6.76			-1.3
41	No	Fall 2013	11/21-11/25	Poor velocity data. Only depth used.		5.46			5.18			0.3
42	No	Fall 2013	11/4-11/9	1.84	0.98	4.69	1.92	0.97	11.03	-4%	1%	-6.3
42	No	Fall 2013	11/21-11/25	1.31	0.78	4.12	1.14	0.54	3.63	15%	44%	0.5
43	No	Fall 2013	11/4-11/9	2.66	0.92	6.38	2.76	1.05	6.24	-4%	-12%	0.1
43	No	Fall 2013	11/21-11/25	2.18	1.02	6.77	2.3	0.89	5.74	-5%	15%	1.0
44	No	Fall 2013	11/4-11/9	0.51	0.21	4.45	0.54	0.29	7.1	-6%	-28%	-2.7
44	No	Fall 2013	11/21-11/25	0.42	0.28	4.87	0.43	0.3	6.2	-2%	-7%	-1.3
45	No	Fall 2013	11/4-11/9	1.24	0.36	4.27	1.13	0.41	5.15	10%	-12%	-0.9
45	No	Fall 2013	11/21-11/25	1.01	0.37	4.43	0.93	0.34	4.93	9%	9%	-0.5
46	No	Spring 2014	5/8-5/10	0.07	0.07	1.76	0.05	0.09	2.64	40%	-30%	-0.9
46	No	Spring 2014	5/12-5/16	0.12	0.07	1.86	0.13	0.11	2.80	-8%	-31%	-0.9
47	No	Spring 2014	5/8-5/10	1.29	1.15	14.60	0.98	1.01	16.01	32%	14%	-1.4
47	No	Spring 2014	5/12-5/16	2.32	1.31	15.13	2.33	1.20	18.48	0%	9%	-3.3
48	No	Spring 2014	5/8-5/10	2.89	3.01	38.54	2.58	3.03	42.80	12%	-1%	-4.3
48	No	Spring 2014	5/12-5/16	5.49	3.31	49.86	5.99	3.66	54.46	-8%	-10%	-4.6
49	No	Spring 2014	5/8-5/10	1.58	1.34	7.67	1.15	1.38	9.58	37%	-3%	-1.9
49	No	Spring 2014	5/12-5/16	3.02	1.56	8.22	2.74	1.44	10.24	10%	8%	-2.0

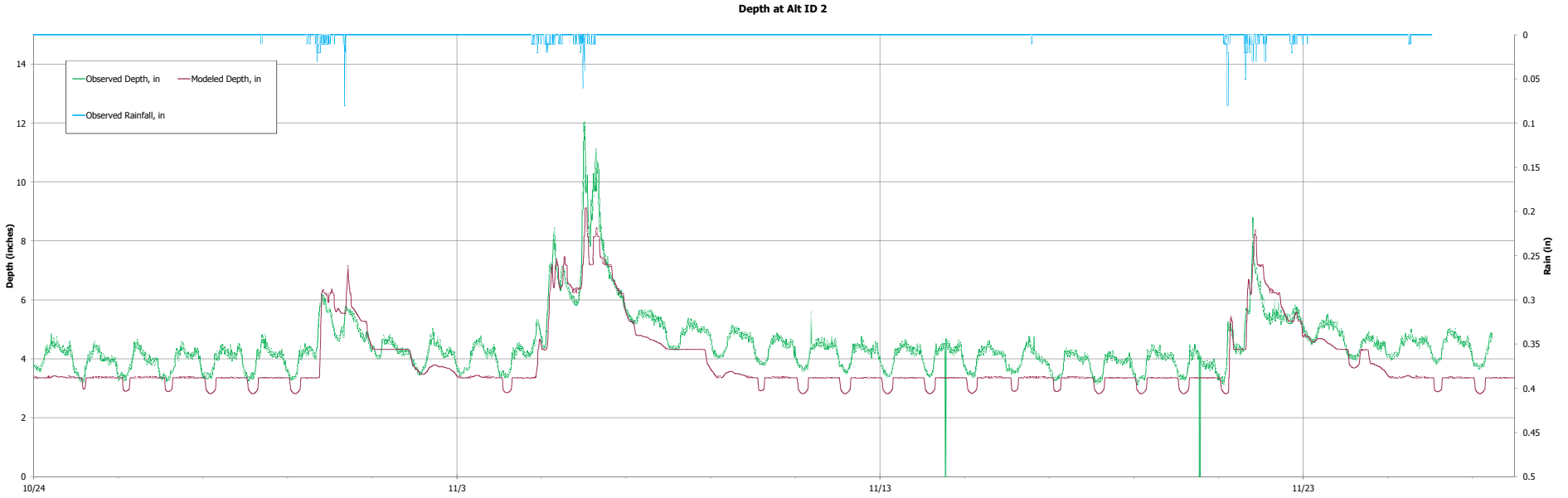
				Modeled			Observed					
Alt Monitor ID	Verification Meter?	Season	Storm Event	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (% Difference)	Peak Flow (% Difference)	Depth Difference (inches)
50	No	Spring 2014	5/8-5/10	1.27	1.35	7.91	0.69	1.08	7.19	84%	24%	0.7
50	No	Spring 2014	5/12-5/16	2.48	1.44	8.50	1.99	1.33	8.30	25%	8%	0.2
51	No	Spring 2014	5/8-5/10	Poor data. Not used.								
51	No	Spring 2014	5/12-5/16	Poor data. Not used.								
52	Yes	Spring 2014	5/8-5/10	4.90	4.95	18.67	4.26	4.57	19.88	15%	8%	-1.2
52	Yes	Spring 2014	5/12-5/16	9.06	5.46	19.61	9.96	5.82	21.39	-9%	-6%	-1.8
53	No	Spring 2014	5/8-5/10	Data used only for input development.								
53	No	Spring 2014	5/12-5/16	Data used only for input development.								
54	No	Spring 2014	5/8-5/10	0.41	0.58	4.24	0.30	0.47	4.39	37%	23%	-0.2
54	No	Spring 2014	5/12-5/16	0.73	0.59	4.27	0.71	0.64	4.97	3%	-7%	-0.7
55	No	Spring 2014	5/8-5/10	0.62	0.71	13.43	0.54	0.79	11.89	15%	-11%	1.5
55	No	Spring 2014	5/12-5/16	1.26	0.84	19.92	1.61	0.93	14.12	-22%	-10%	5.8
56	No	Spring 2014	5/8-5/10	Poor velocity data. Only depth used.								
56	No	Spring 2014	5/12-5/16	Poor velocity data. Only depth used.								
57	No	Spring 2014	5/8-5/10	0.55	0.44	5.51	0.48	0.47	6.26	15%	-7%	-0.7
57	No	Spring 2014	5/12-5/16	0.65	0.57	6.42	0.67	0.62	7.35	-3%	-8%	-0.9
58	No	Fall 2014	10/13-10/19	Data used only for input development.								
58	No	Fall 2014	10/10-10/12	Data used only for input development.								
59	No	Fall 2014	10/13-10/19	2.03	1.76	36.44	1.97	1.92	80.02	3%	-8%	-43.6
59	No	Fall 2014	10/10-10/12	1.83	1.32	31.70	1.81	1.44	10.72	1%	-8%	21.0
60	No	Fall 2014	10/13-10/19	4.37	3.90	41.54	4.50	5.70	89.74	-3%	-32%	-48.2
60	No	Fall 2014	10/10-10/12	4.31	3.16	25.50	4.09	3.55	13.90	5%	-11%	11.6
61	Yes	Fall 2014	10/13-10/19	Poor velocity data. Only depth used.		131.19			177.02			-45.8
61	Yes	Fall 2014	10/10-10/12	Poor velocity data. Only depth used.		128.27			125.08			3.2
62	No	Fall 2014	10/13-10/19	Poor velocity data. Only depth used.		110.40			117.05			-6.6
62	No	Fall 2014	10/10-10/12	Poor velocity data. Only depth used.		85.99			96.71			-10.7
63	No	Fall 2014	10/13-10/19	Data used only for input development.								
63	No	Fall 2014	10/10-10/12	Data used only for input development.								
64	No	Fall 2014	10/13-10/19	5.61	4.89	14.52	5.21	5.12	15.58	8%	-5%	-1.1
64	No	Fall 2014	10/10-10/12	5.12	3.60	12.21	4.70	3.64	11.97	9%	-1%	0.2
65	Yes	Fall 2014	10/13-10/19	15.09	4.97	108.86	15.51	4.42	122.12	-3%	13%	-13.3
65	Yes	Fall 2014	10/10-10/12	12.28	4.90	92.71	11.74	4.74	111.12	5%	3%	-18.4
66	No	Fall 2014	10/13-10/19	4.63	3.92	15.42	4.52	3.18	14.20	2%	23%	1.2
66	No	Fall 2014	10/10-10/12	4.36	2.87	12.51	4.30	2.61	12.31	1%	10%	0.2
67	No	Fall 2014	10/13-10/19	2.24	2.07	36.67	2.20	2.25	18.24	2%	-8%	18.4
67	No	Fall 2014	10/10-10/12	2.09	1.43	9.14	2.07	1.51	10.73	1%	-5%	-1.6
68	No	Fall 2014	10/13-10/19	2.40	1.83	63.01	2.47	1.91	48.43	-3%	-4%	14.6
68	No	Fall 2014	10/10-10/12	2.26	1.75	30.61	2.69	1.85	39.22	-16%	-5%	-8.6
69	No	Fall 2014	10/13-10/19	10.31	4.32	113.02	10.17	3.70	96.16	1%	17%	16.9
69	No	Fall 2014	10/10-10/12	7.18	3.67	95.12	8.06	4.46	97.04	-11%	-18%	-1.9
70	No	Fall 2014	10/13-10/19	Poor velocity data. Only depth used.		106.14			134.34			-28.2
70	No	Fall 2014	10/10-10/12	Poor velocity data. Only depth used.		76.70			136.42			-59.7
71	No	Fall 2014	10/13-10/19	2.63	3.33	39.33	2.54	3.97	53.16	4%	-16%	-13.8
71	No	Fall 2014	10/10-10/12	2.66	2.15	18.89	2.17	1.64	13.76	23%	31%	5.1
72	Yes	Fall 2014	10/13-10/19	12.53	7.71	85.07	14.78	11.36	103.46	-15%	-32%	-18.4
72	Yes	Fall 2014	10/10-10/12	11.14	5.61	29.09	12.15	7.88	75.91	-8%	-29%	-46.8
73	No	Fall 2014	10/13-10/19	1.73	3.19	19.00	1.71	3.04	26.10	1%	5%	-7.1
73	No	Fall 2014	10/10-10/12	1.71	1.81	12.01	1.39	1.67	11.02	23%	8%	1.0
74	No	Fall 2014	10/13-10/19	12.04	7.59	19.20	13.14	11.50	47.67	-8%	-34%	-28.5
74	No	Fall 2014	10/10-10/12	10.70	5.35	15.39	10.38	6.30	16.35	3%	-15%	-1.0

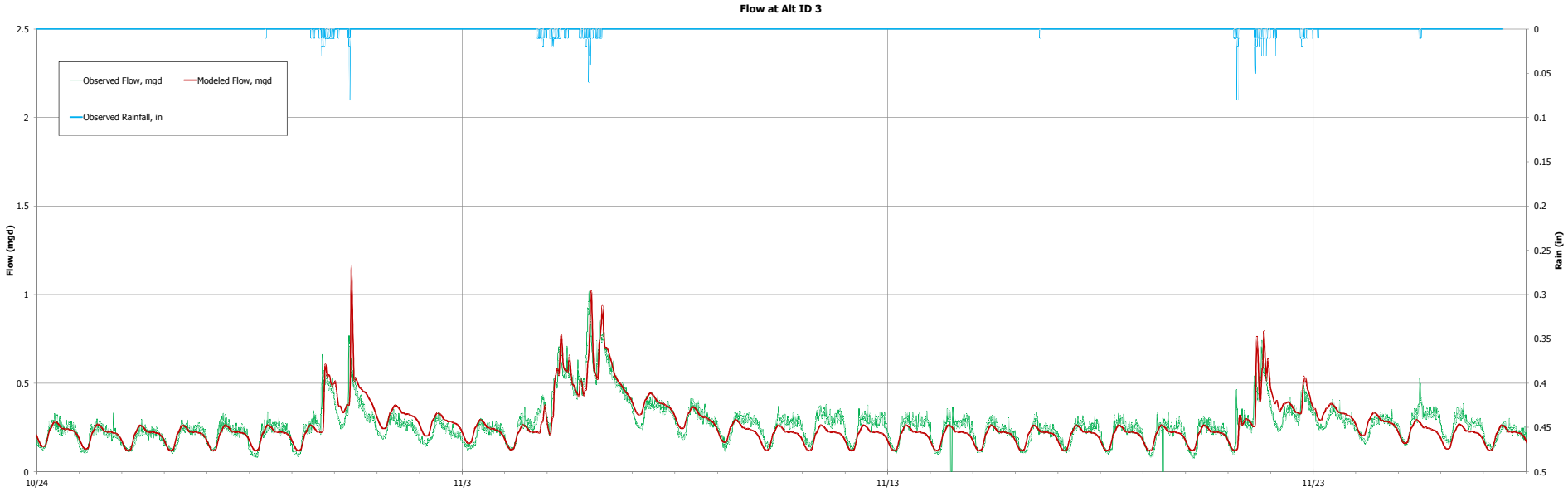
				Modeled			Observed					
Alt Monitor ID	Verification Meter?	Season	Storm Event	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (MG)	Peak Flow (mgd)	Depth (inches)	Volume (% Difference)	Peak Flow (% Difference)	Depth Difference (inches)
75	No	Fall 2014	10/13-10/19	9.60	5.75	35.78	9.91	5.85	80.81	-3%	-2%	-45.0
75	No	Fall 2014	10/10-10/12	11.40	5.75	35.78	10.75	5.86	71.26	6%	-2%	-35.5
76	No	Fall 2014	10/13-10/19	0.36	0.35	35.21	0.44	0.39	26.56	-18%	-11%	8.7
76	No	Fall 2014	10/10-10/12	0.39	0.25	3.56	0.35	0.21	4.55	11%	18%	-1.0
77	No	Fall 2014	10/13-10/19	2.43	1.51	8.61	2.57	1.80	8.72	-5%	-16%	-0.1
77	No	Fall 2014	10/10-10/12	1.70	0.85	6.34	1.94	1.26	7.75	-12%	-32%	-1.4
78	No	Fall 2014	10/13-10/19	1.80	1.49	7.41	1.91	1.45	8.68	-6%	3%	-1.3
78	No	Fall 2014	10/10-10/12	1.62	1.09	5.92	1.99	1.44	6.68	-19%	-24%	-0.8
79	No	Fall 2014	10/13-10/19	1.69	1.11	6.90	1.75	1.14	6.06	-3%	-3%	0.8
79	No	Fall 2014	10/10-10/12	1.13	0.59	4.96	1.34	0.83	5.31	-16%	-28%	-0.3
80	No	Fall 2014	10/13-10/19	0.41	0.37	5.03	0.38	0.37	4.58	8%	0%	0.5
80	No	Fall 2014	10/10-10/12	0.32	0.19	3.40	0.31	0.22	3.51	3%	-14%	-0.1
81	No	Fall 2014	10/13-10/19	2.45	1.89	5.67	2.83	1.91	5.95	-13%	-1%	-0.3
81	No	Fall 2014	10/10-10/12	2.27	1.43	4.84	2.52	1.43	4.65	-10%	0%	0.2
82	No	Fall 2014	10/13-10/19	9.99	7.57	47.97	10.74	7.06	56.03	-7%	7%	-8.1
82	No	Fall 2014	10/10-10/12	8.28	4.89	19.72	8.98	6.47	38.20	-8%	-24%	-18.5
83	No	Fall 2014	10/13-10/19	4.43	4.75	14.62	3.63	4.25	11.62	22%	12%	3.0
83	No	Fall 2014	10/10-10/12	5.12	3.83	13.06	3.64	3.01	9.85	41%	27%	3.2
84	No	Fall 2014	10/13-10/19	Poor depth data. Not used.								
84	No	Fall 2014	10/10-10/12	Poor depth data. Not used.								
85	No	Fall 2014	10/13-10/19	49.17	18.35	157.30	45.34	14.79	145.86	8%	24%	11.4
85	No	Fall 2014	10/10-10/12	37.62	17.35	156.44	27.65	14.32	146.77	36%	21%	9.7
86	No	Fall 2014	10/13-10/19	17.33	7.88	155.50	19.32	9.92	168.18	-10%	-21%	-12.7
86	No	Fall 2014	10/10-10/12	15.87	7.73	155.47	18.75	10.01	162.92	-15%	-23%	-7.5
87	Yes	Fall 2014	10/13-10/19	68.57	22.20	191.69	74.21	23.99	150.52	-8%	-7%	NA- Meter limited to 150 inches
87	Yes	Fall 2014	10/10-10/12	55.38	22.27	191.83	54.04	22.22	150.64	2%	0%	
88	No	Fall 2014	10/13-10/19	0.40	0.38	5.12	0.45	0.79	38.83	-11%	-52%	-33.7
88	No	Fall 2014	10/10-10/12	0.47	0.42	5.45	0.48	0.47	6.29	-2%	-10%	-0.8
89	Yes	Fall 2014	10/13-10/19	14.57	13.36	24.94	14.56	12.44	24.24	0%	7%	0.7
89	Yes	Fall 2014	10/10-10/12	15.50	10.81	21.65	13.85	10.03	18.83	12%	8%	2.8
90	No	Fall 2014	10/13-10/19	14.20	13.28	34.55	13.60	11.84	18.80	4%	12%	15.8
90	No	Fall 2014	10/10-10/12	15.15	10.63	21.89	12.90	9.08	16.50	17%	17%	5.4

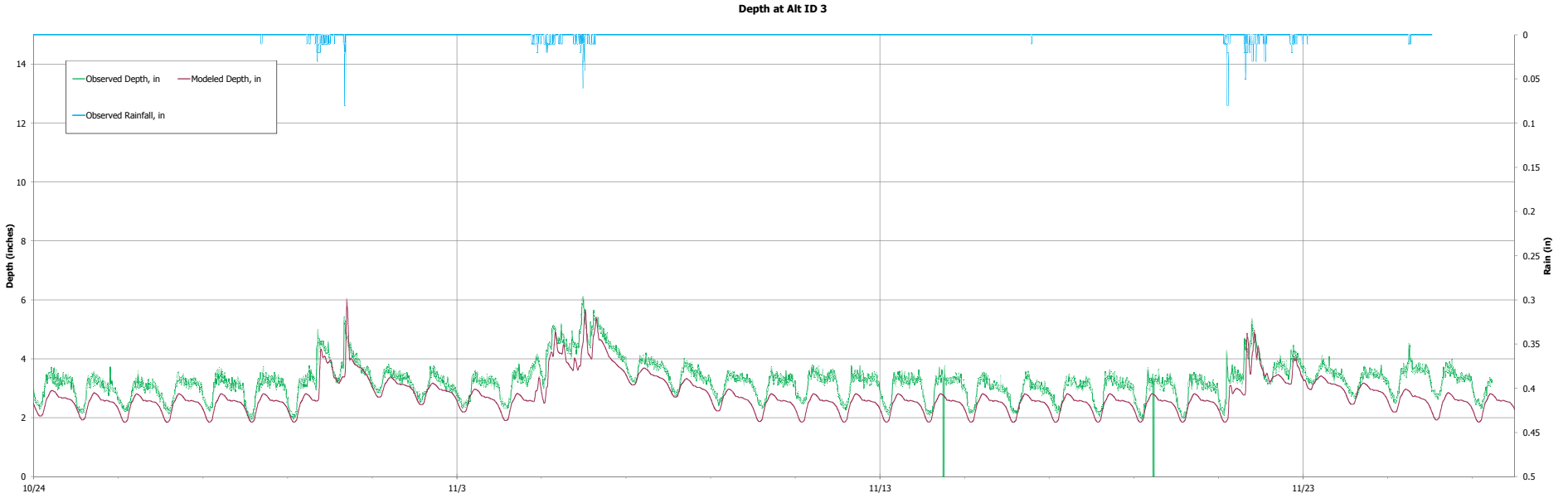

Flow at Alt ID 1
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
7
8
9
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

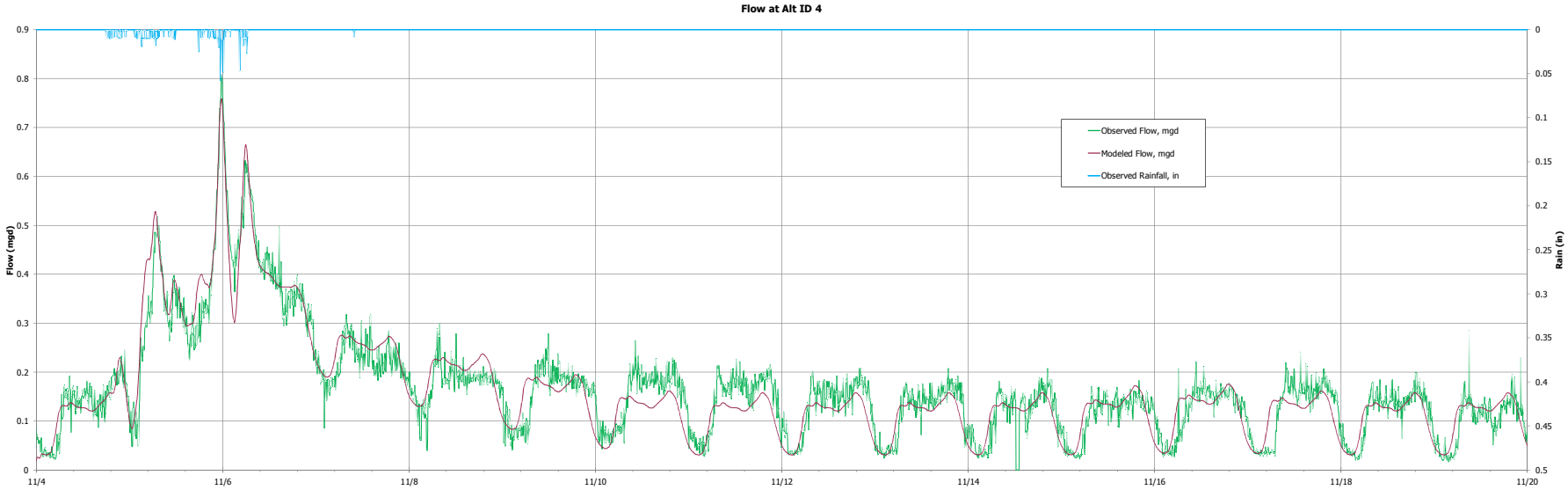

Depth at Alt ID 1
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
2
4
6
8
10
12
14
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

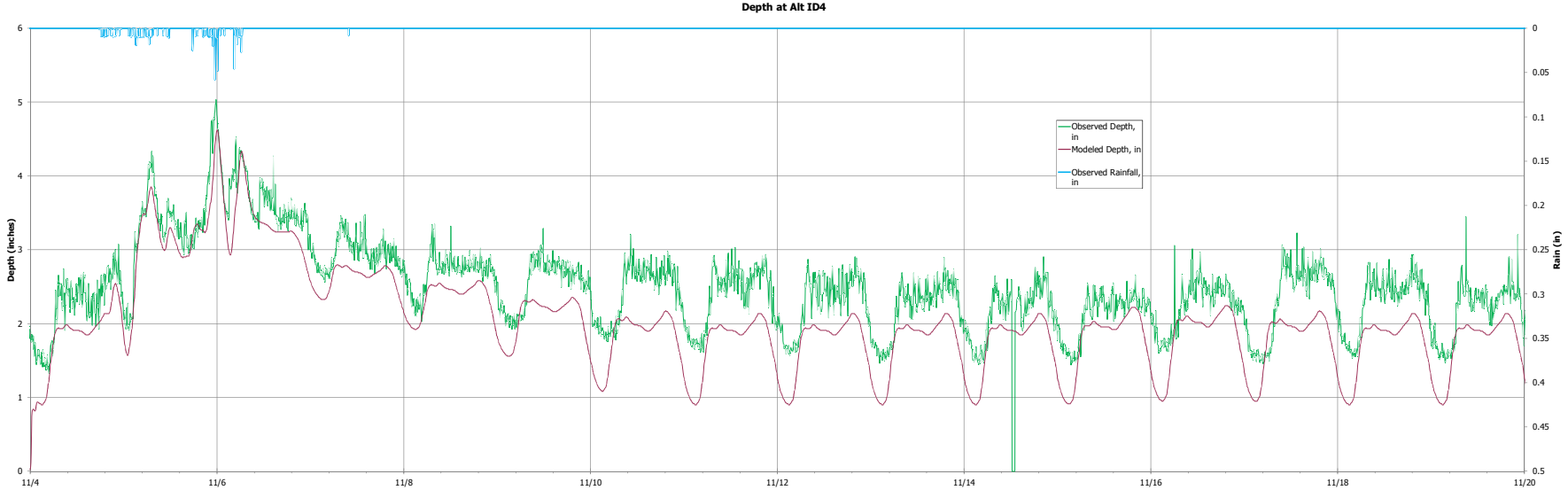

Flow at Alt ID 2
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

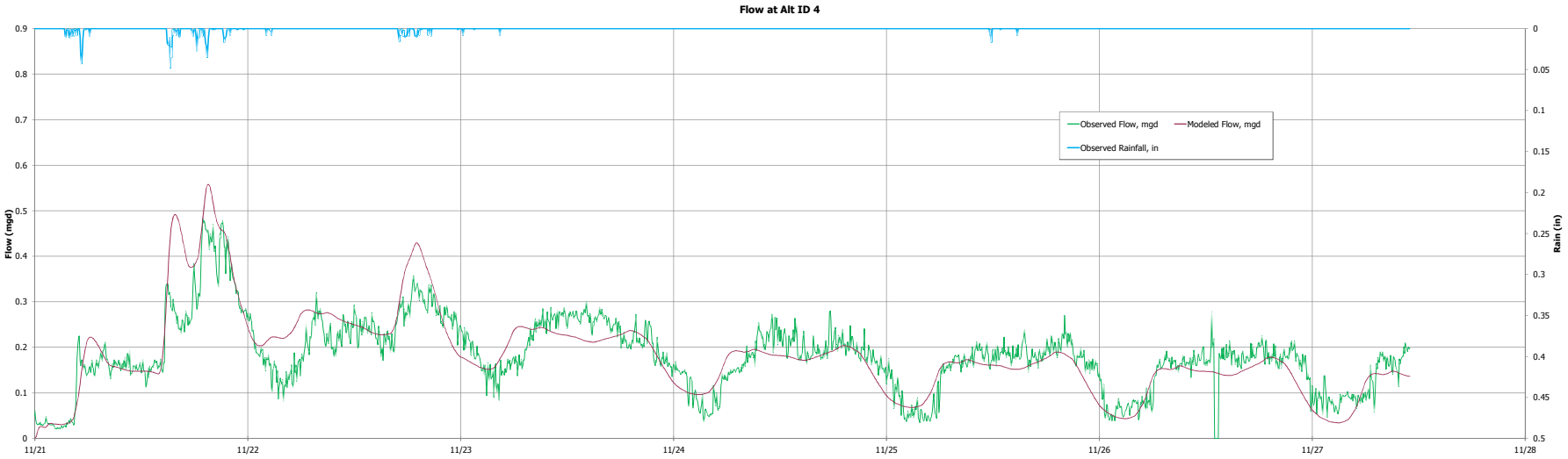

Depth at Alt ID 2
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
2
4
6
8
10
12
14
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

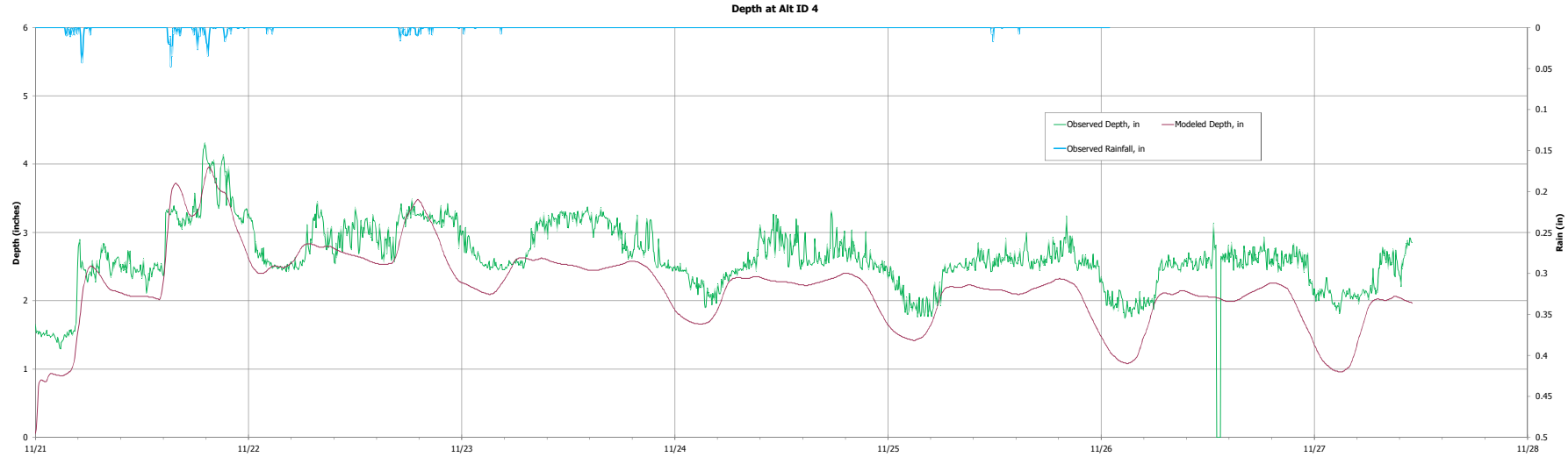

Flow at Alt ID 3
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

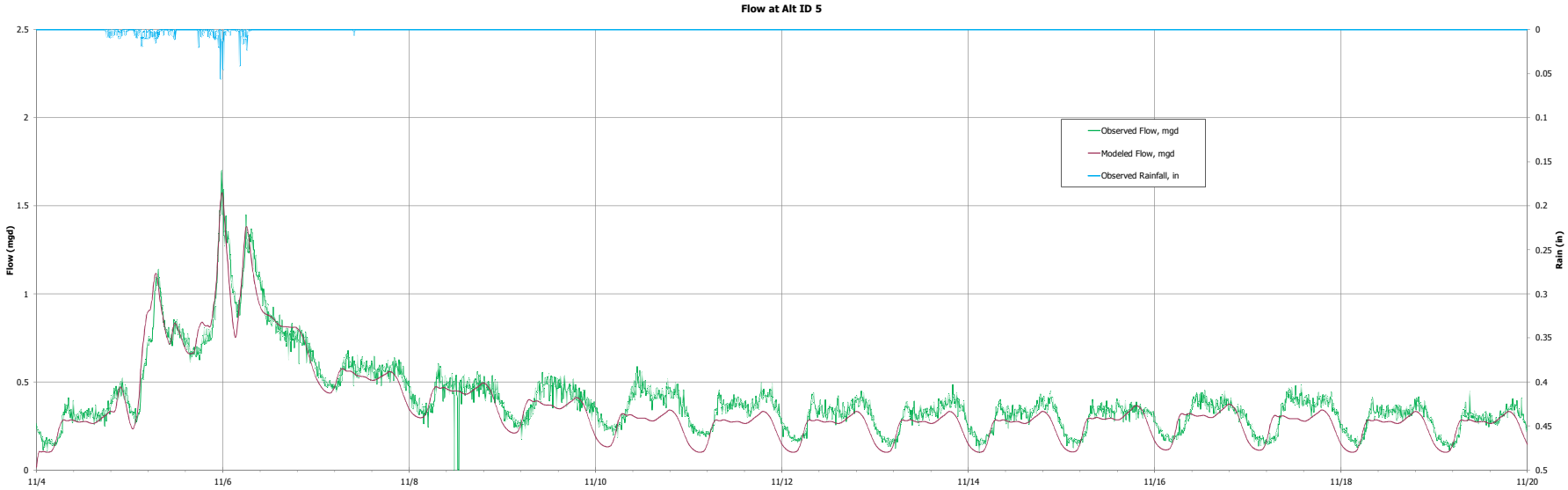

Depth at Alt ID 3
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

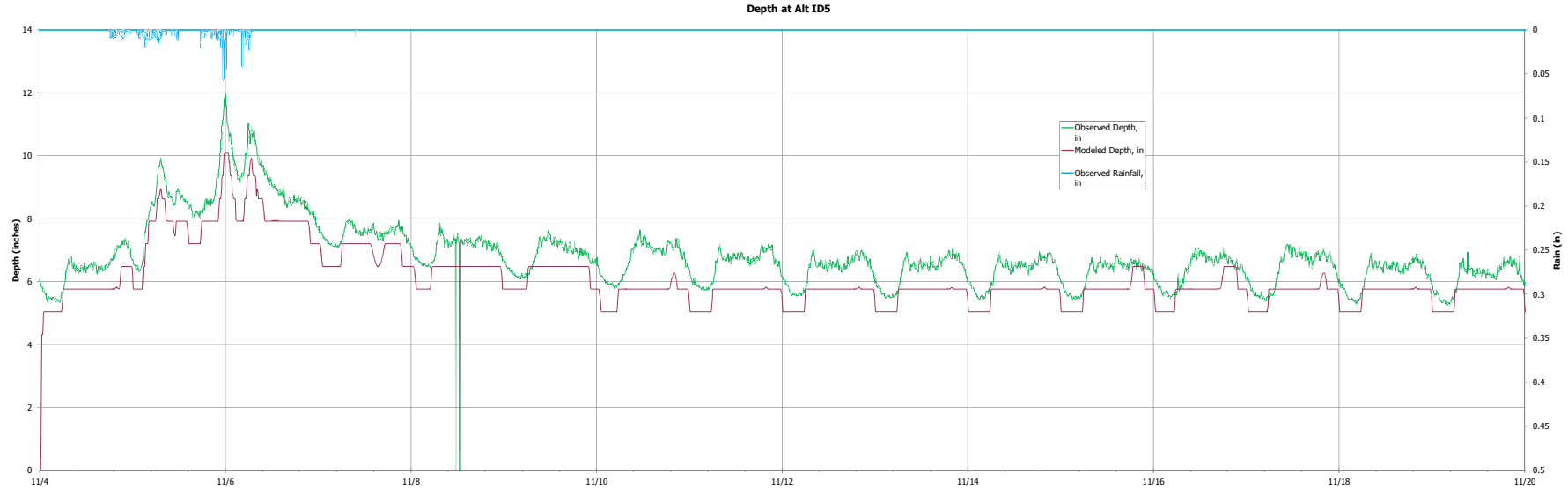

Flow at Alt ID 4
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0.05
0.15
0.25
0.35
0.45
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

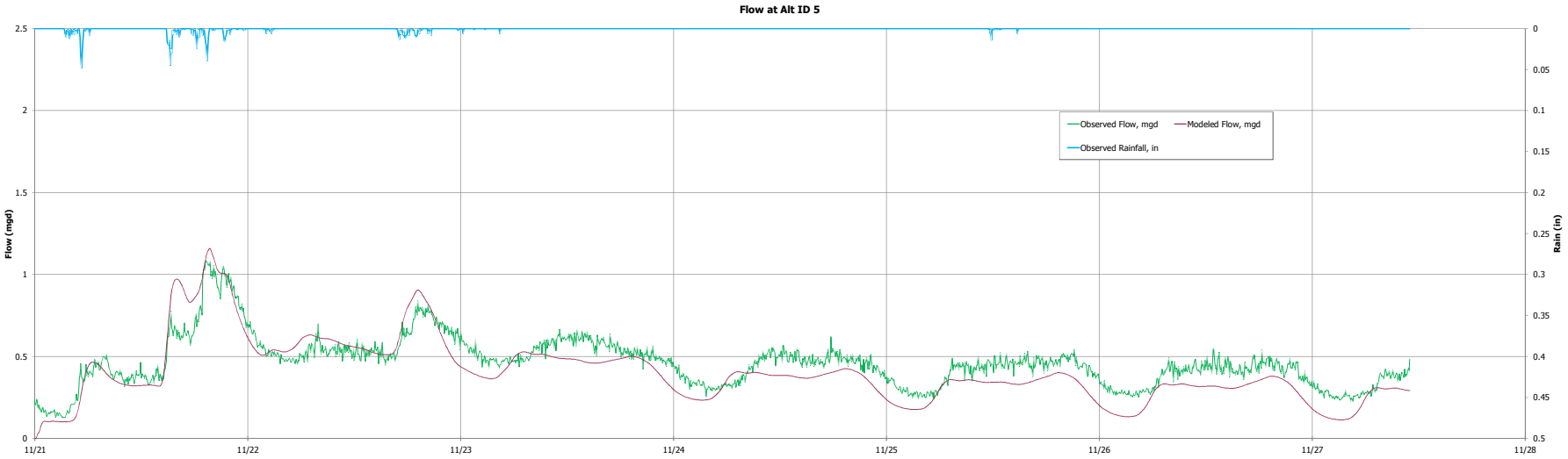

Depth at Alt ID4
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
1
2
3
4
5
6
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

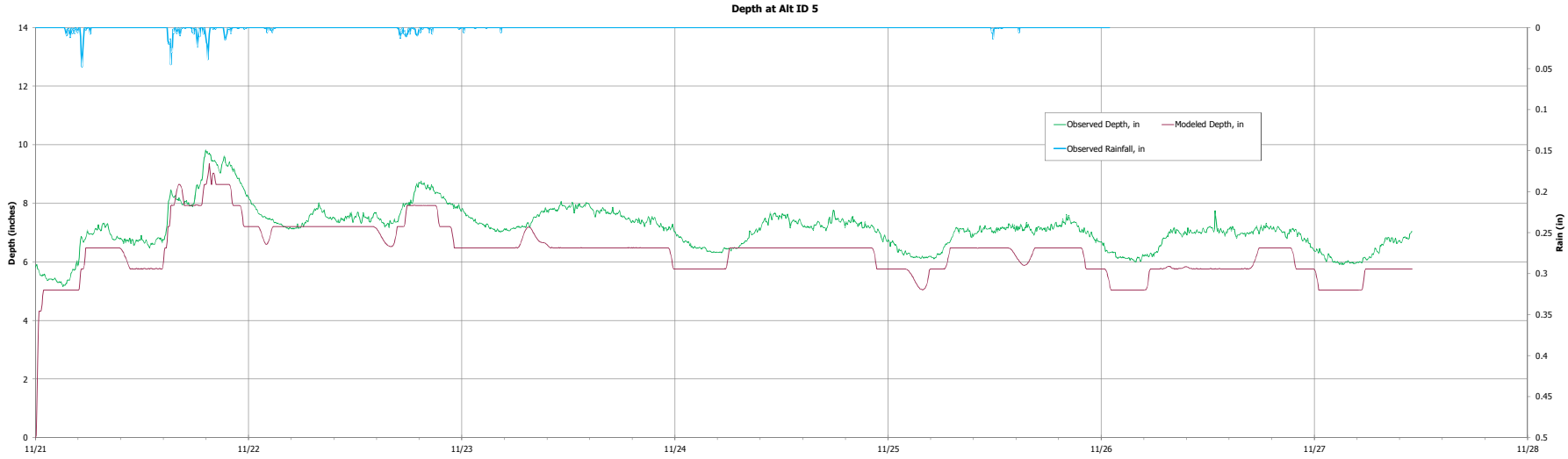

Flow at Alt ID 4
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0.05
0.15
0.25
0.35
0.45
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

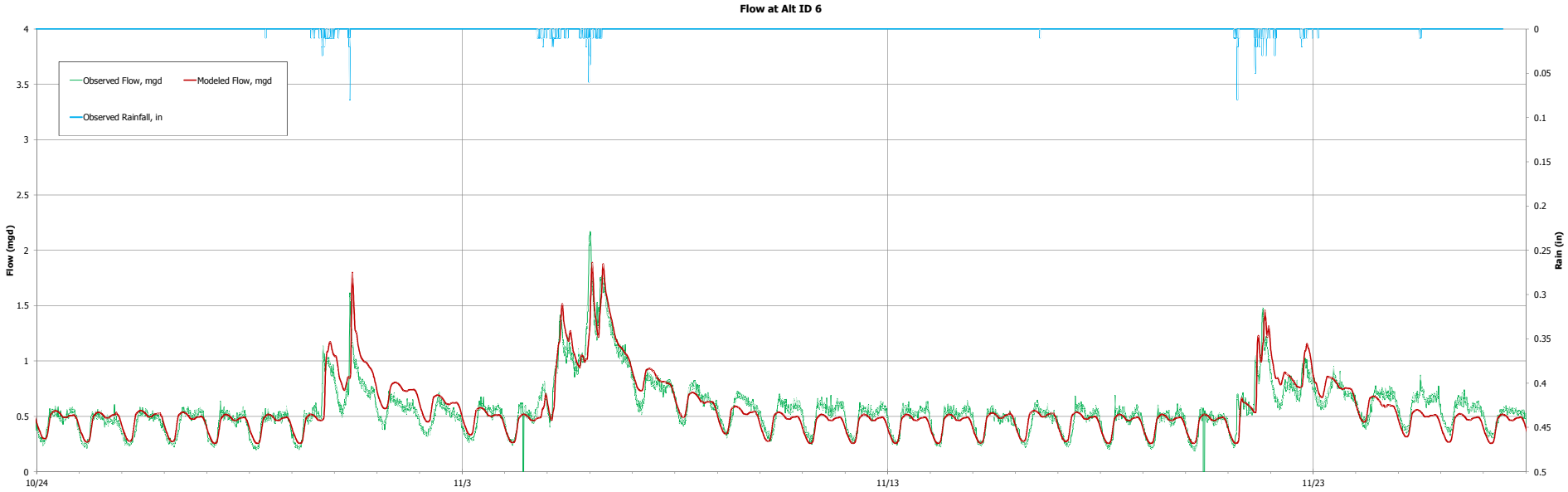

Depth at Alt ID 4
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
1
2
3
4
5
6
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

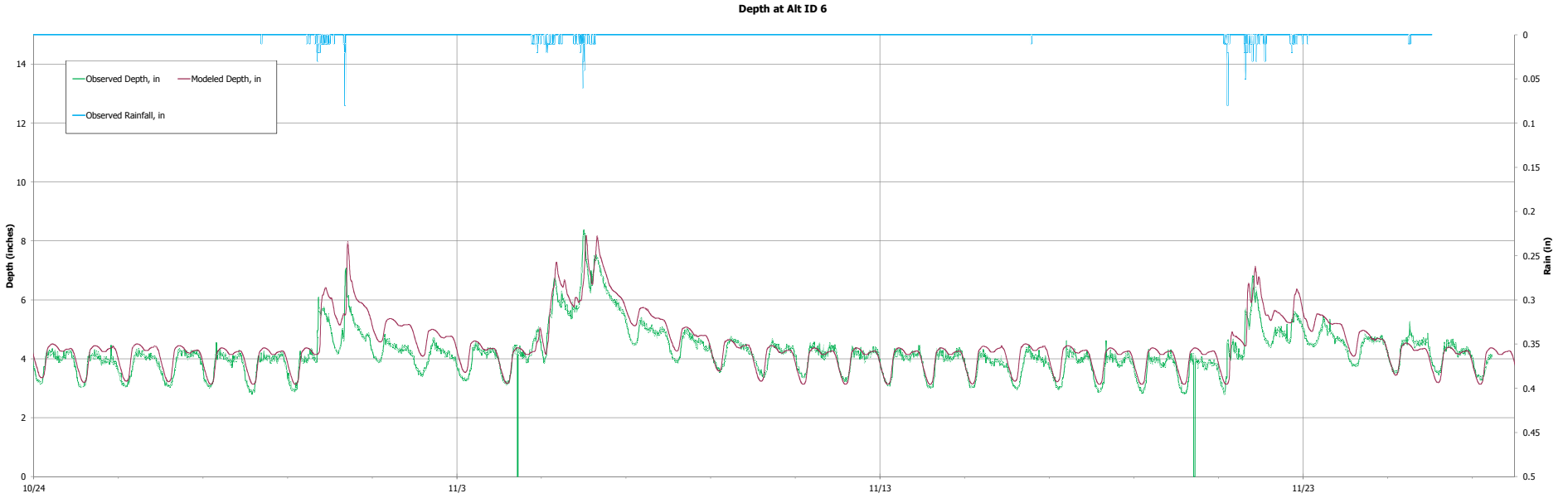

Flow at Alt ID 5
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

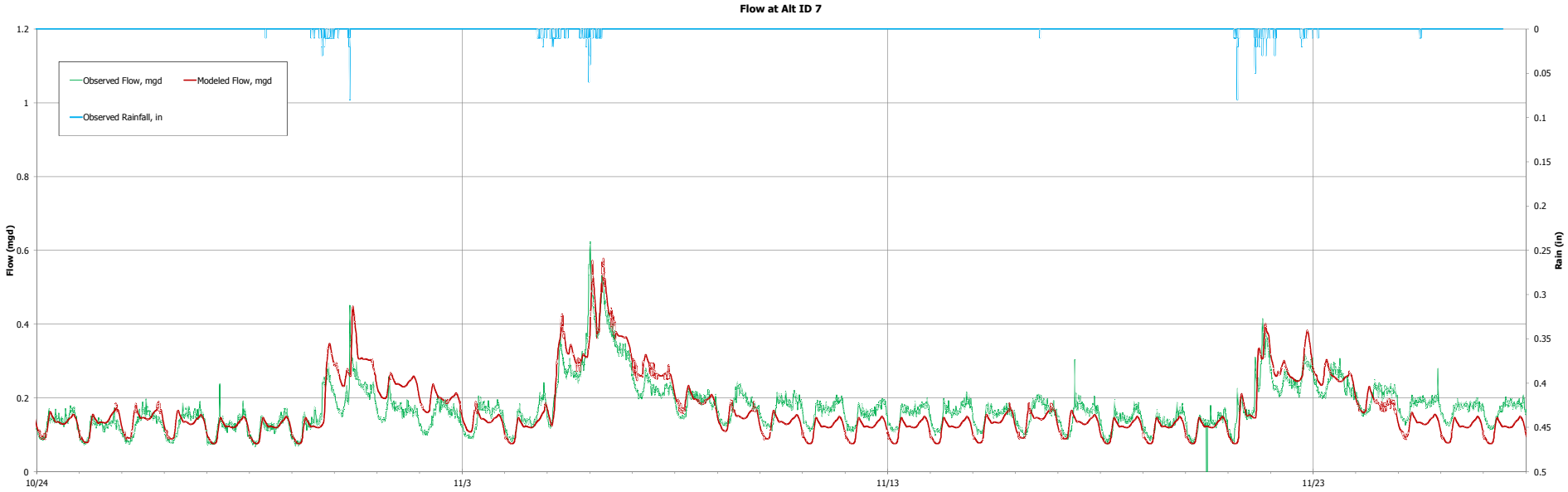

Depth at Alt ID5
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

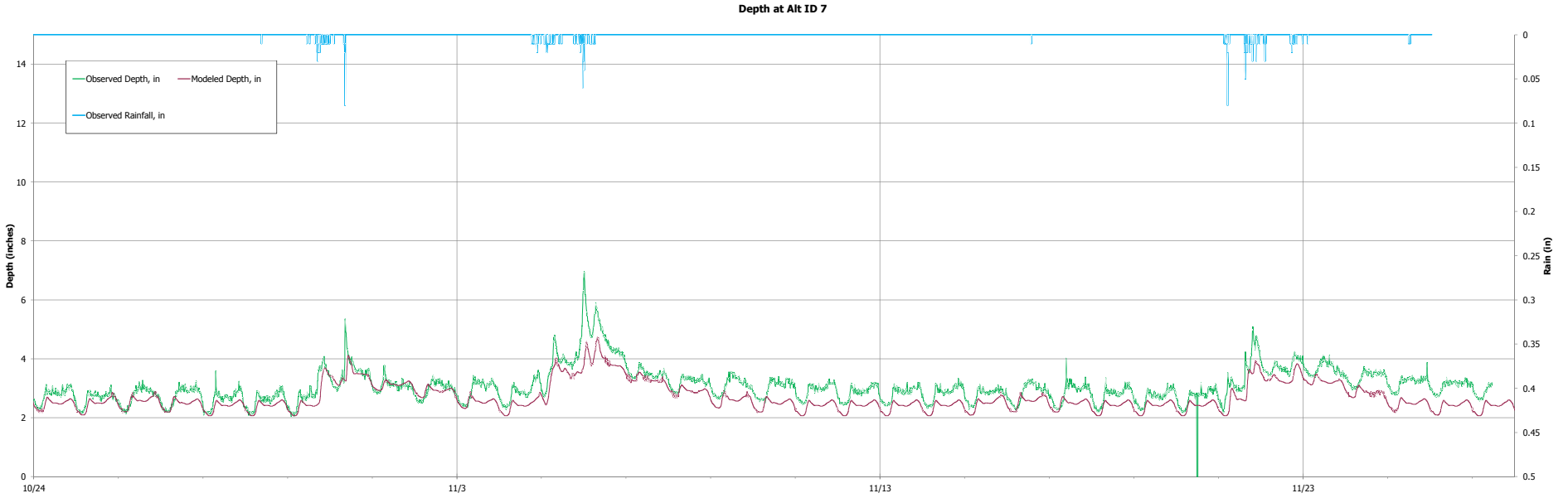

Flow at Alt ID 5
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

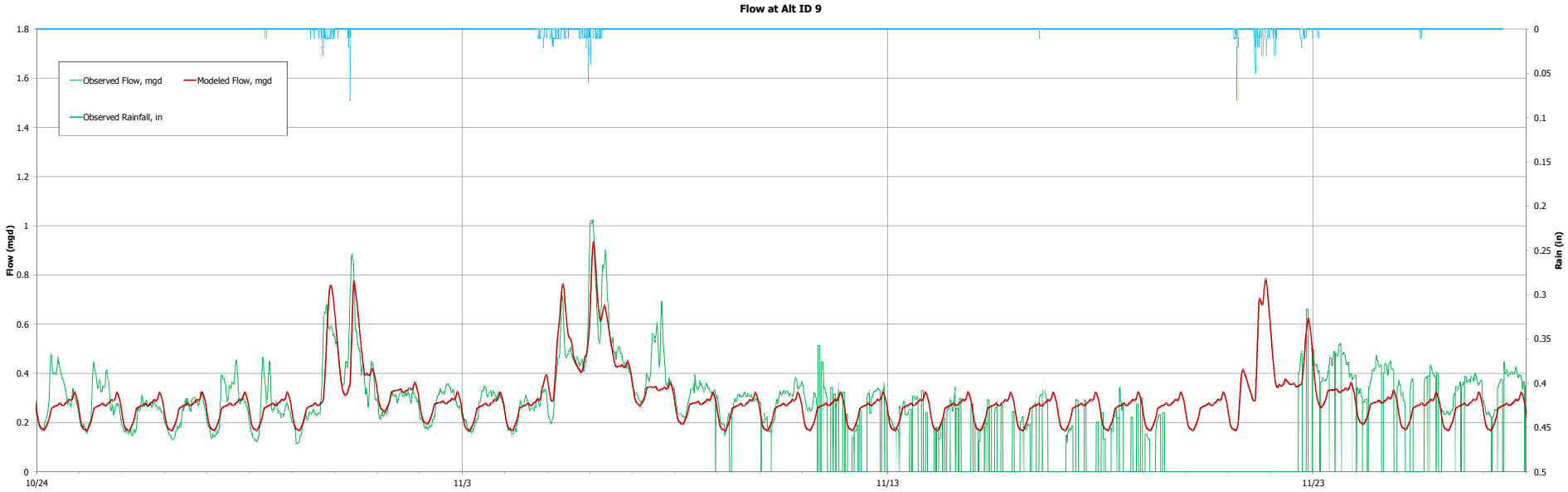

Depth at Alt ID 5
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

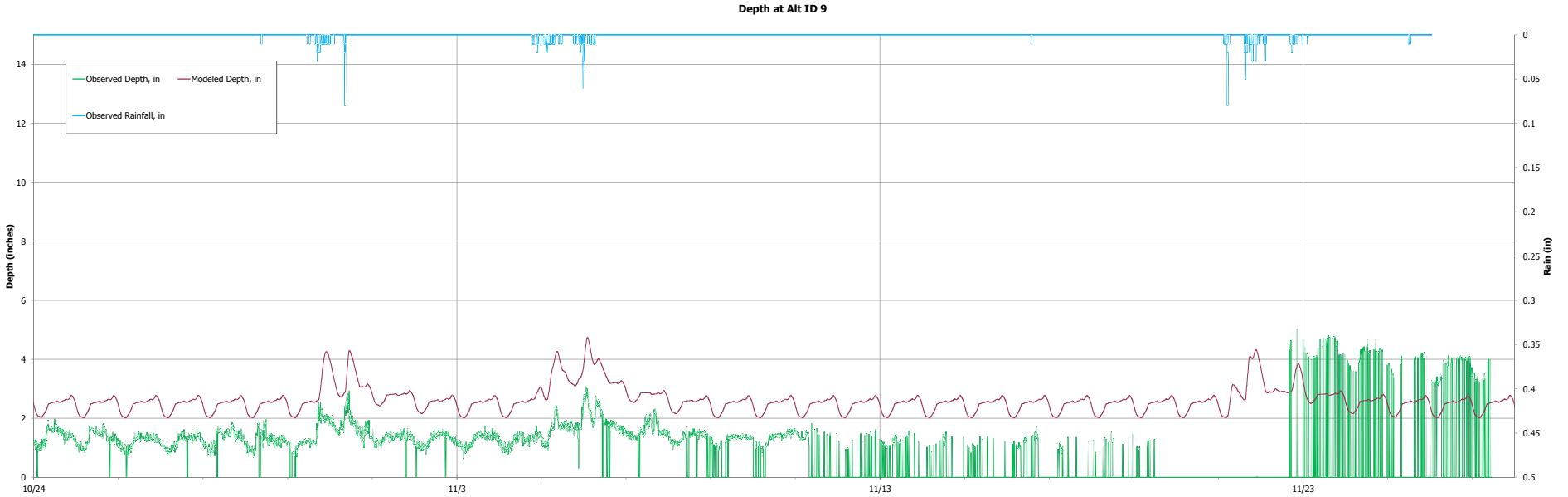

Flow at Alt ID 6
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
0.5
1
1.5
2
2.5
3
3.5
4
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

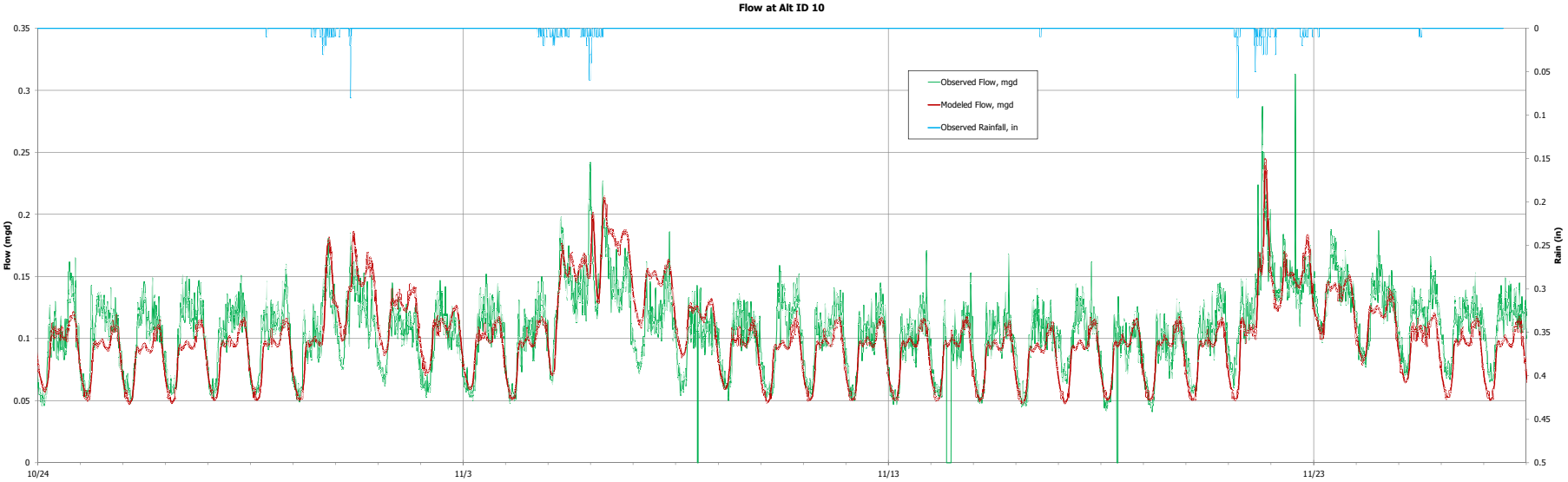

Depth at Alt ID 6
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
2
4
6
8
10
12
14
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

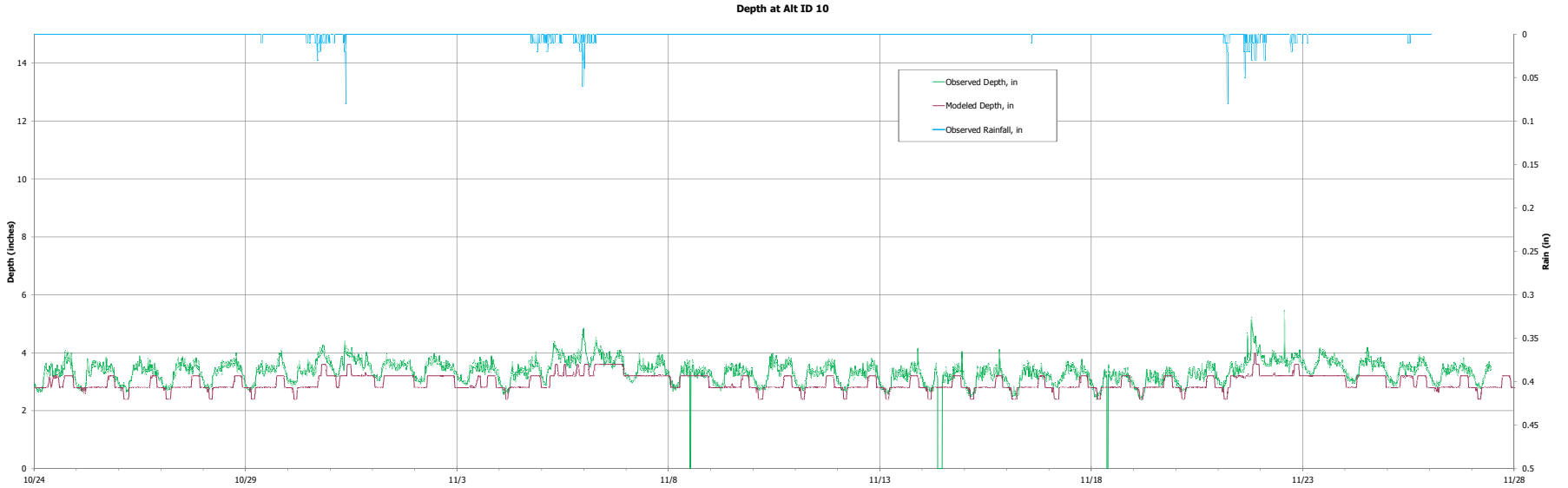

Flow at Alt ID 7
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

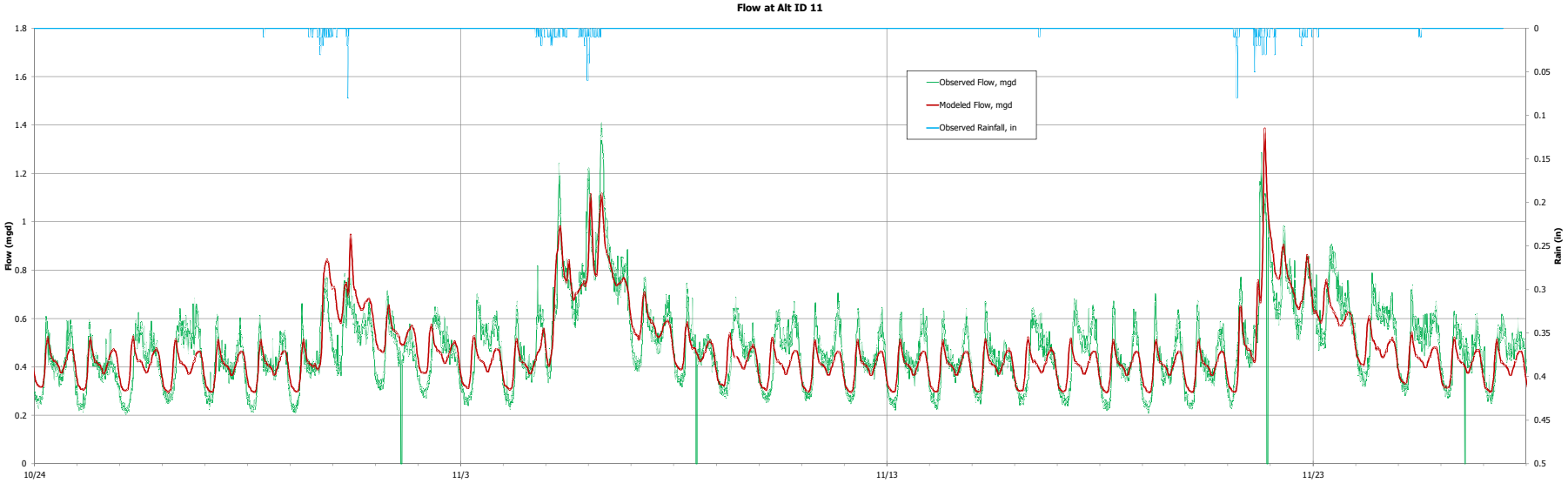

Depth at Alt ID 7
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

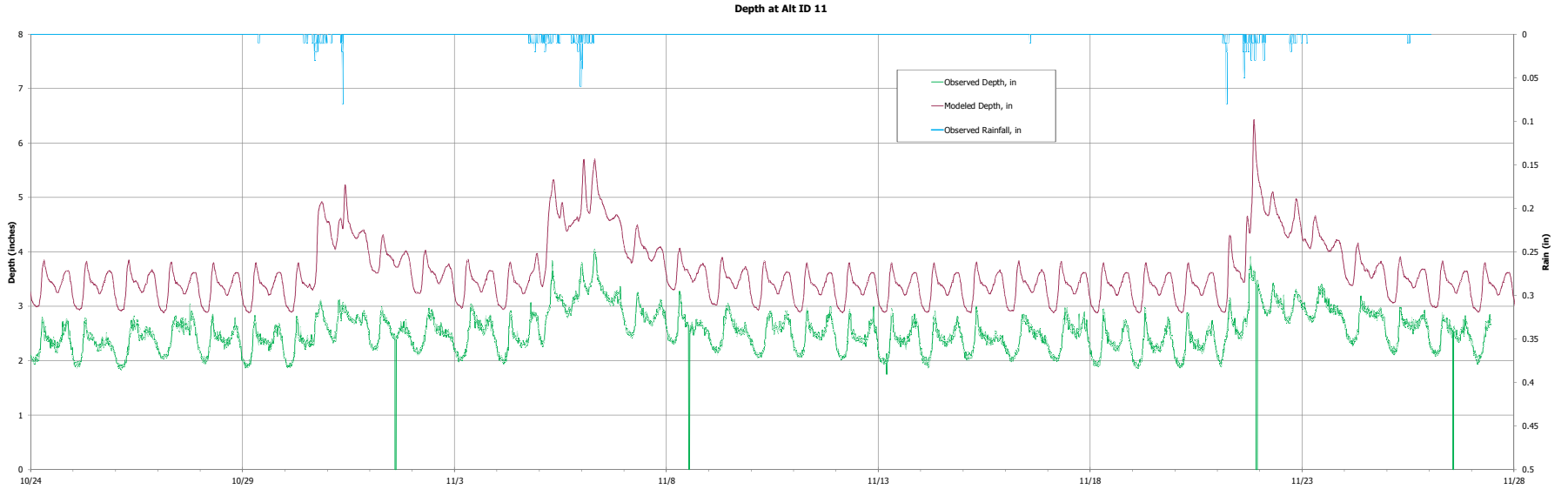

Flow at Alt ID 9
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

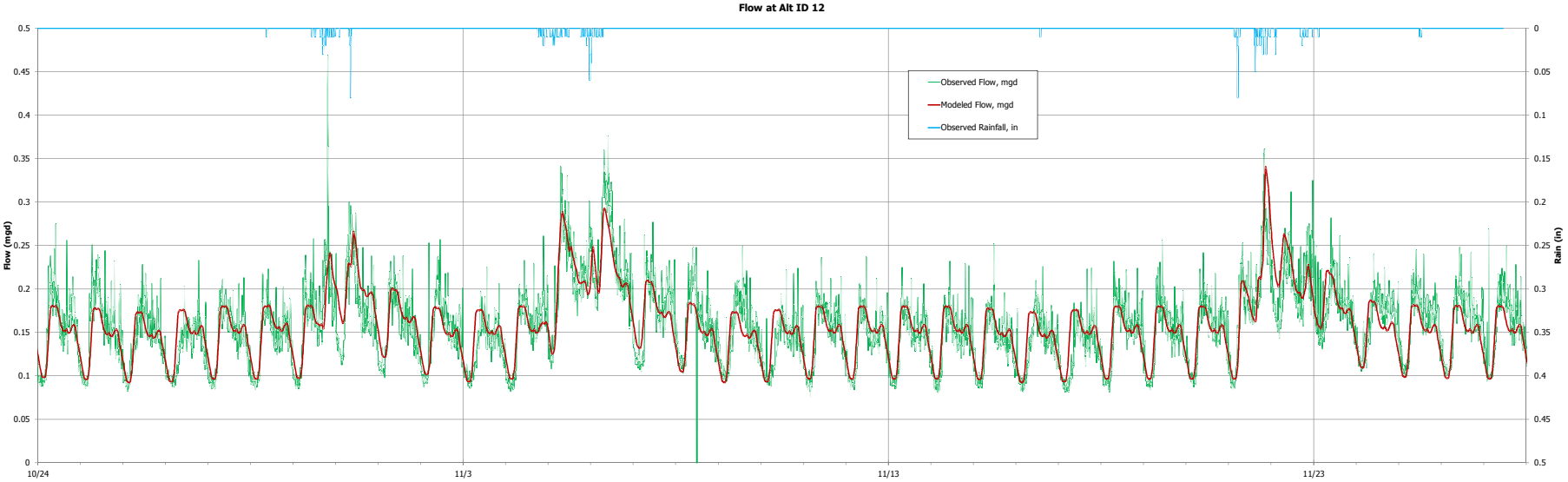

Depth at Alt ID 9
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

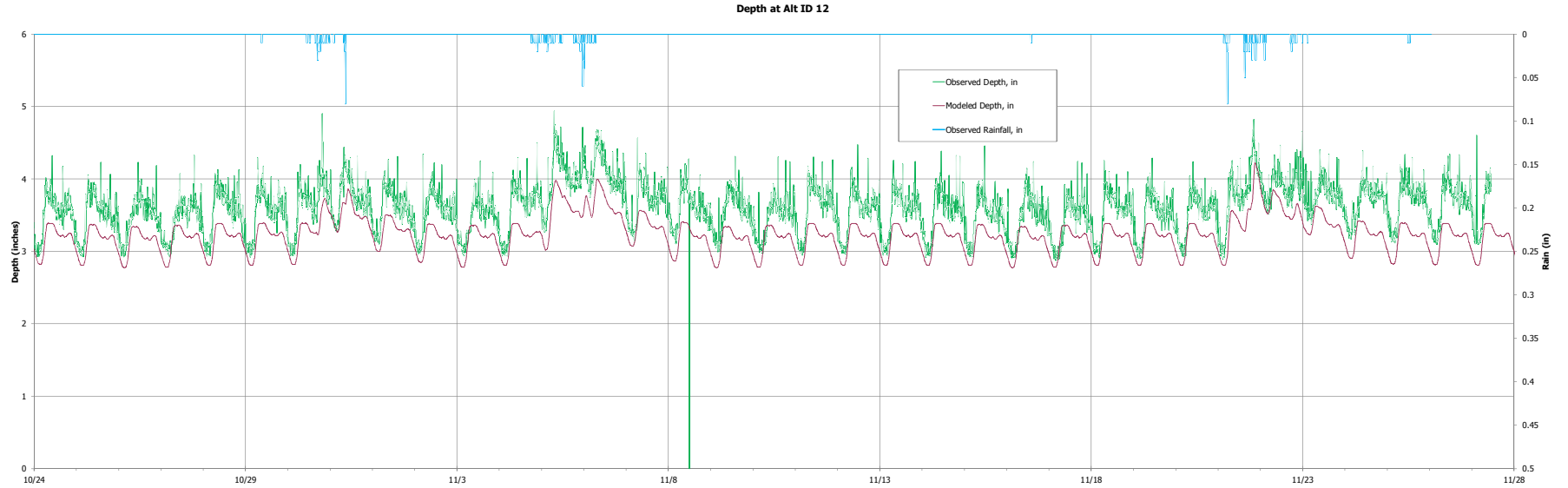

Flow at Alt ID 10
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

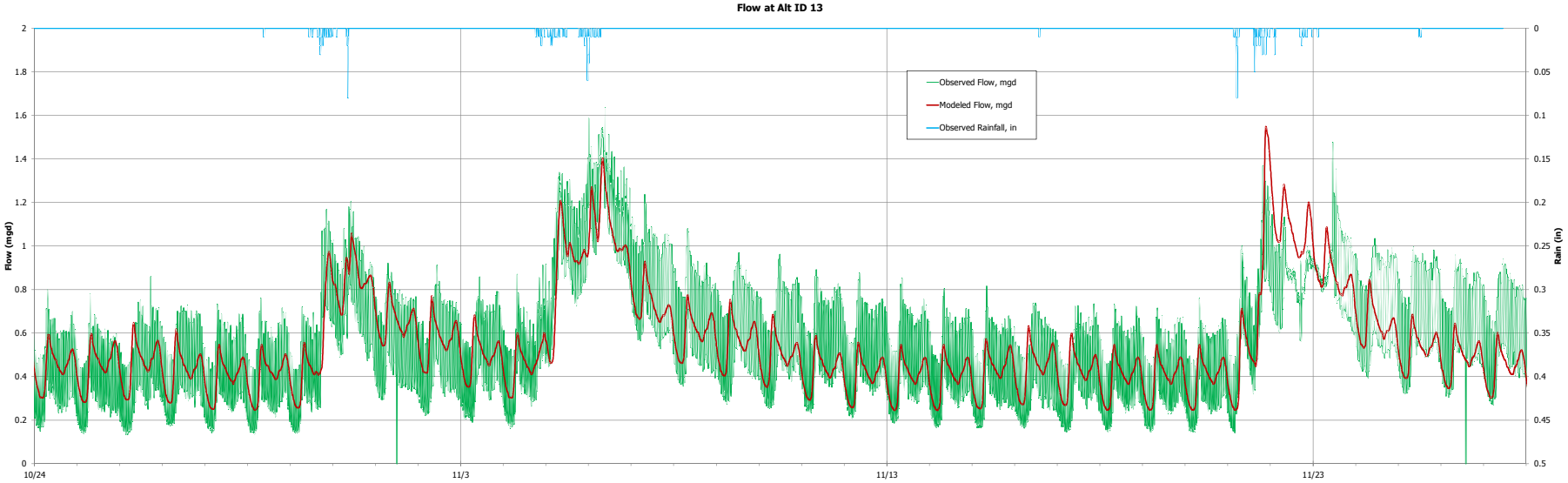

Depth at Alt ID 10
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

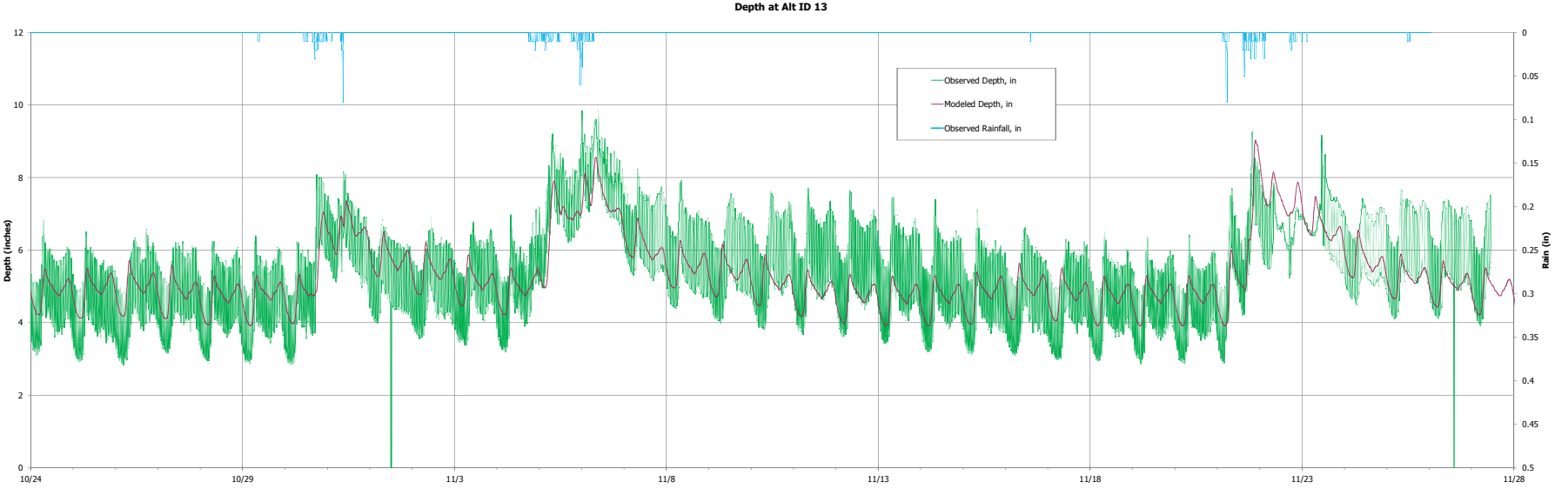

Flow at Alt ID 11
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

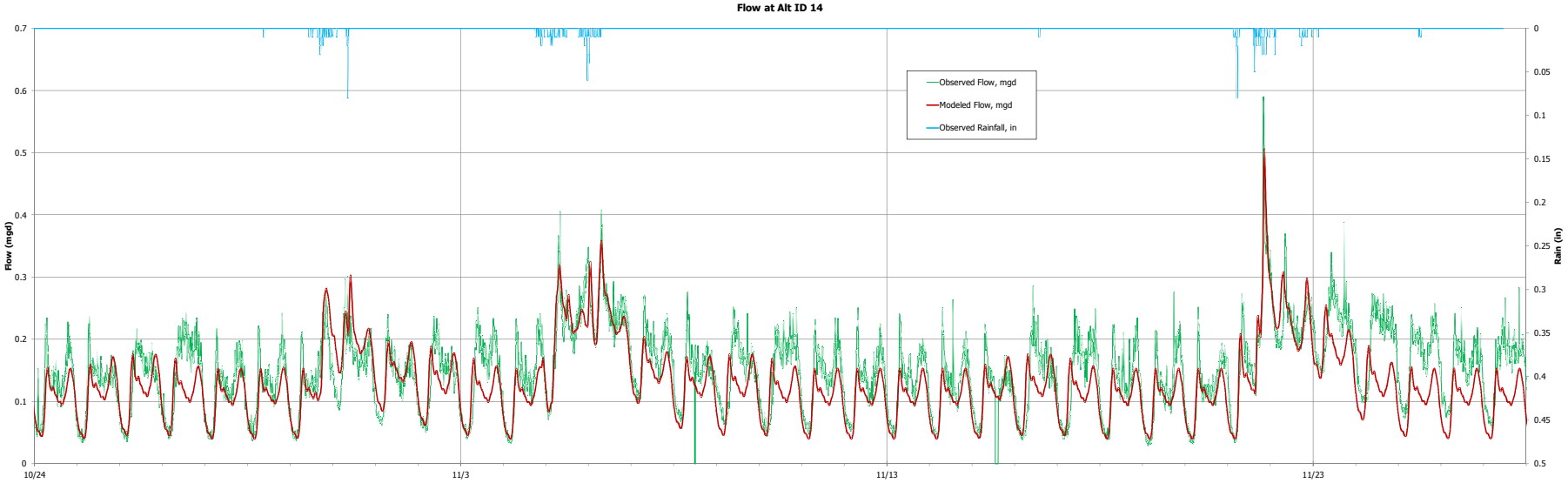

Depth at Alt ID 11
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

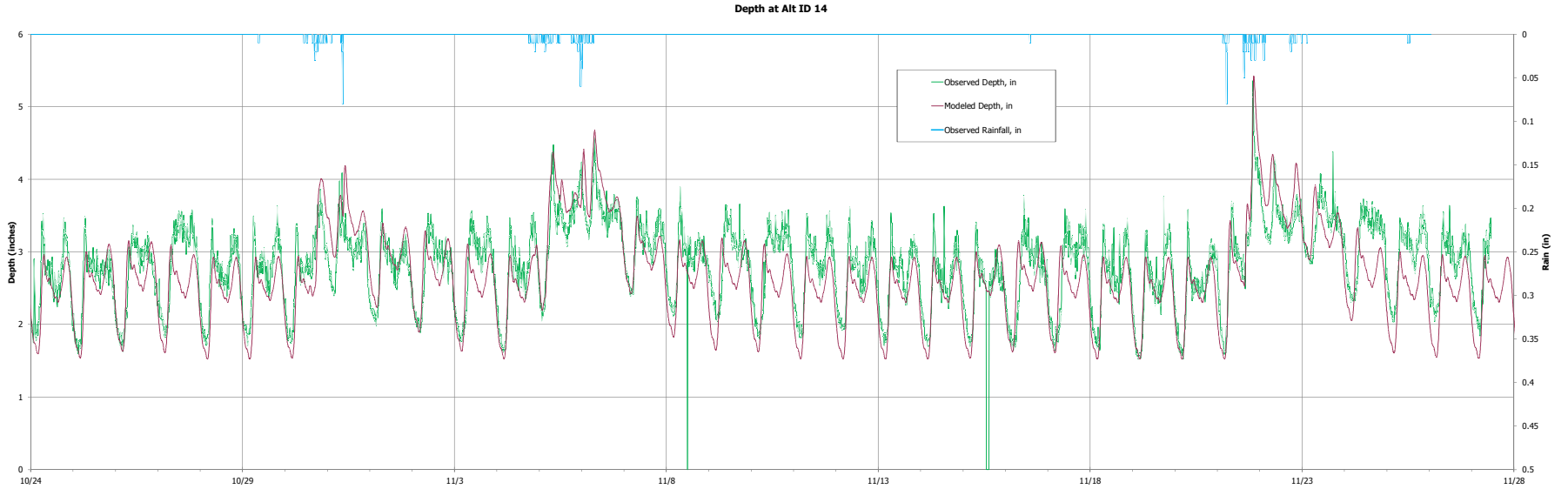

Flow at Alt ID 12
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
10/24
11/3
11/13
11/23

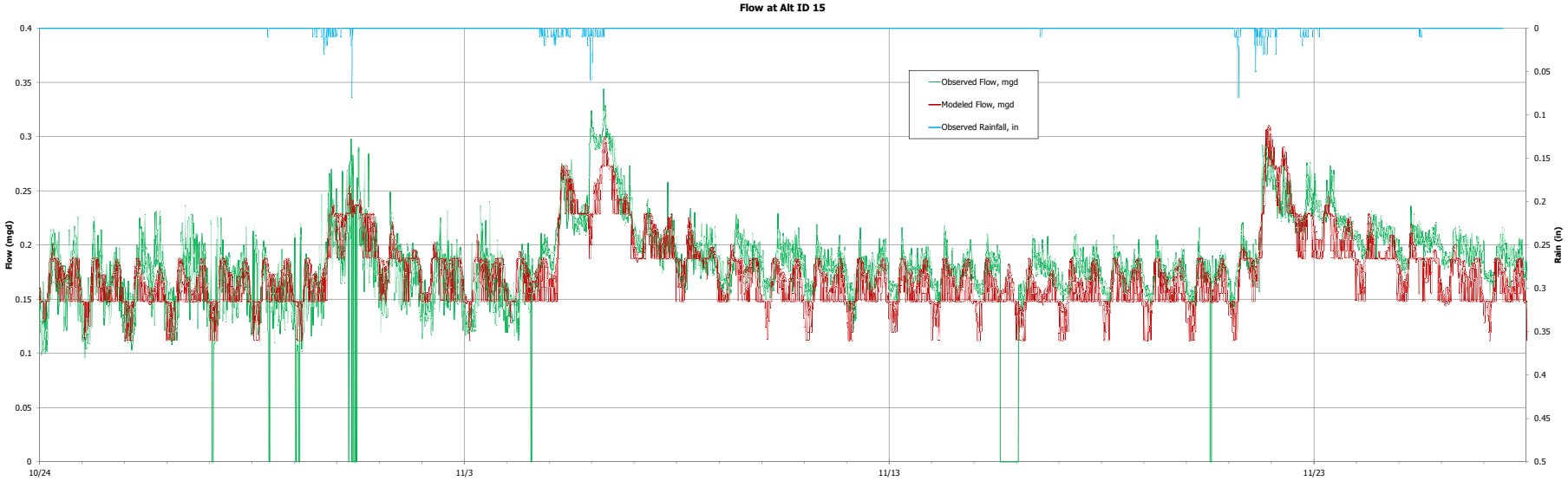

Depth at Alt ID 12
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

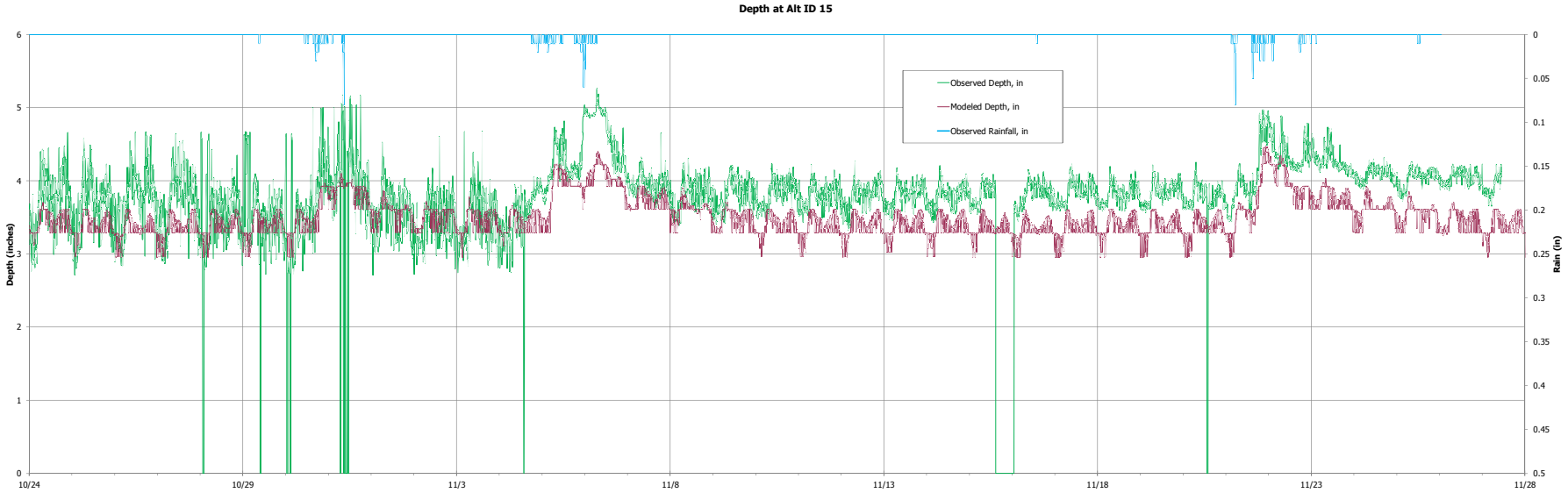

Flow at Alt ID 13
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

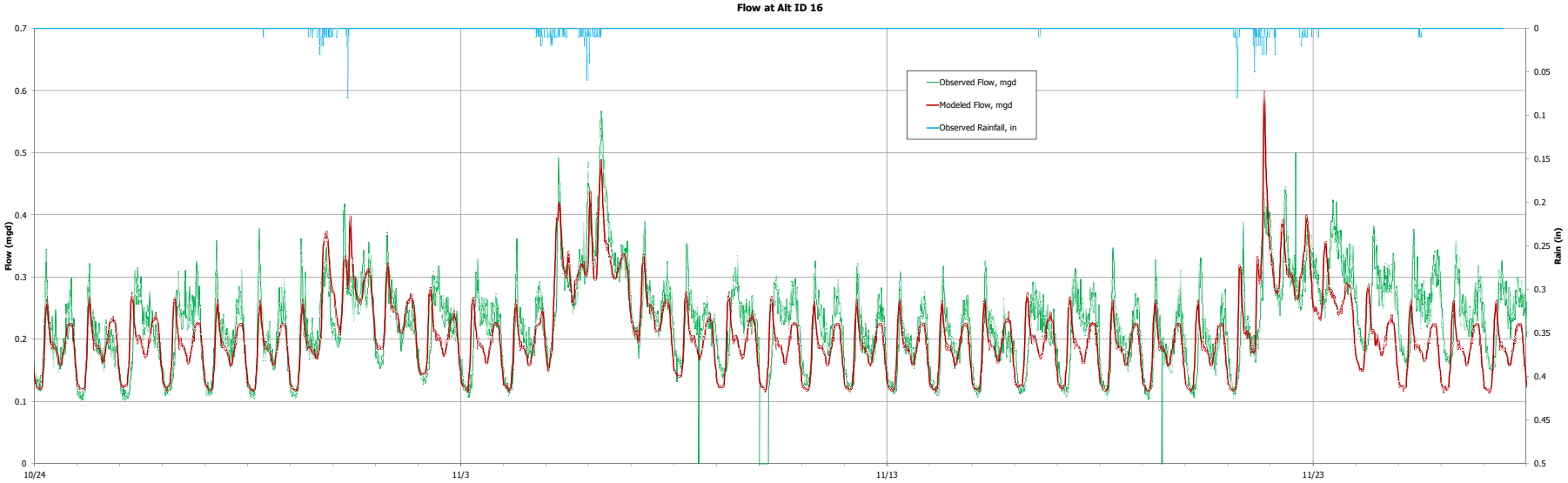

Depth at Alt ID 13
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

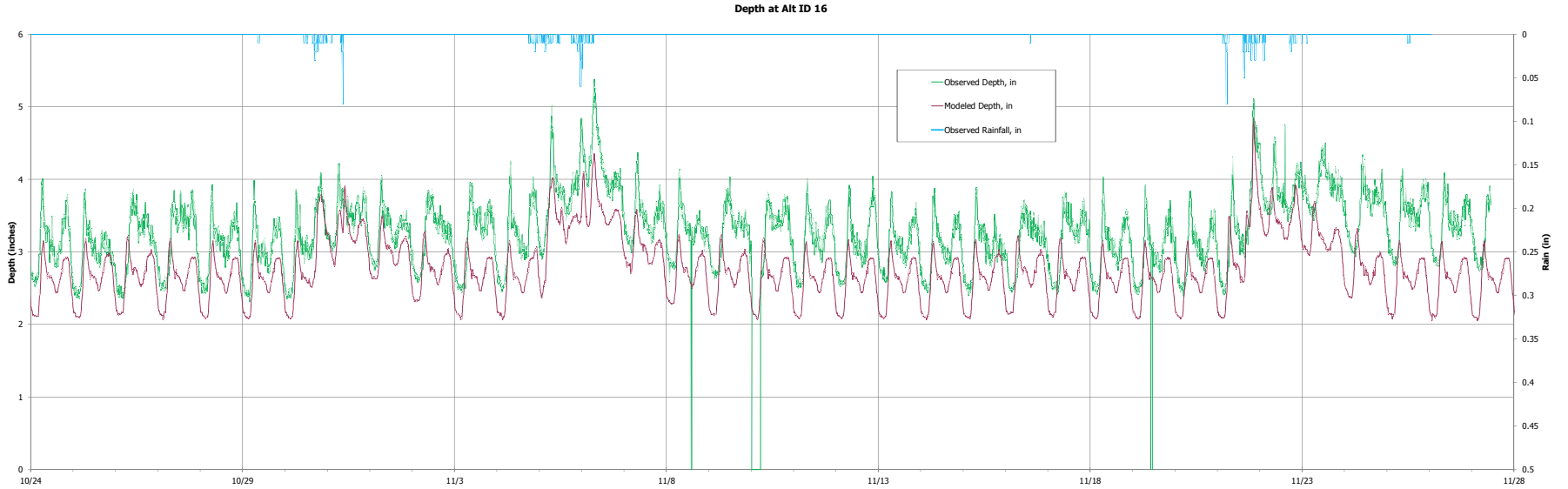

Flow at Alt ID 14
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

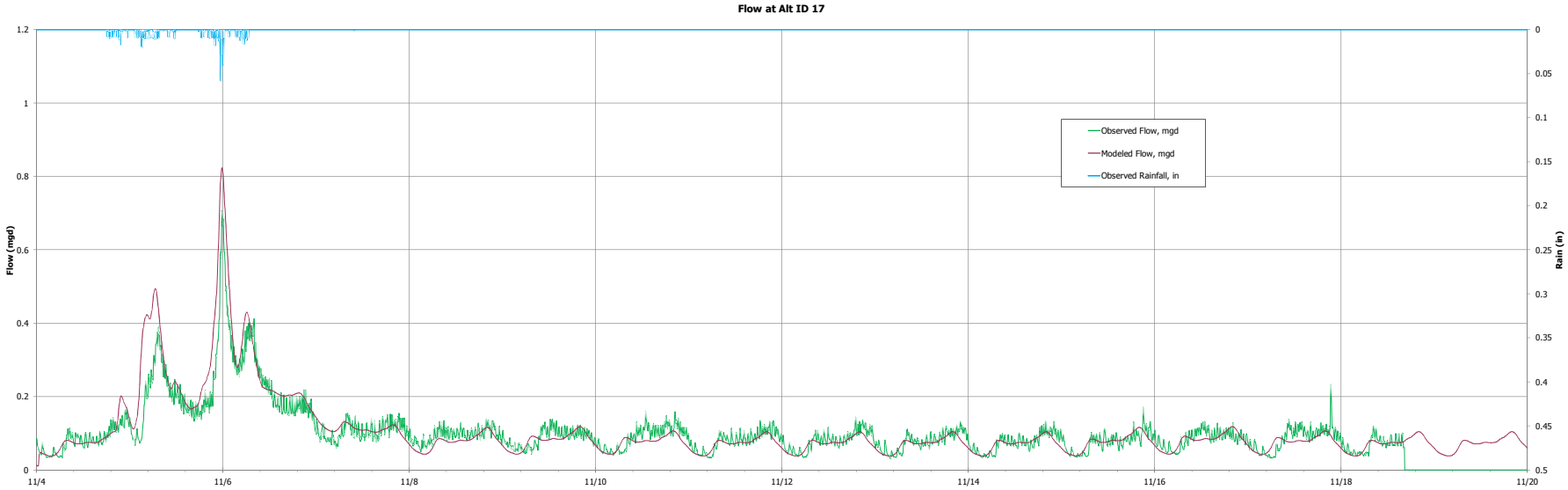

Depth at Alt ID 14
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

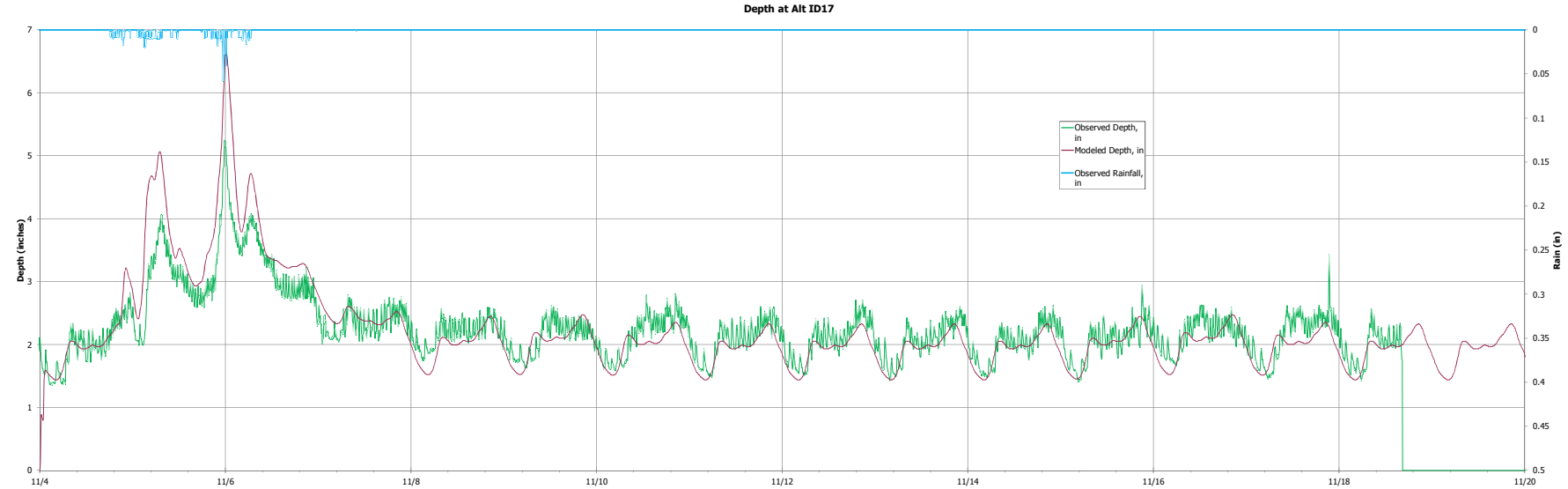

Flow at Alt ID 15
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

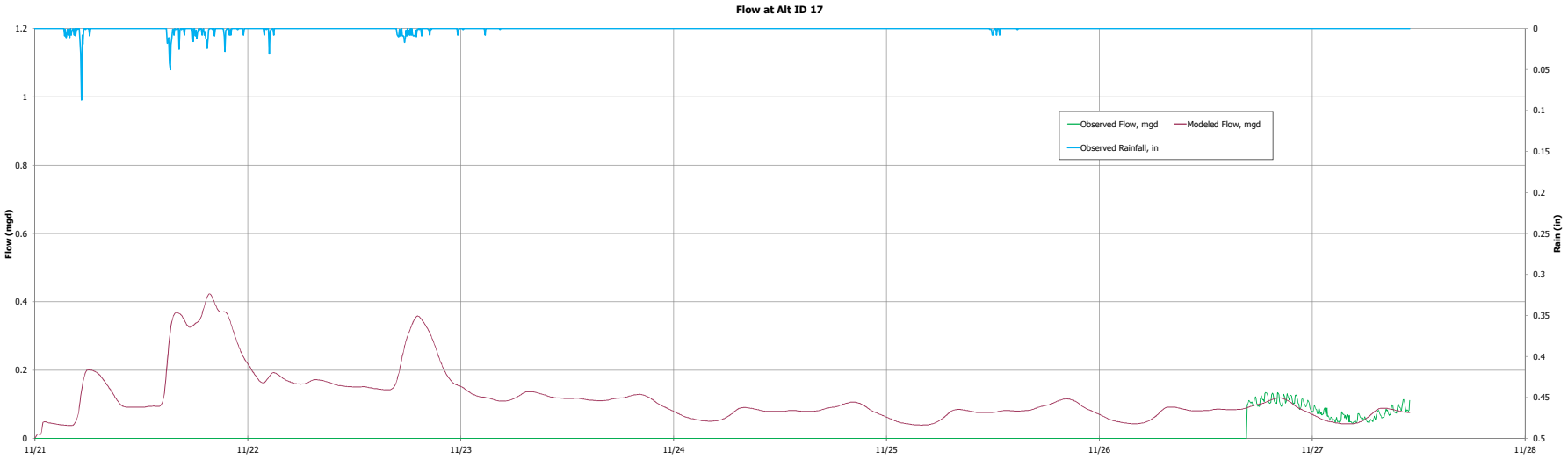

Depth at Alt ID 15
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

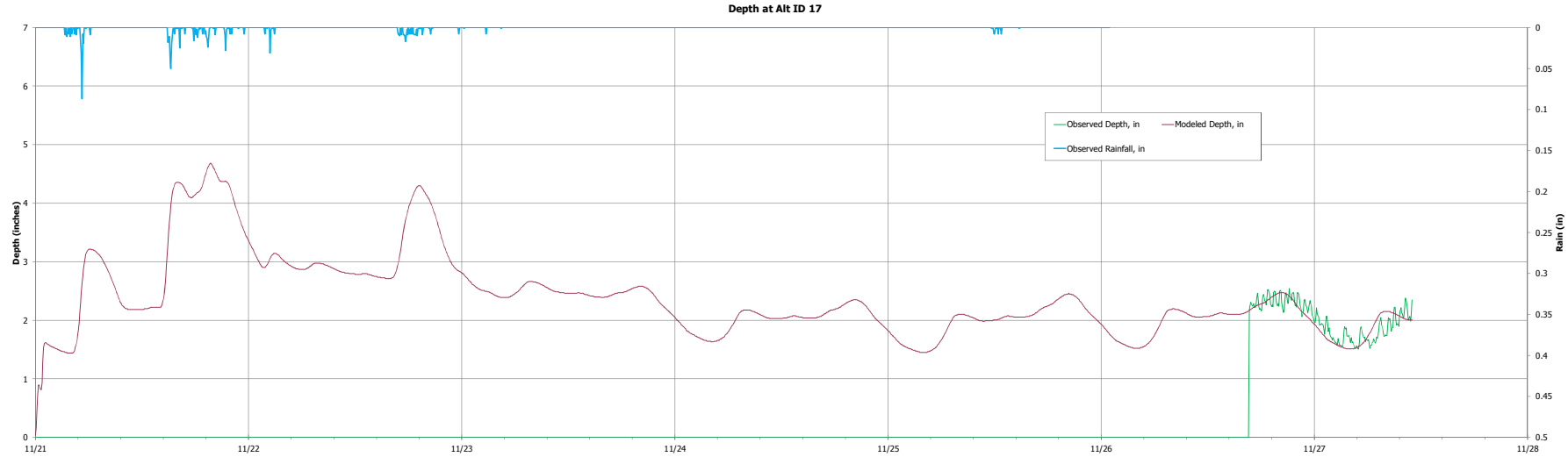

Flow at Alt ID 16
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

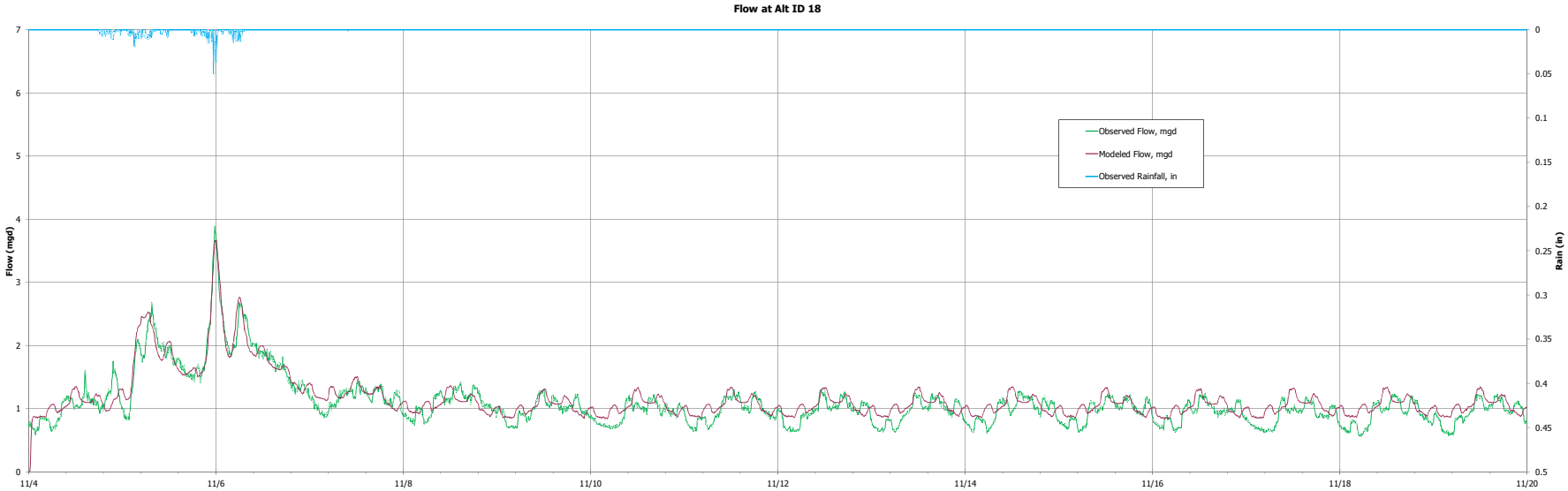

Depth at Alt ID 16
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

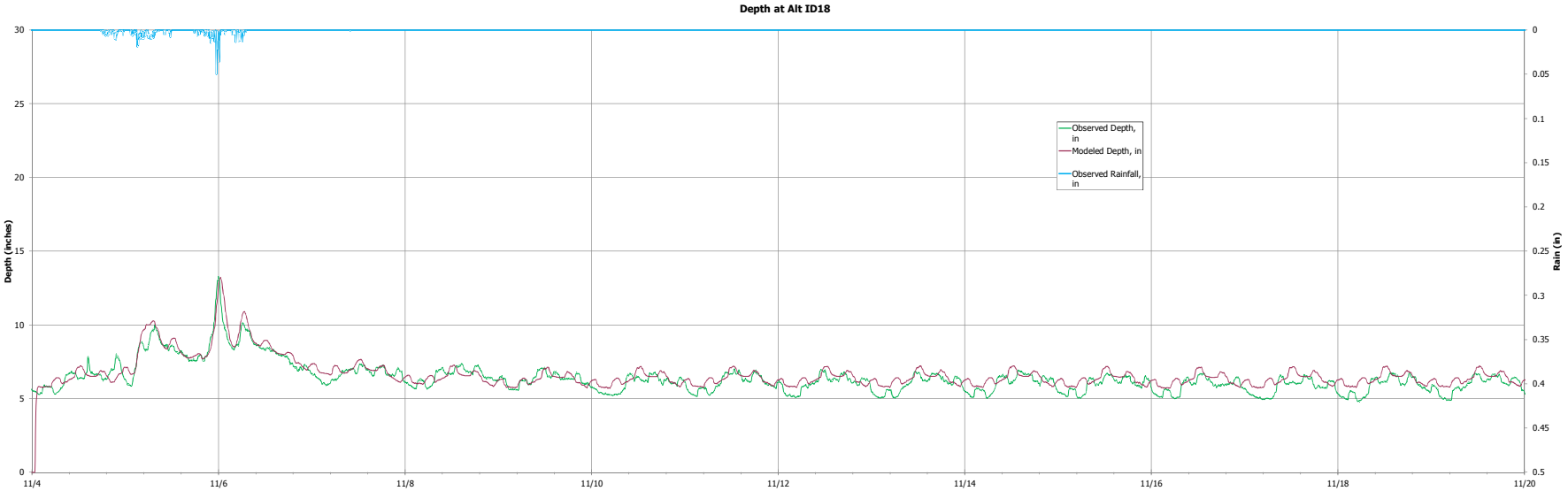

Flow at Alt ID 17
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

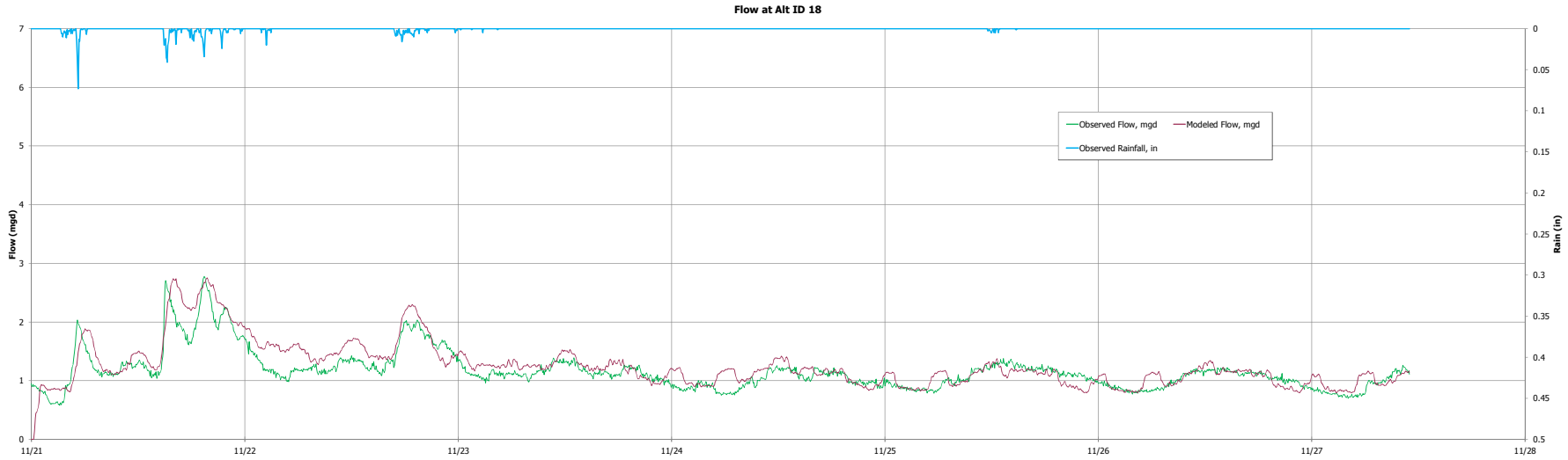

Depth at Alt ID17
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

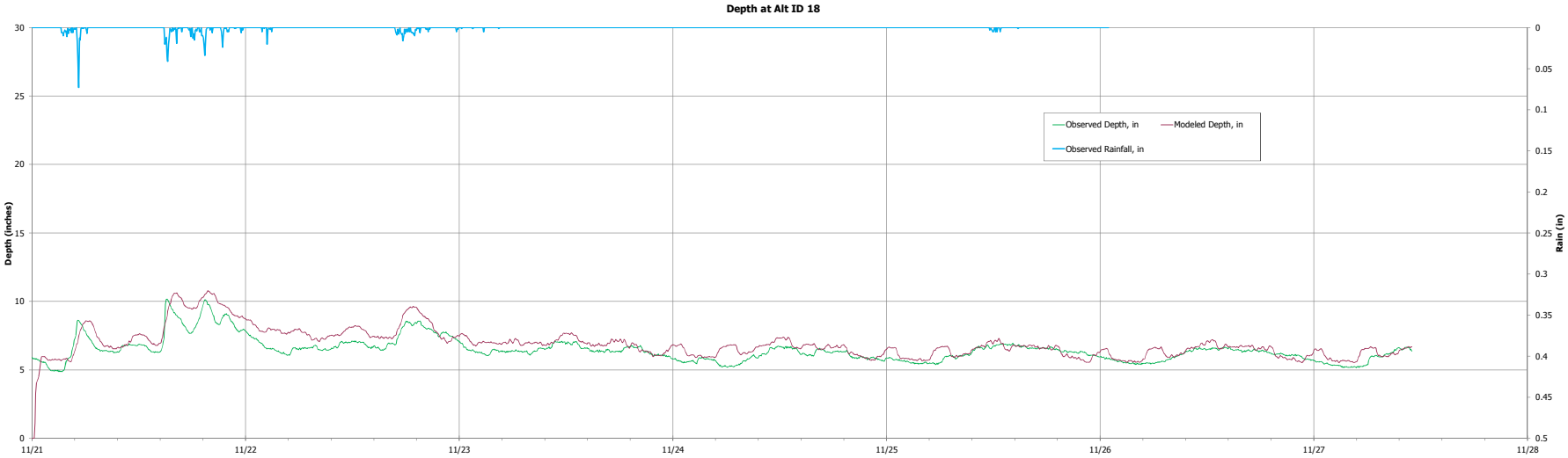

Flow at Alt ID 17
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

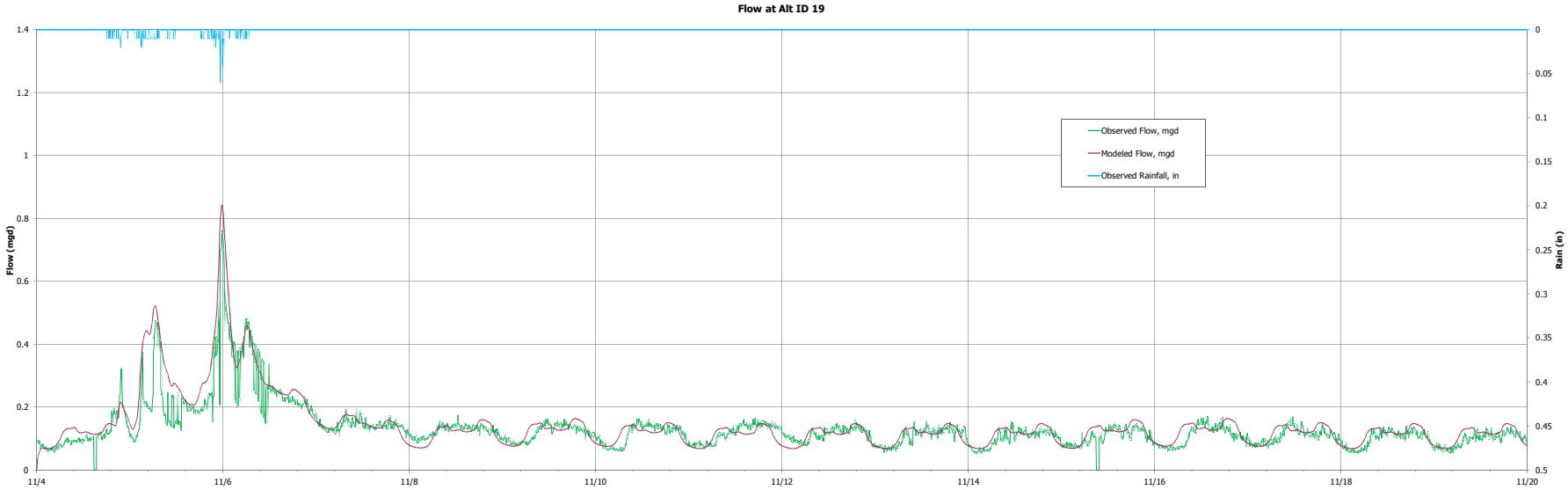

Depth at Alt ID 17
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

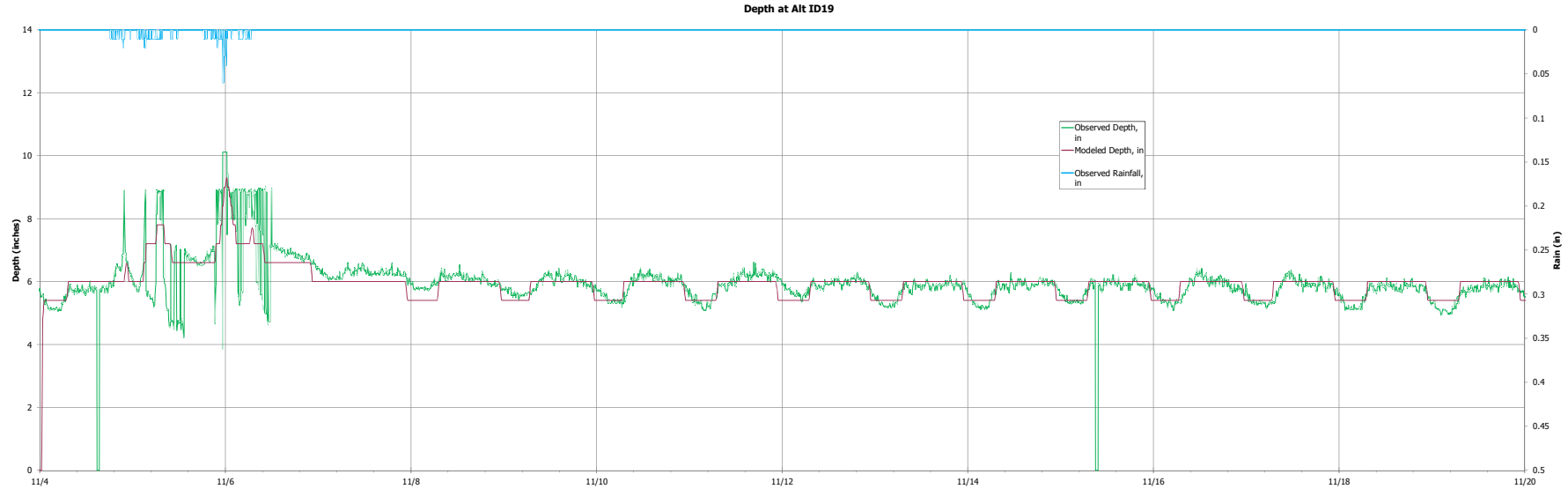

Flow at Alt ID 18
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

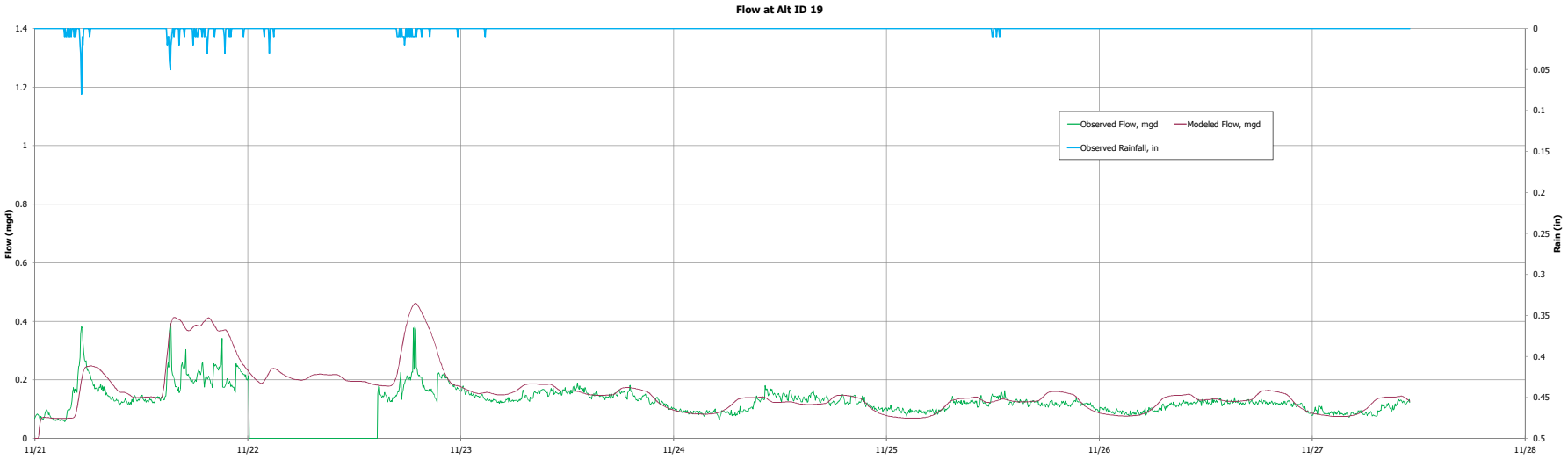

Depth at Alt ID18
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
5
10
15
20
25
30
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

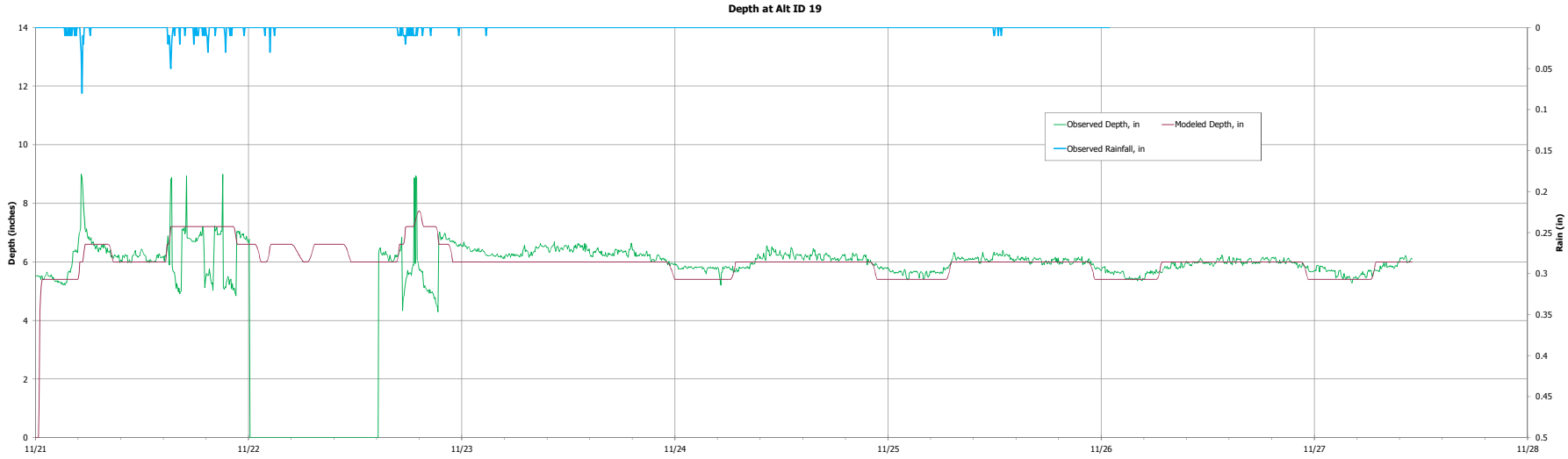

Flow at Alt ID 18
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

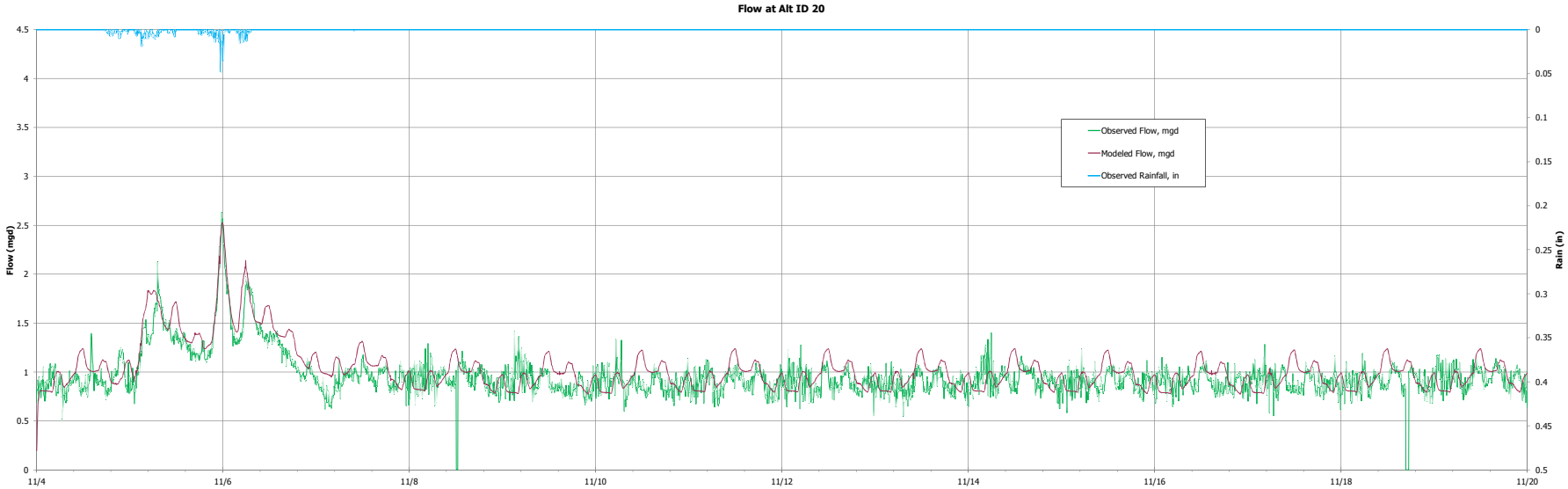

Depth at Alt ID 18
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
5
10
15
20
25
30
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

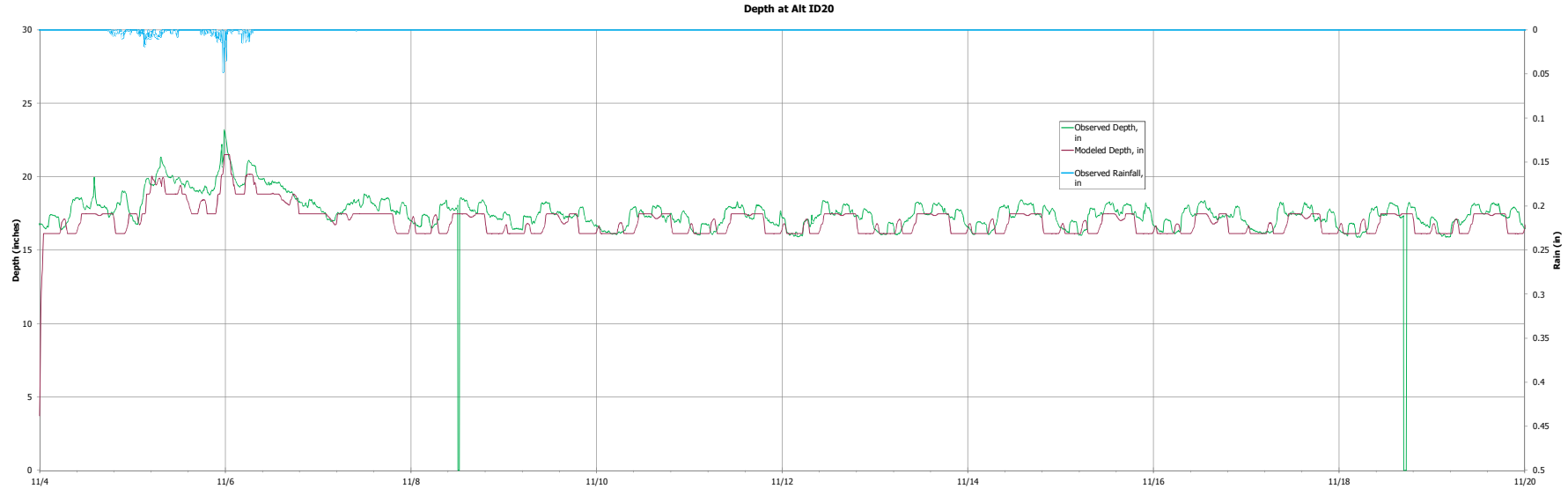

Flow at Alt ID 19
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

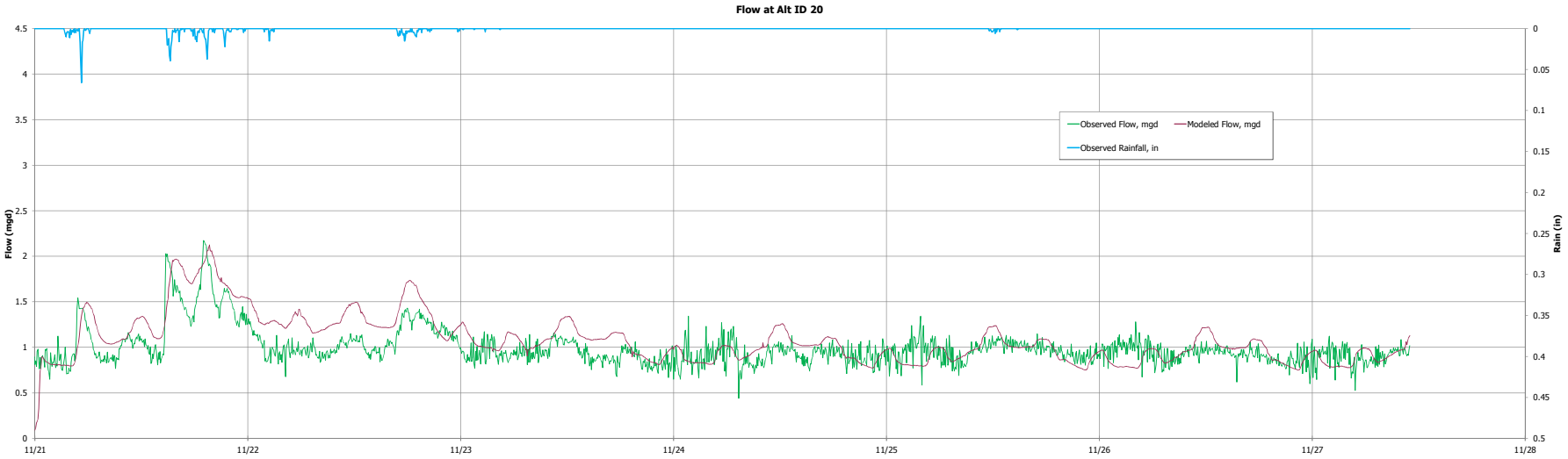

Depth at Alt ID19
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
14
12
10
8
6
4
2
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

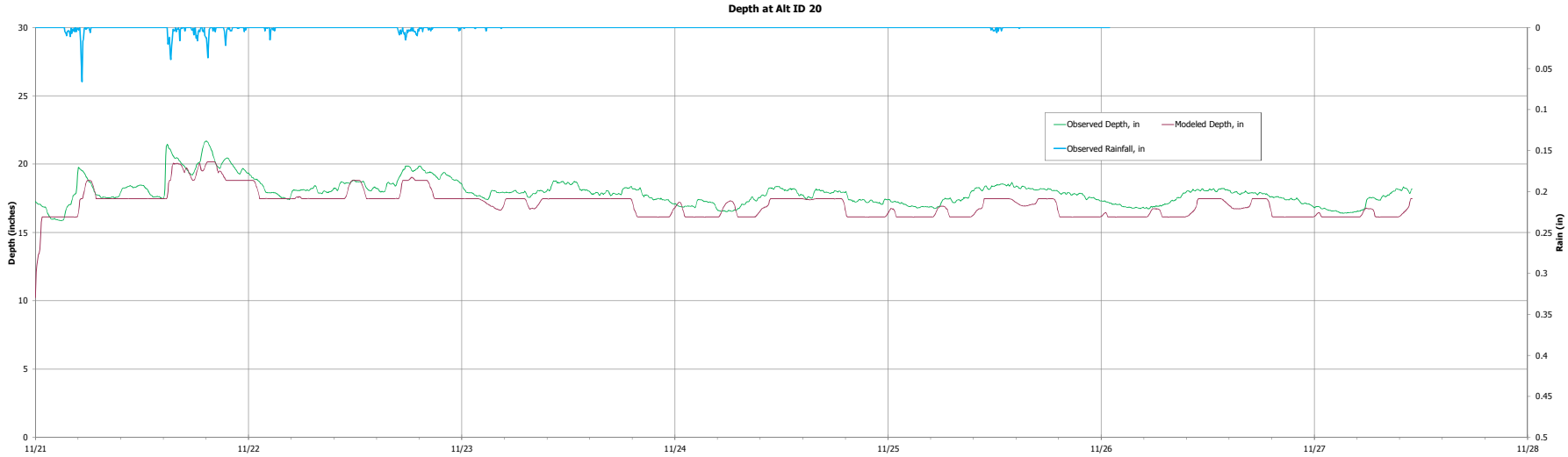

Flow at Alt ID 19
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

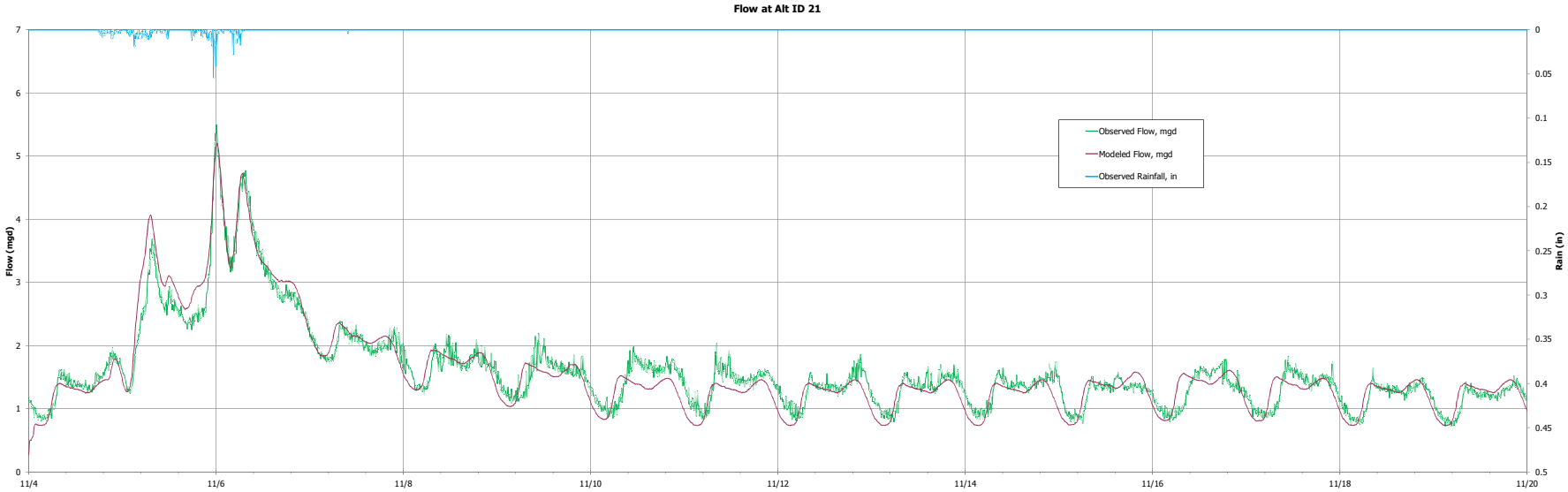

Depth at Alt ID 19
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

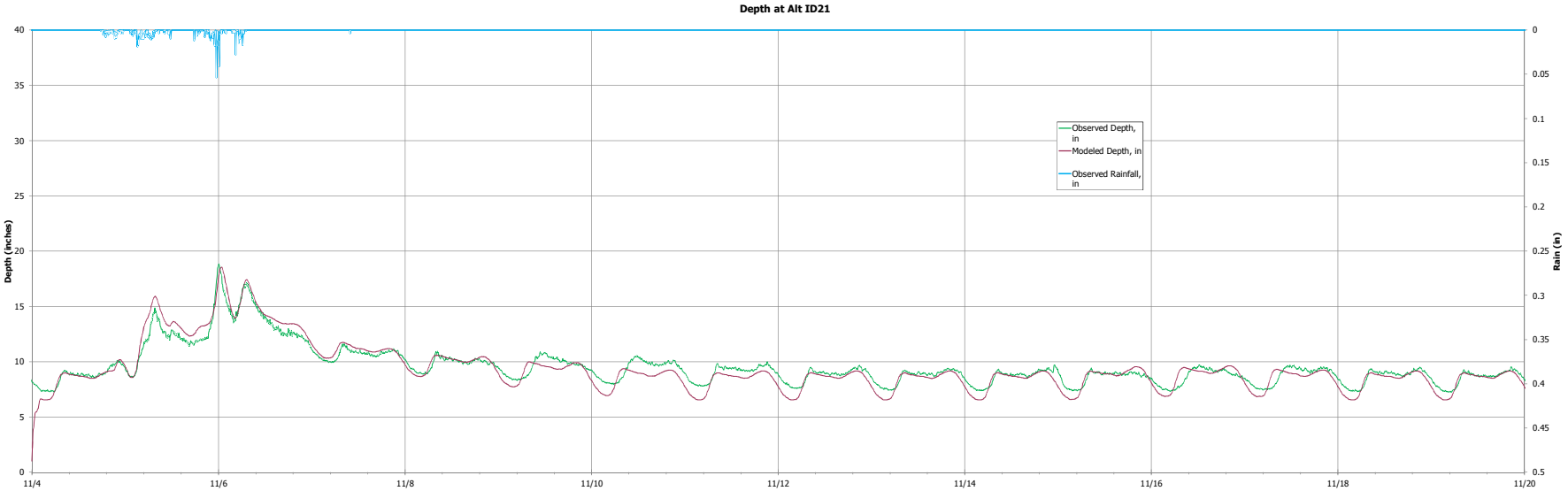

Flow at Alt ID 20
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

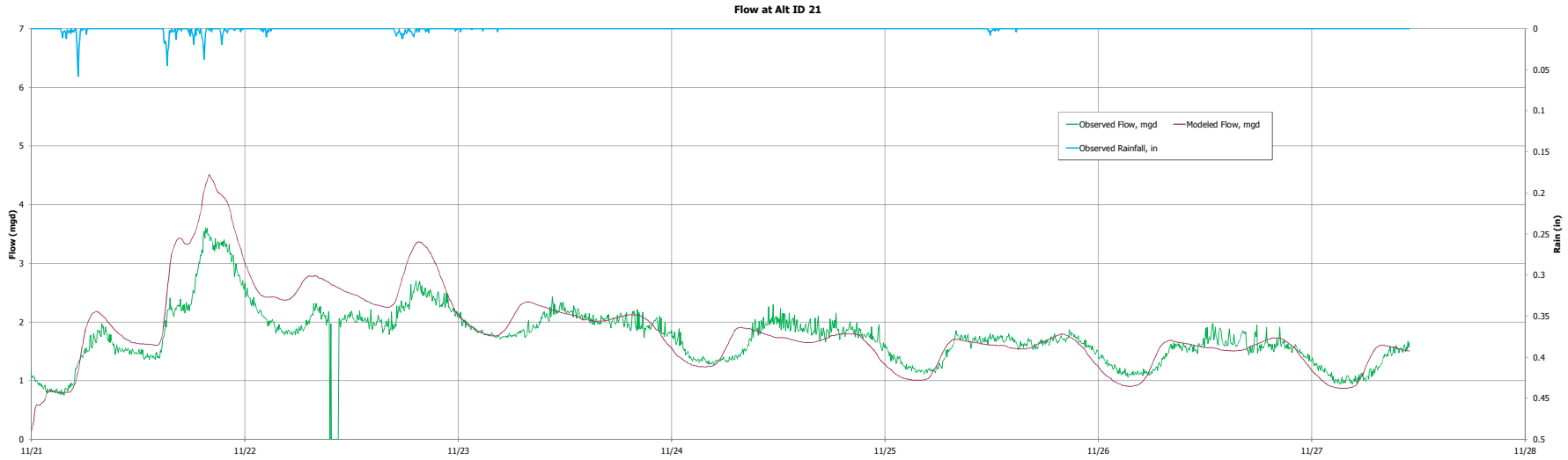

Depth at Alt ID20
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
30
25
20
15
10
5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

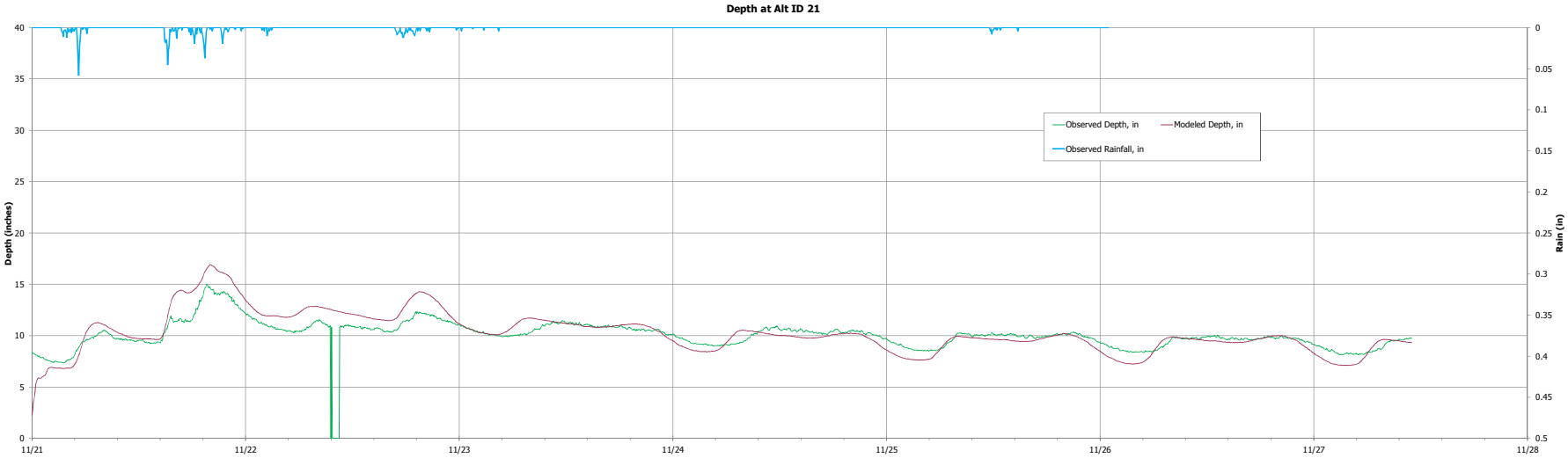

Flow at Alt ID 20
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

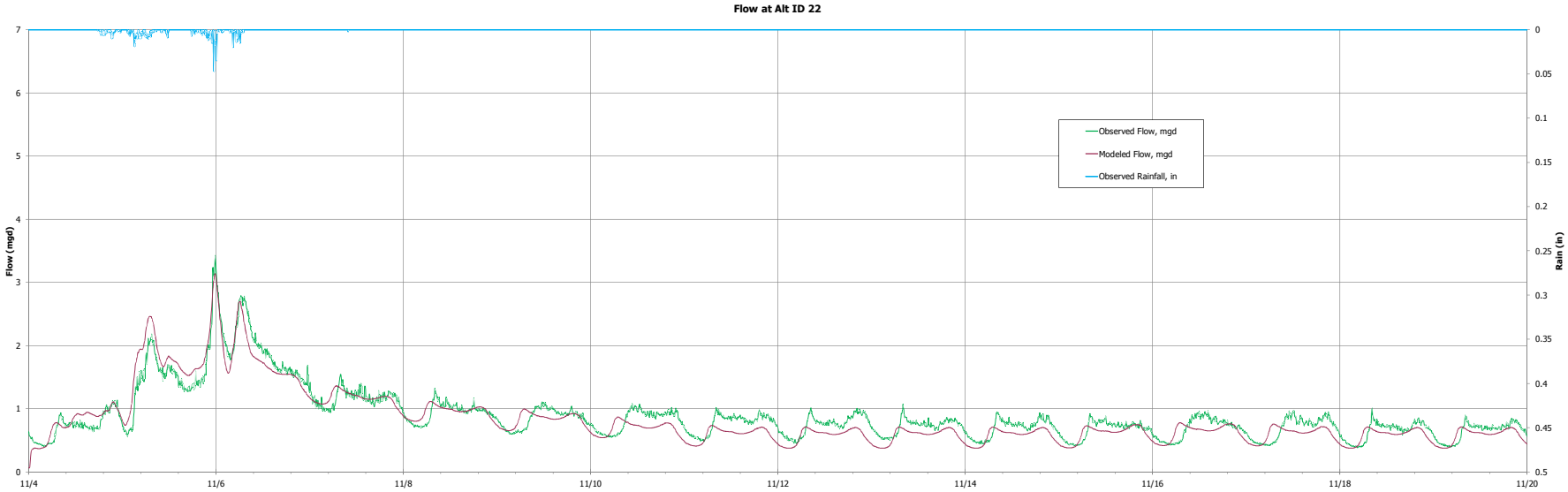

Depth at Alt ID 20
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
30
25
20
15
10
5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

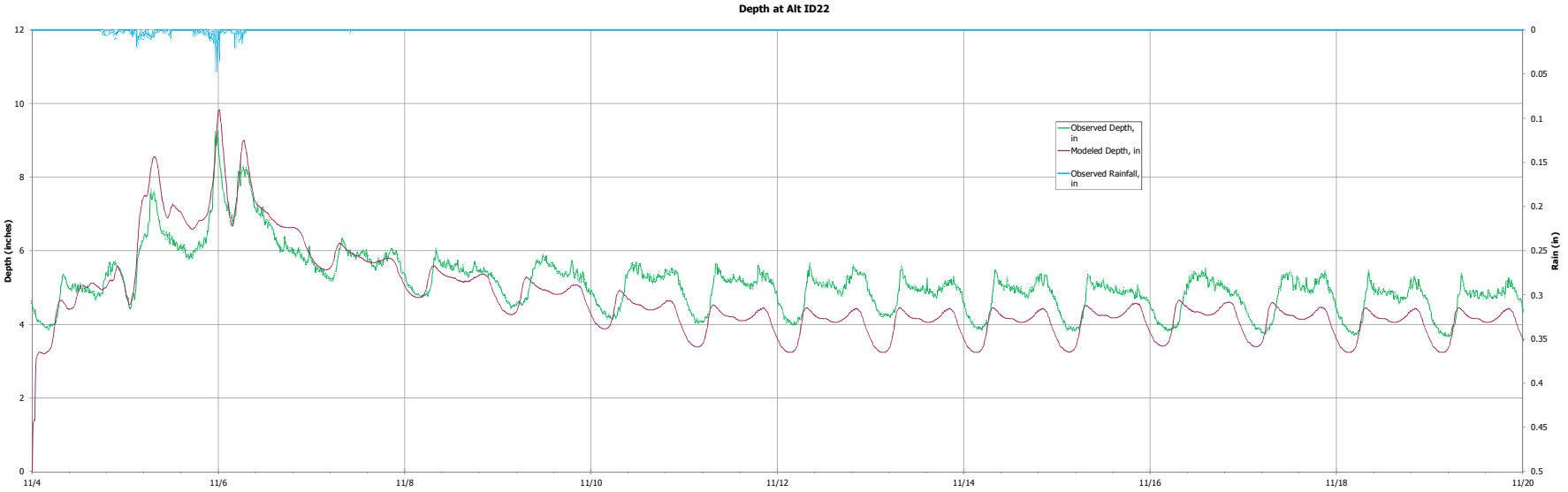

Flow at Alt ID 21
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

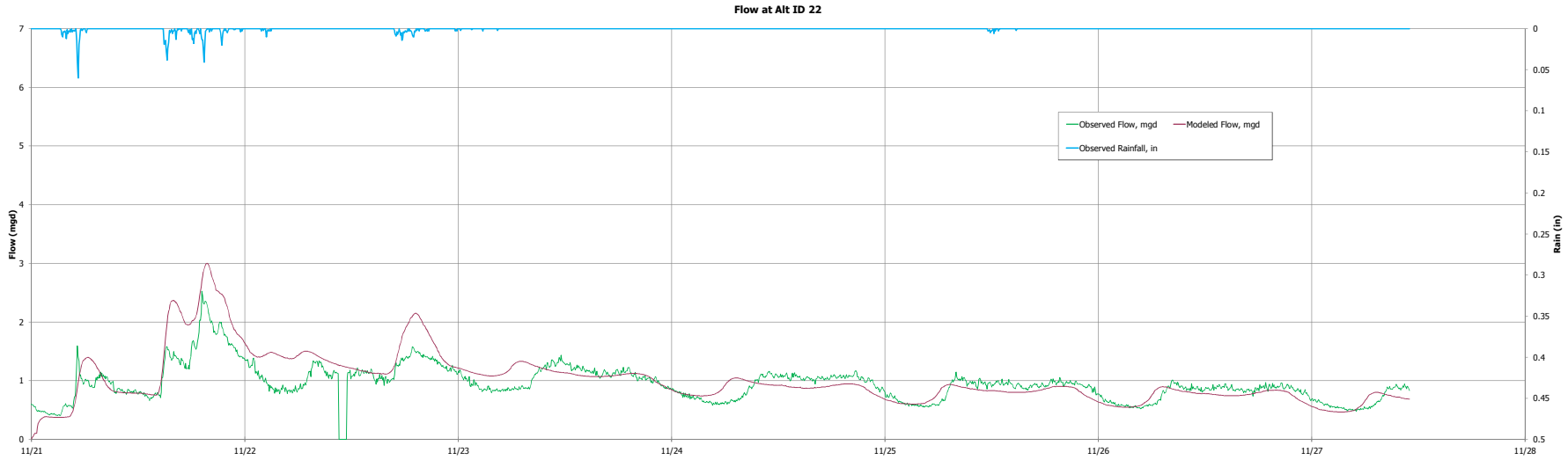

Depth at Alt ID21
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
5
10
15
20
25
30
35
40
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

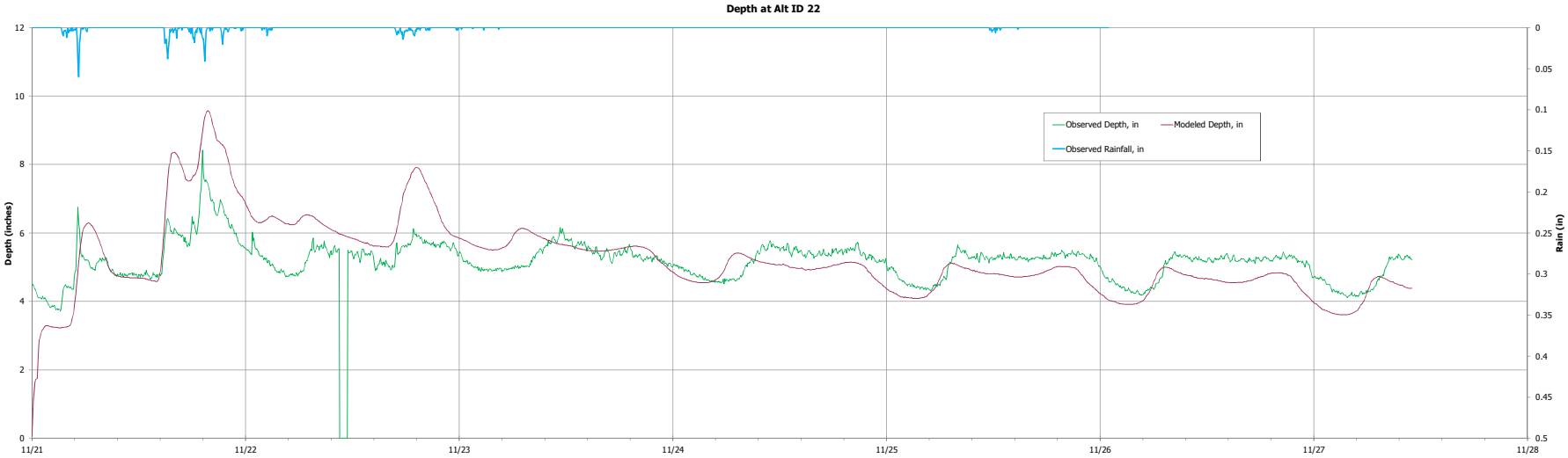

Flow at Alt ID 21
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

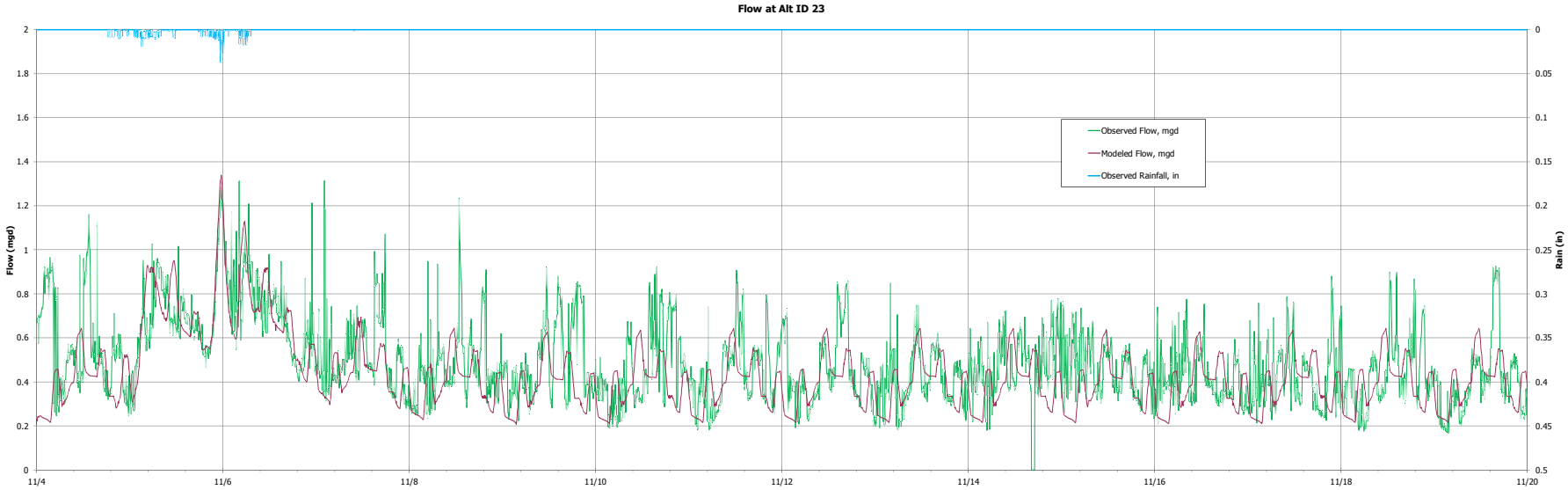

Depth at Alt ID 21
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
5
10
15
20
25
30
35
40
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

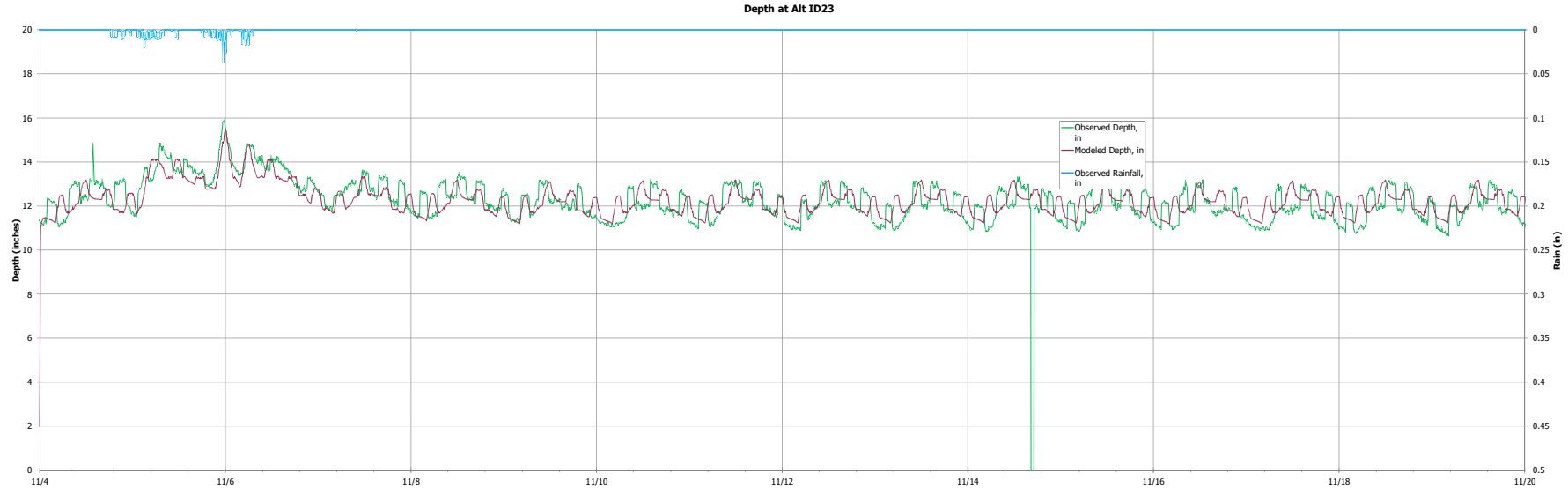

Flow at Alt ID 22
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

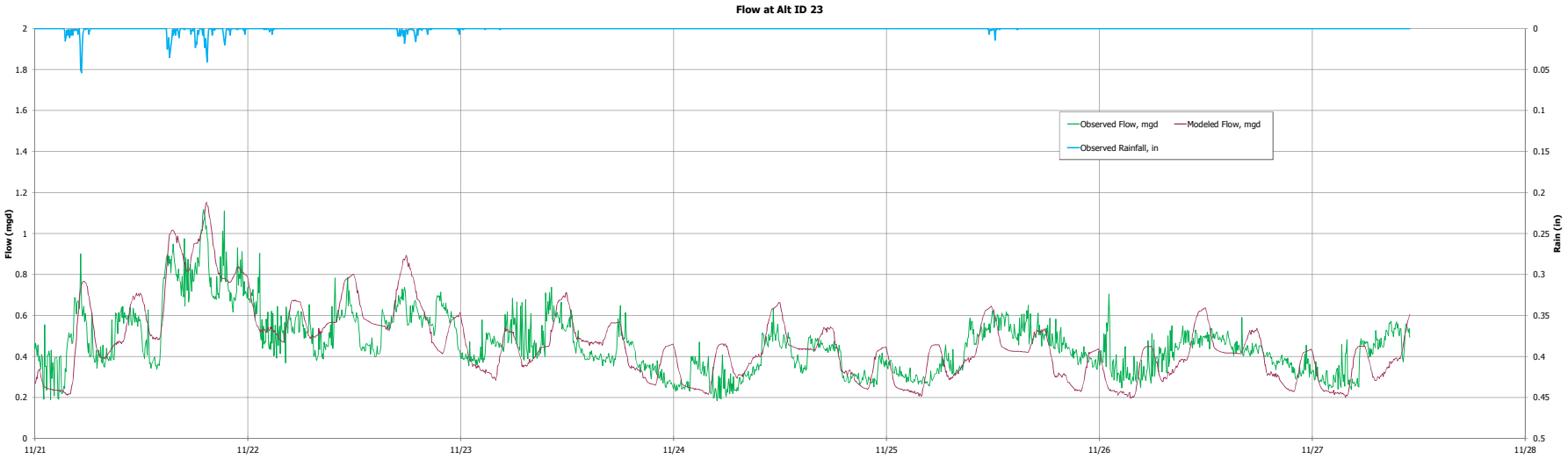

Depth at Alt ID22
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
2
4
6
8
10
12
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

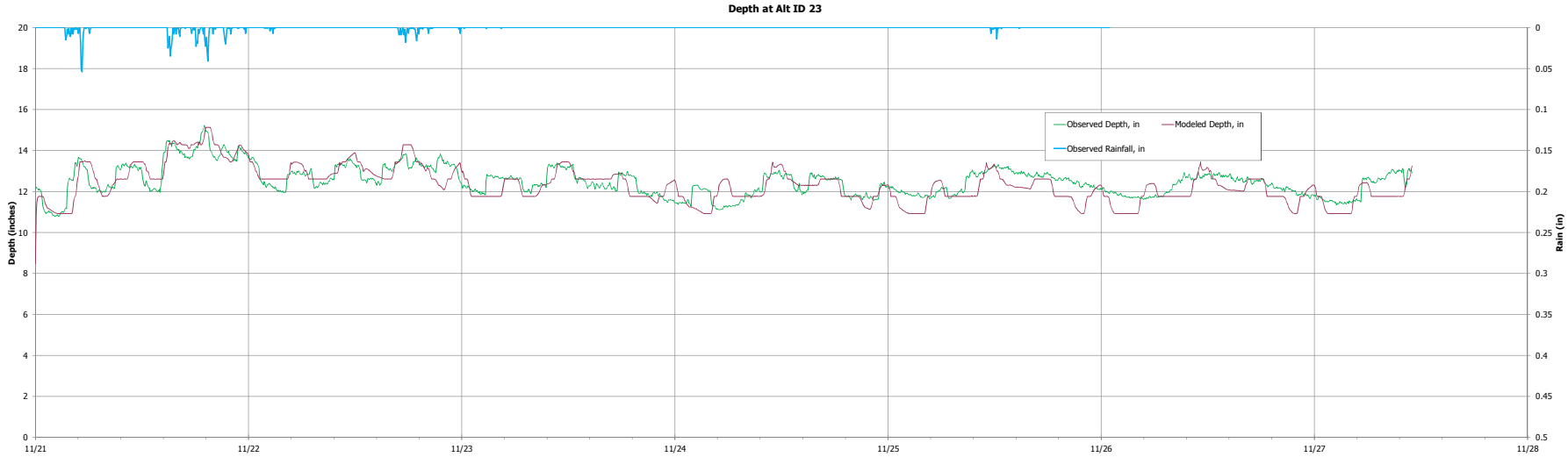

Flow at Alt ID 22
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

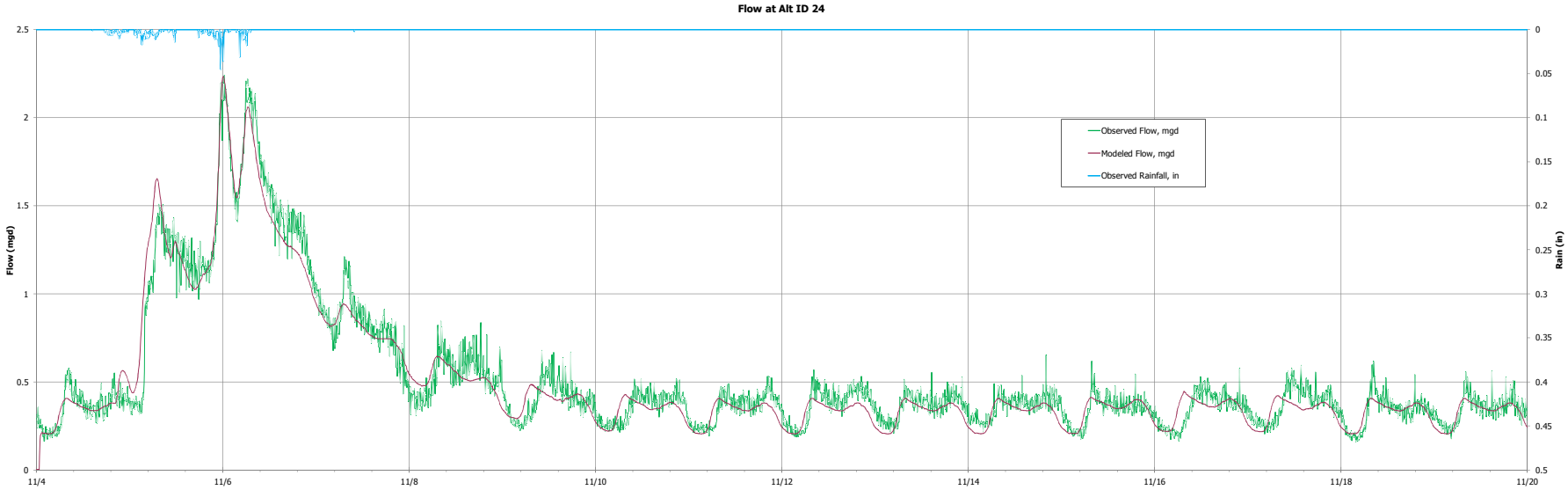

Depth at Alt ID 22
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
2
4
6
8
10
12
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

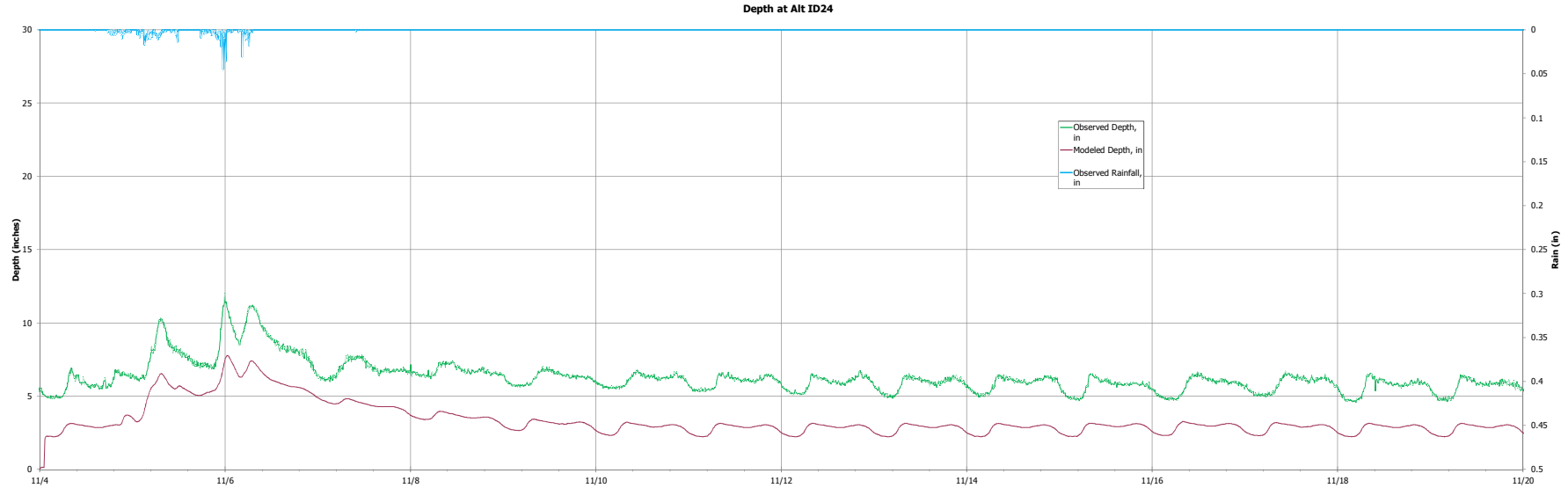

Flow at Alt ID 23
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

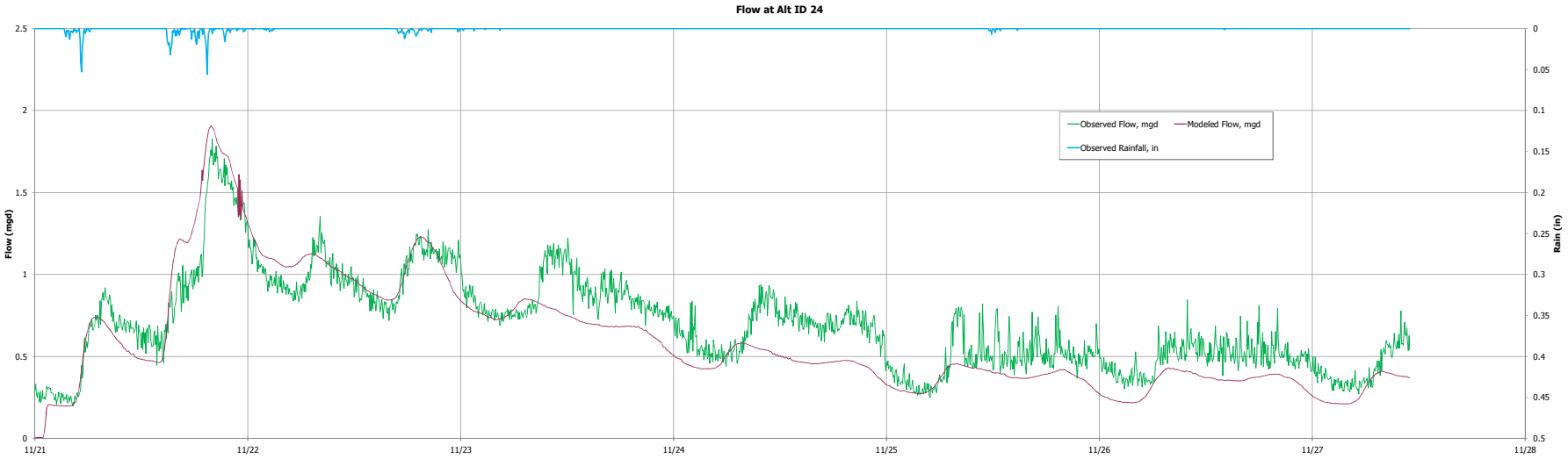

Depth at Alt ID23
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
2
4
6
8
10
12
14
16
18
20
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

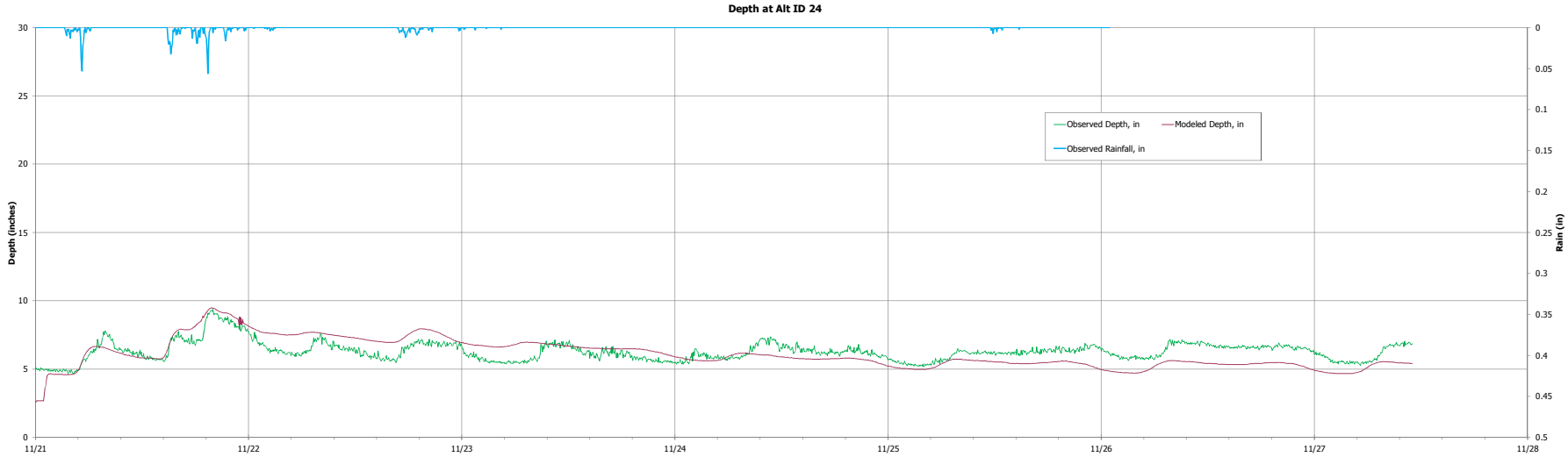

Flow at Alt ID 23
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

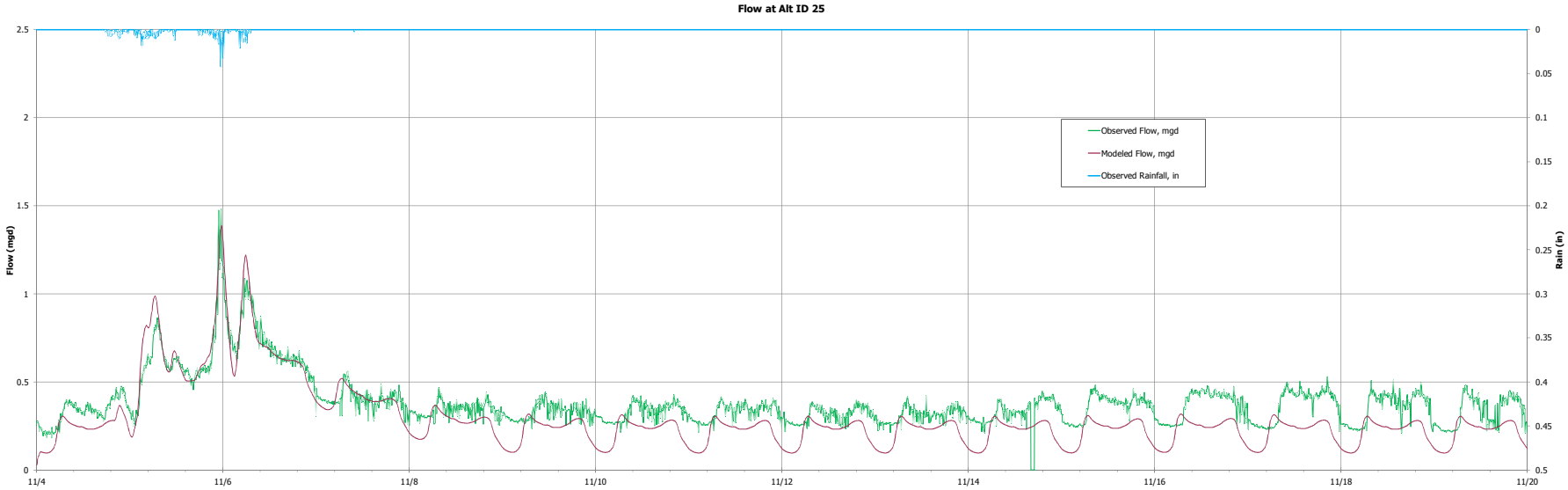

Depth at Alt ID 23
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
2
4
6
8
10
12
14
16
18
20
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

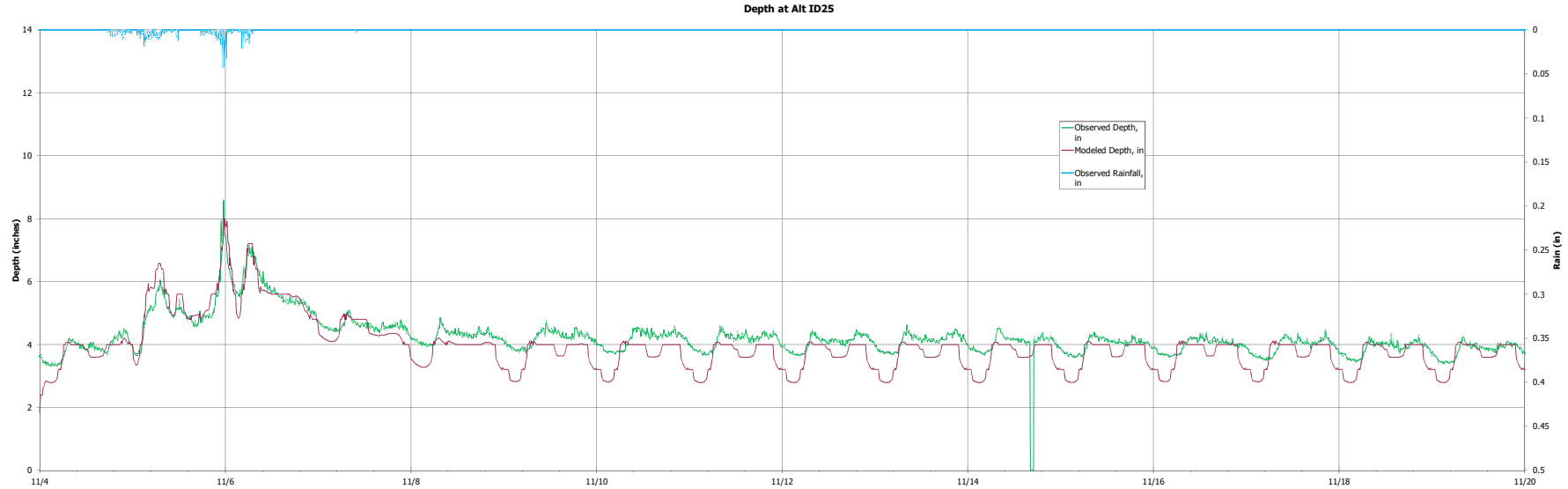

Flow at Alt ID 24
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

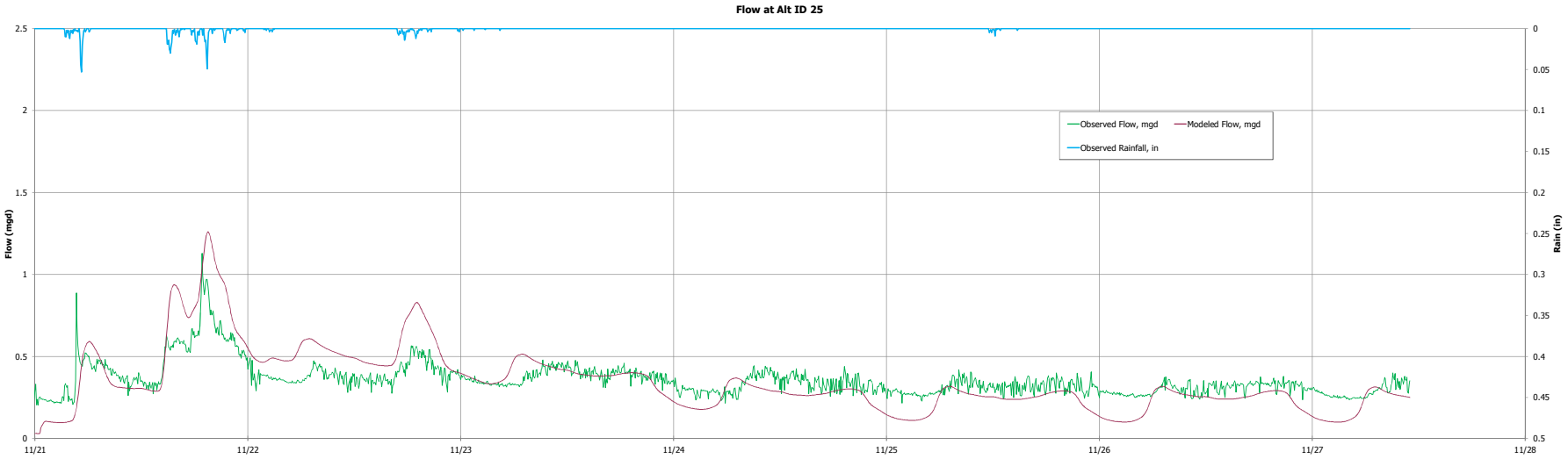

Depth at Alt ID24
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
30
25
20
15
10
5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

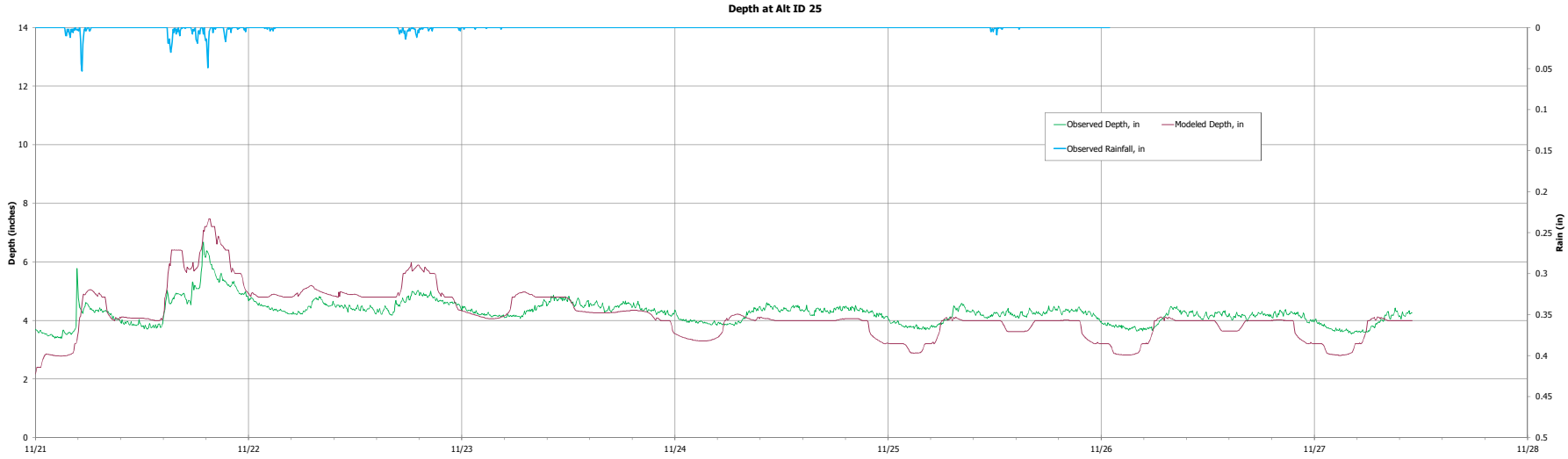

Flow at Alt ID 24
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

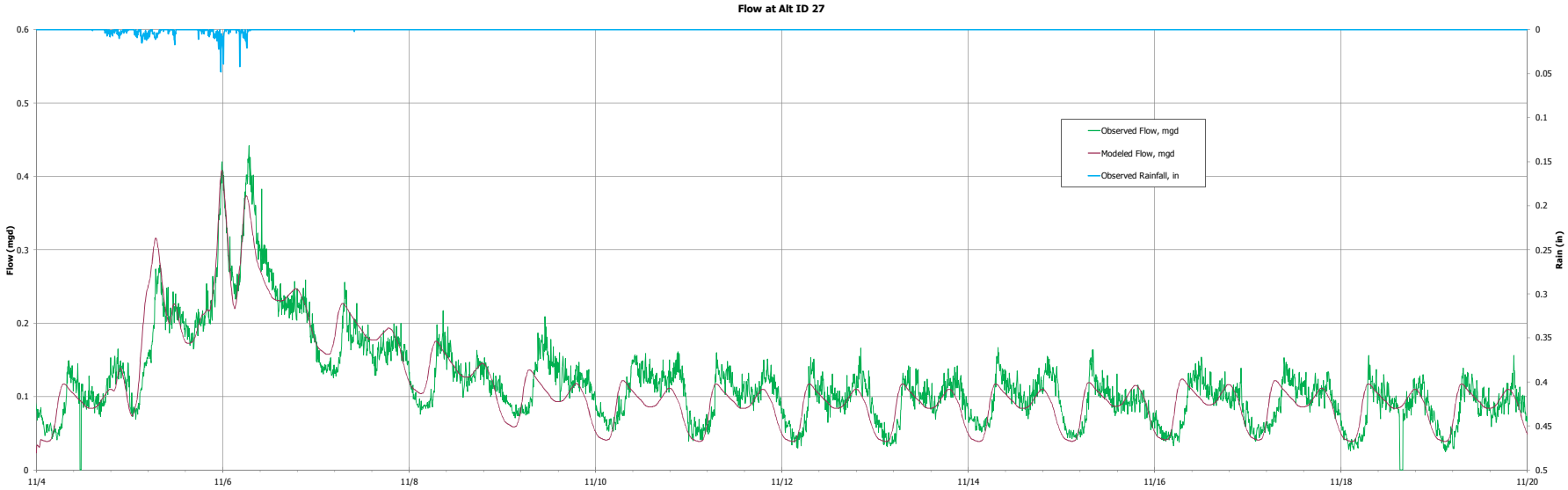

Depth at Alt ID 24
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
30
25
20
15
10
5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

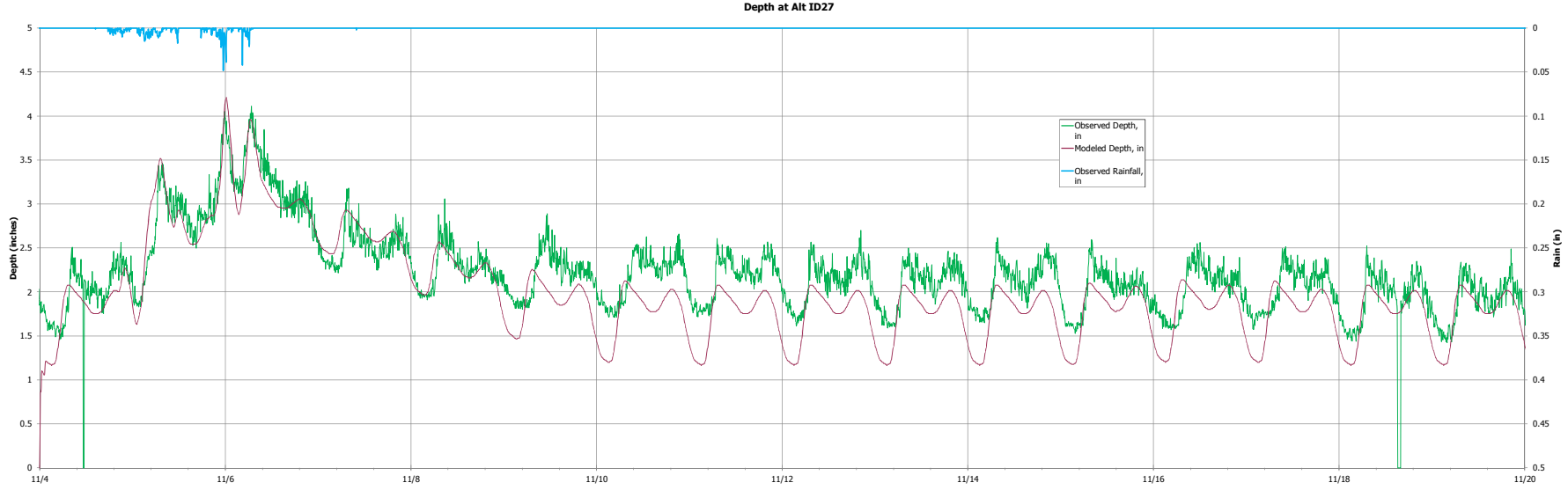

Flow at Alt ID 25
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

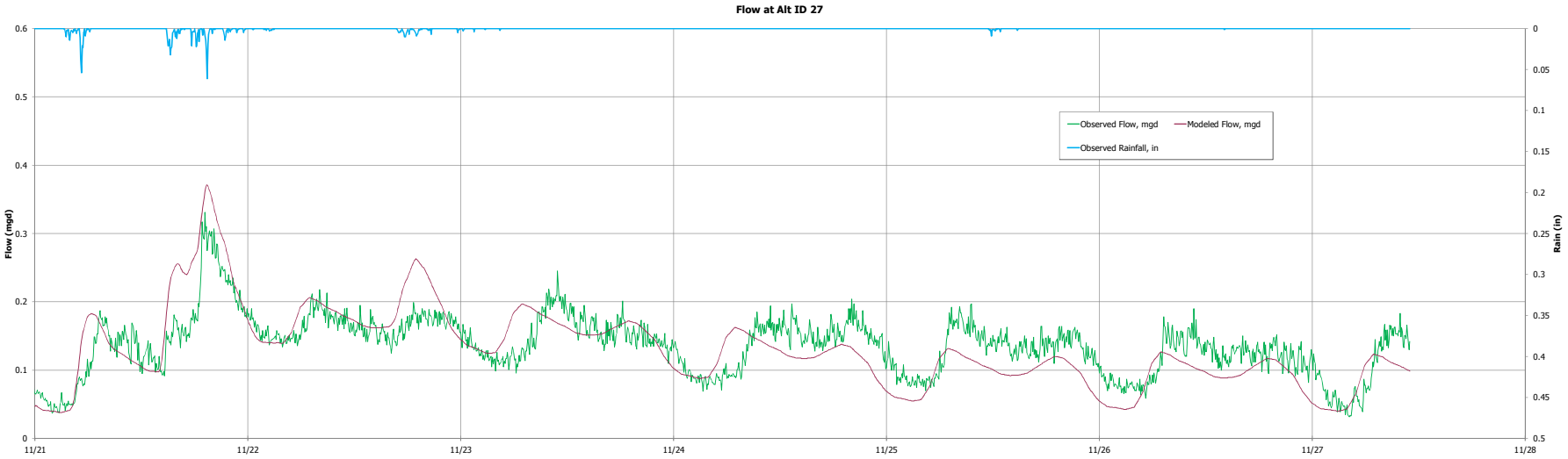

Depth at Alt ID25
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

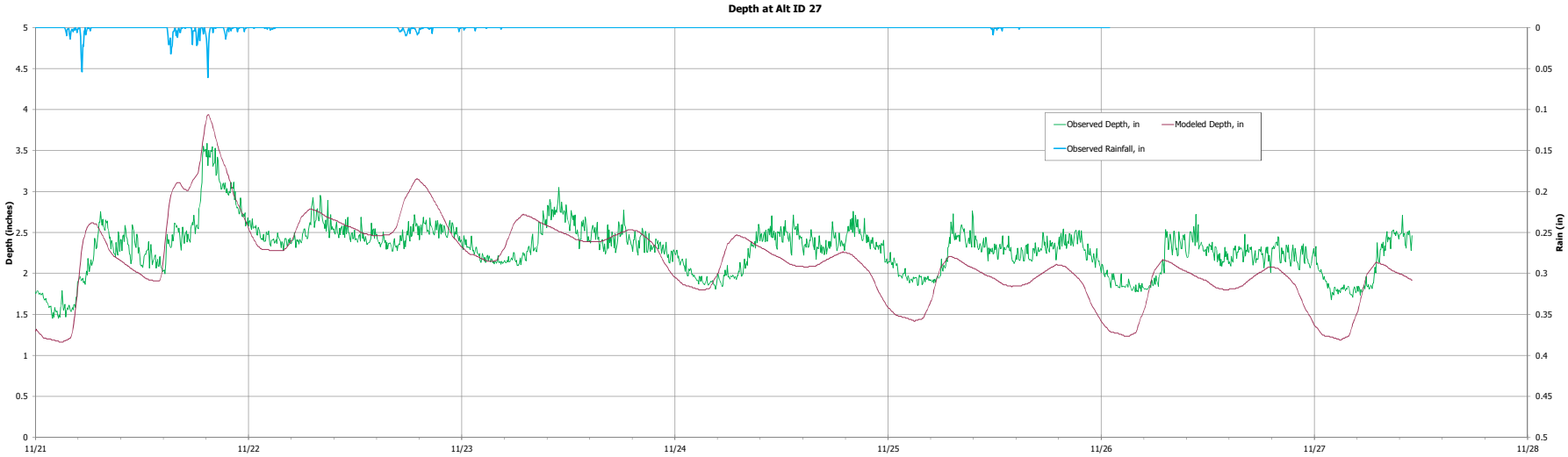

Flow at Alt ID 25
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

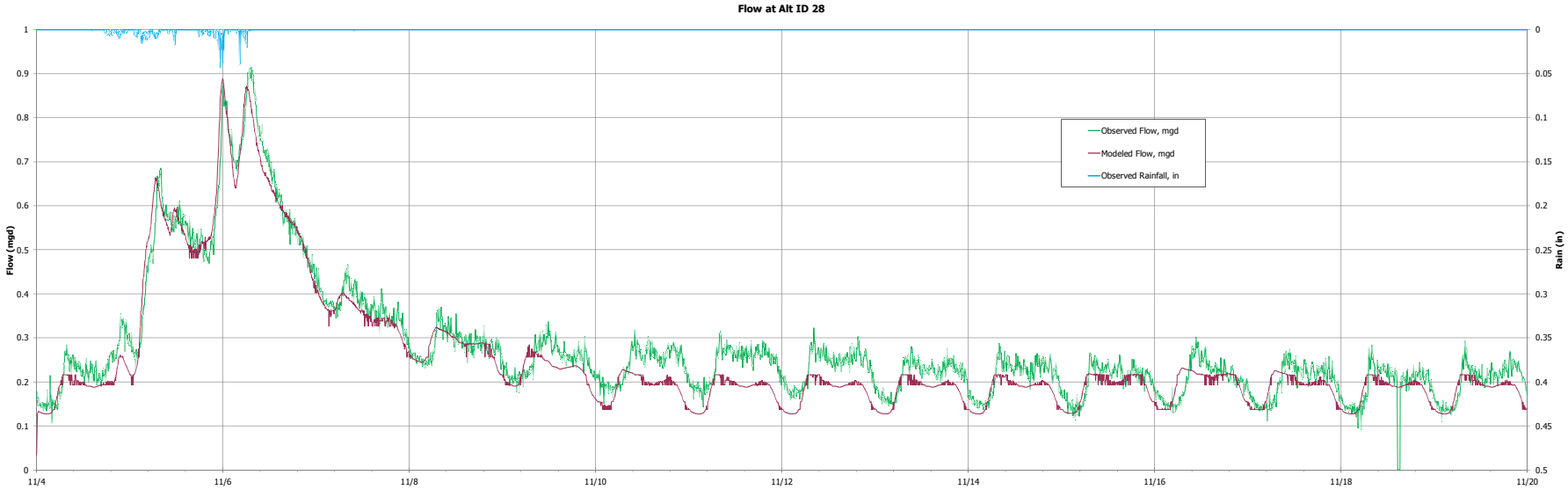

Depth at Alt ID 25
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

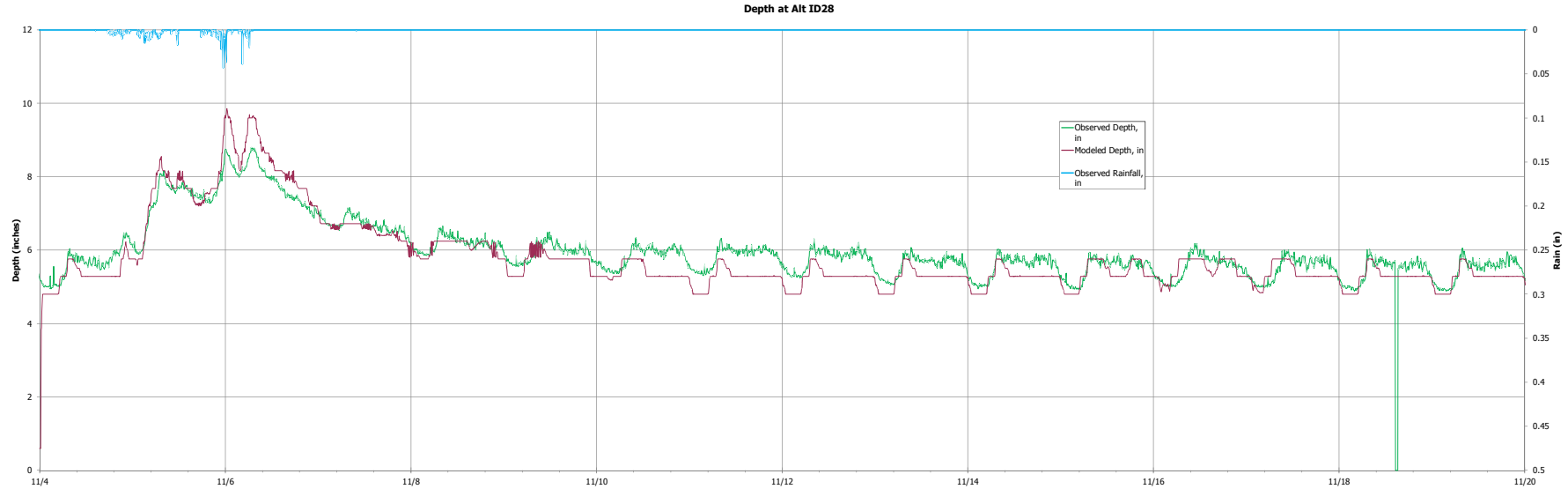

Flow at Alt ID 27
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
0.1
0.2
0.3
0.4
0.5
0.6
0.05
0.15
0.25
0.35
0.45
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

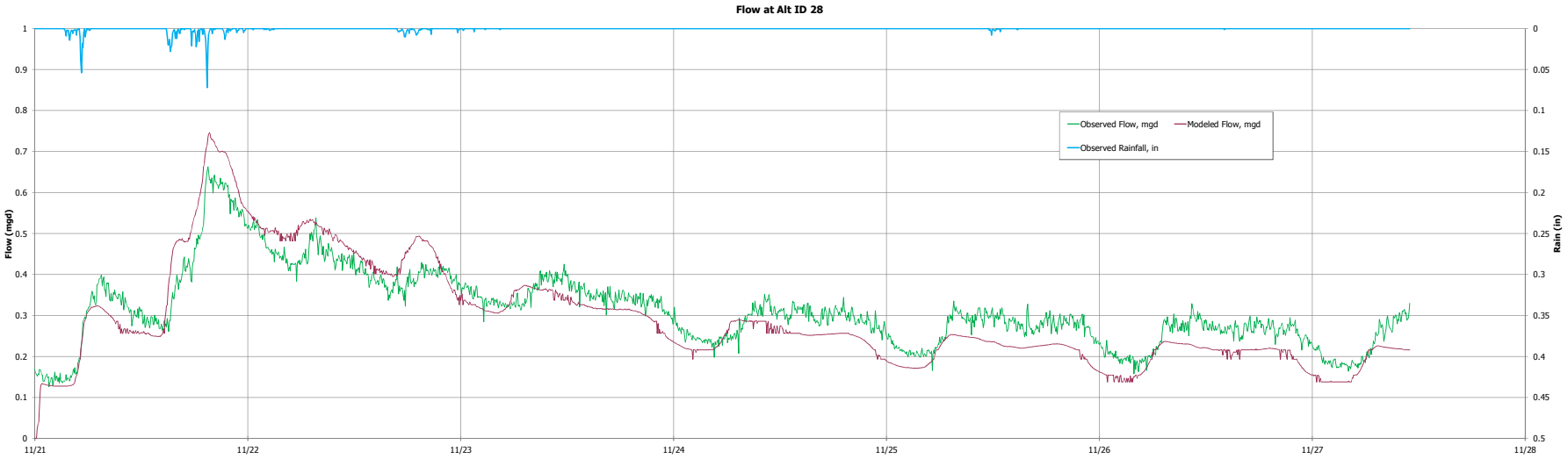

Depth at Alt ID27
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

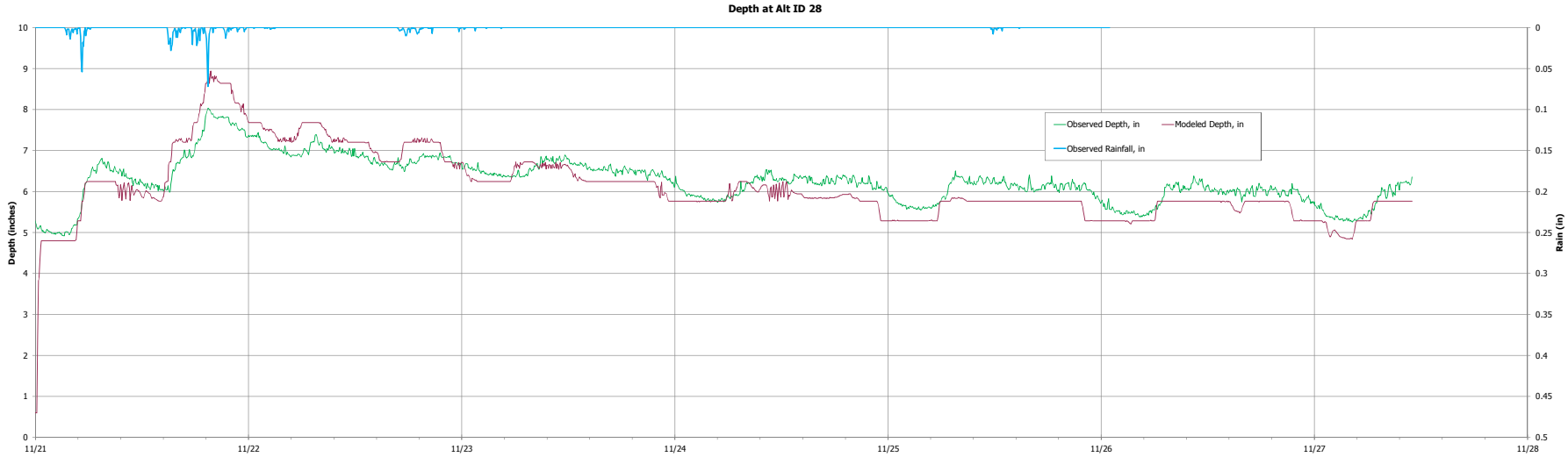

Flow at Alt ID 27
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

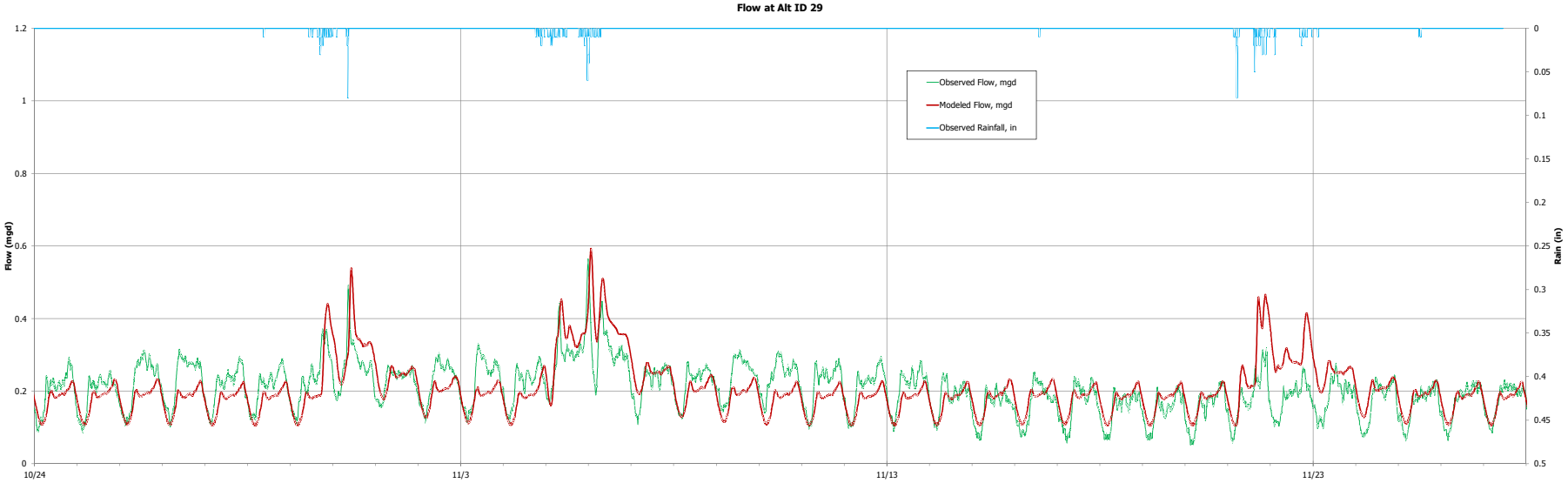

Depth at Alt ID 27
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

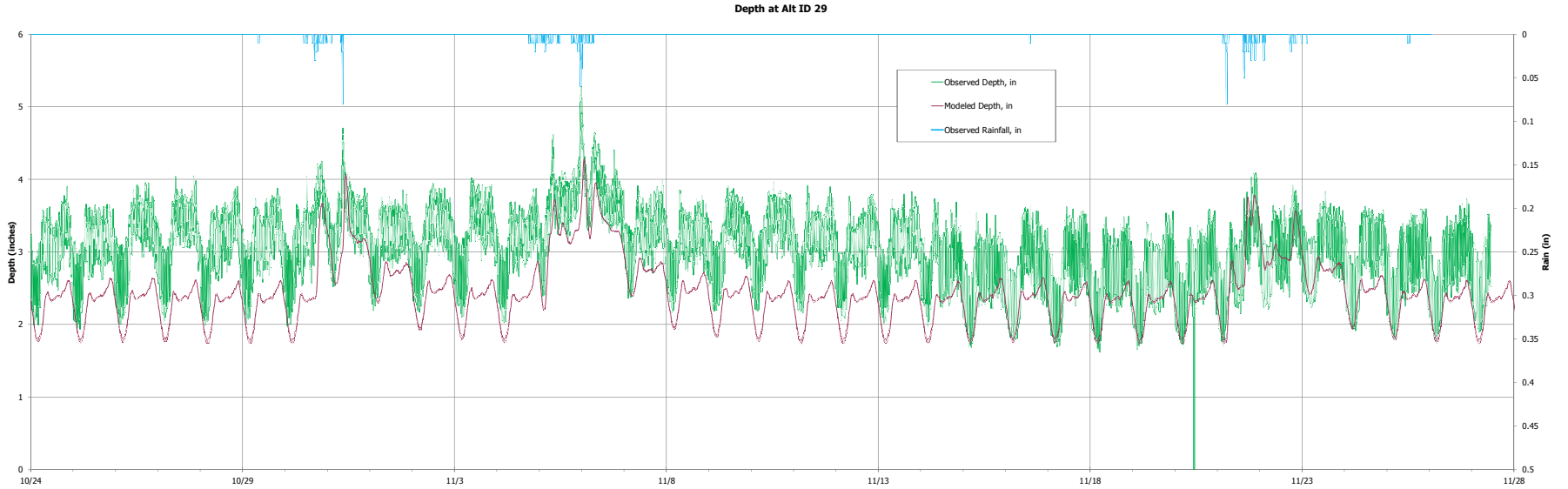

Flow at Alt ID 28
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0.05
0.15
0.25
0.35
0.45
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

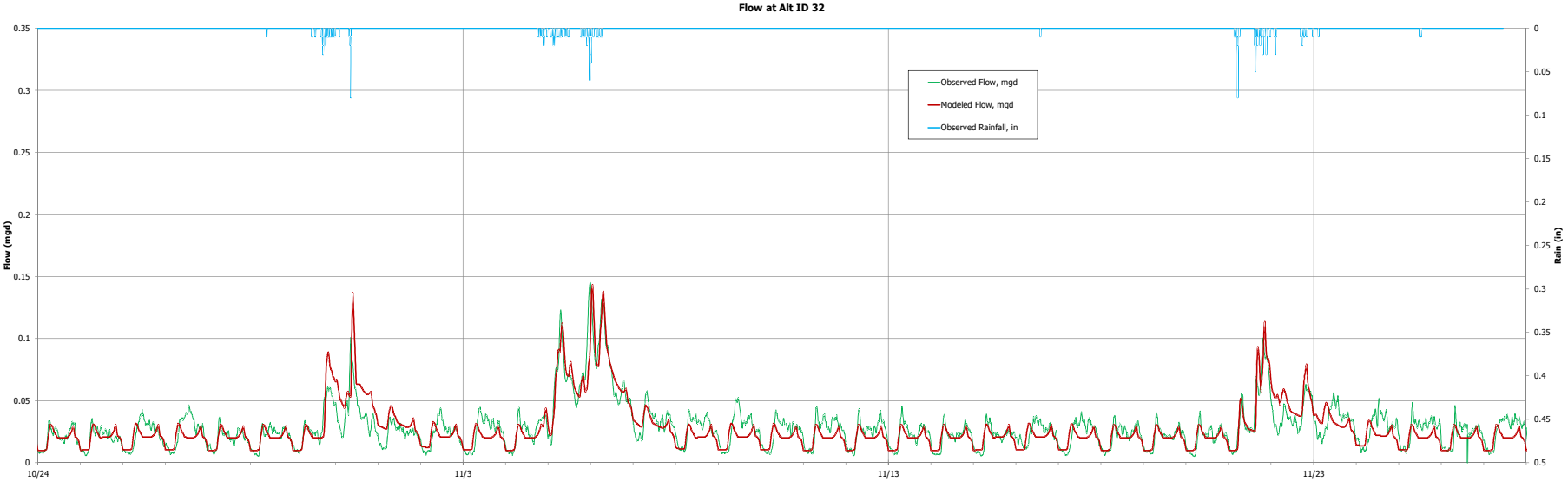

Depth at Alt ID28
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
2
4
6
8
10
12
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
11/4
11/6
11/8
11/10
11/12
11/14
11/16
11/18
11/20

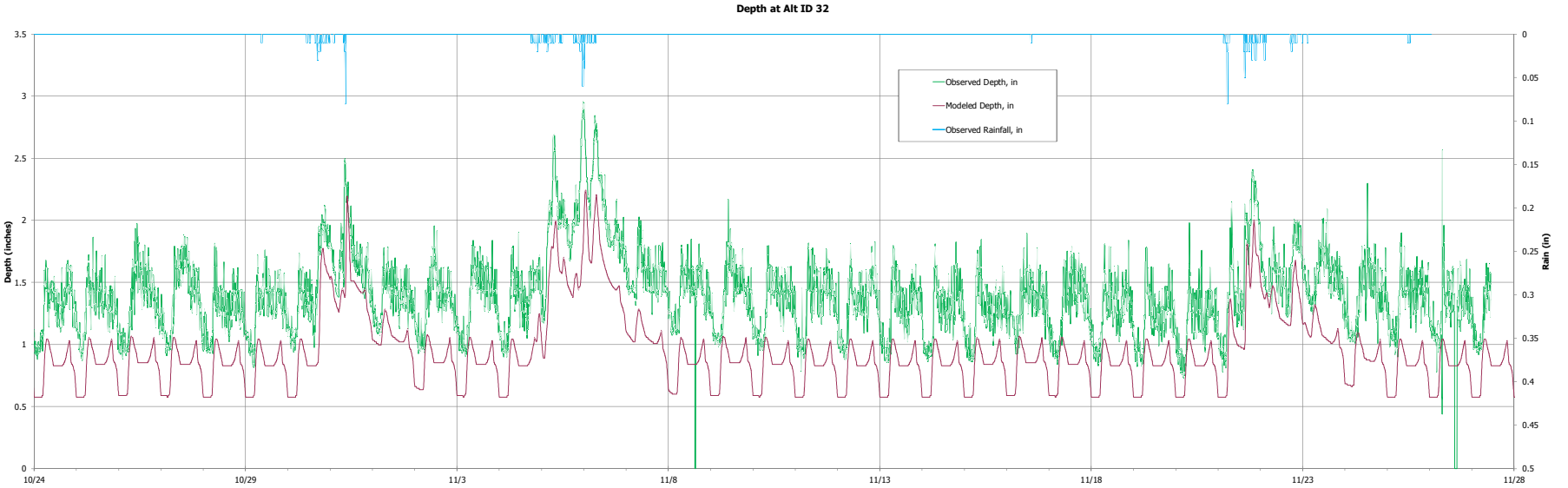

Flow at Alt ID 28
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0.05
0.15
0.25
0.35
0.45
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

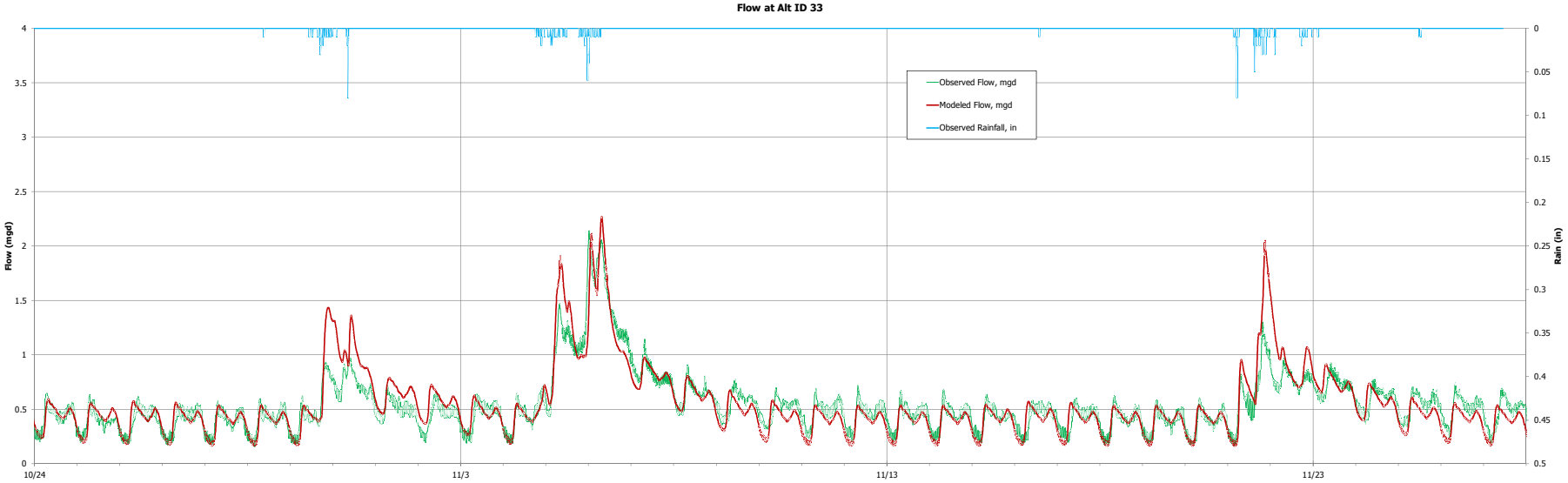

Depth at Alt ID 28
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
0
1
2
3
4
5
6
7
8
9
10
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28

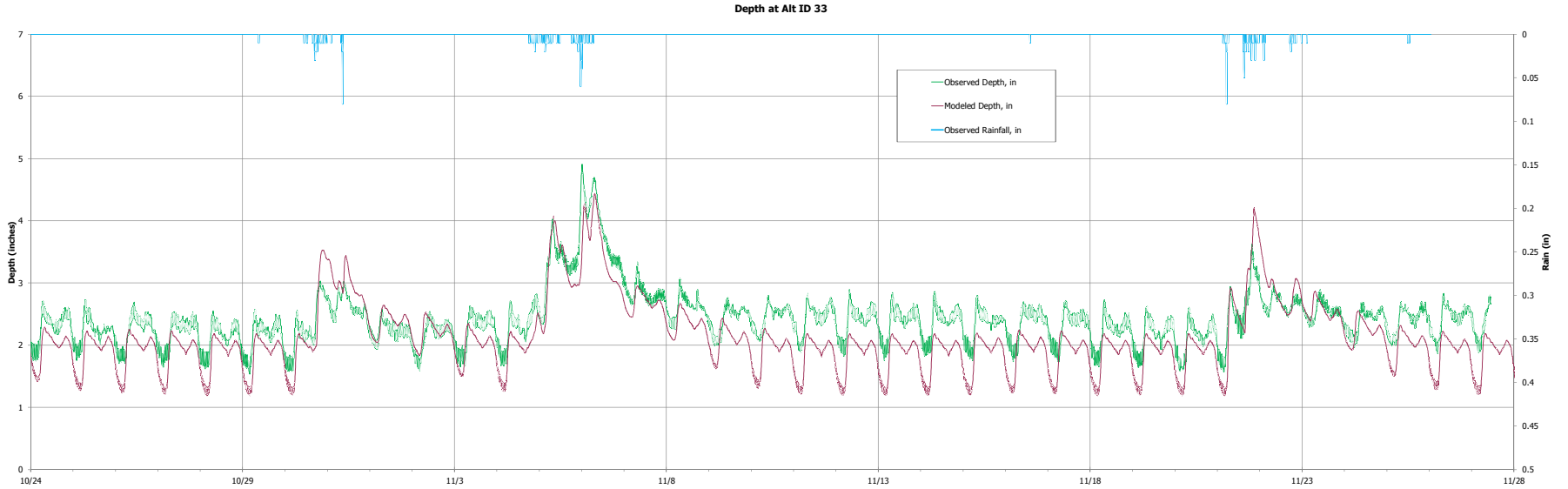

Flow at Alt ID 29
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

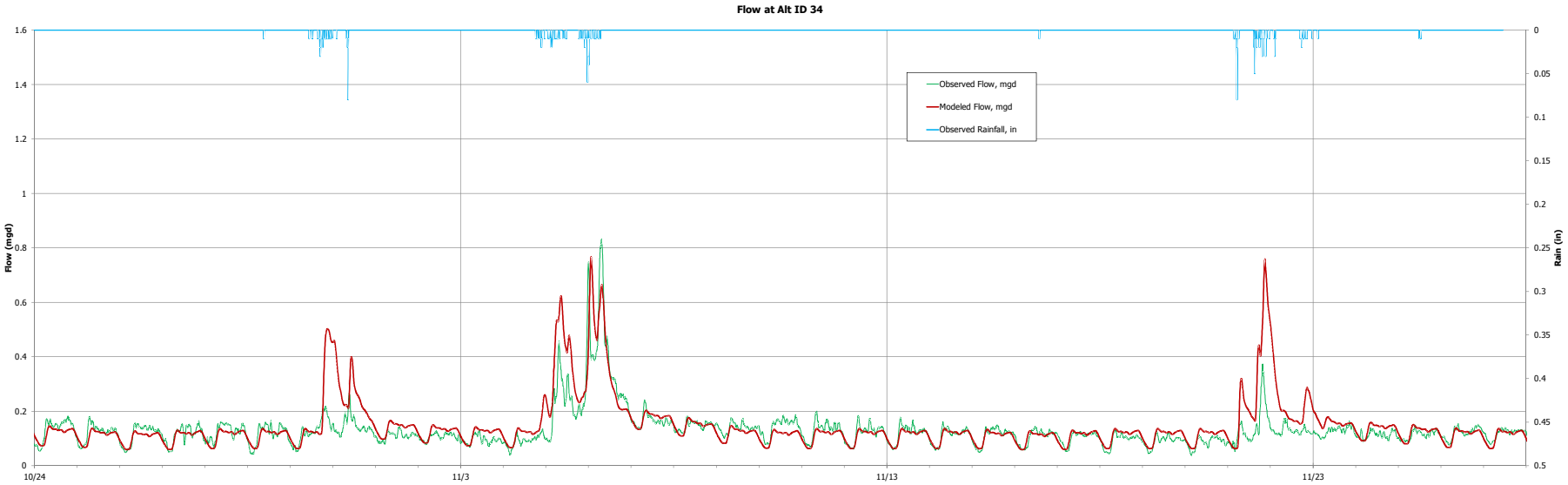

Depth at Alt ID 29
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

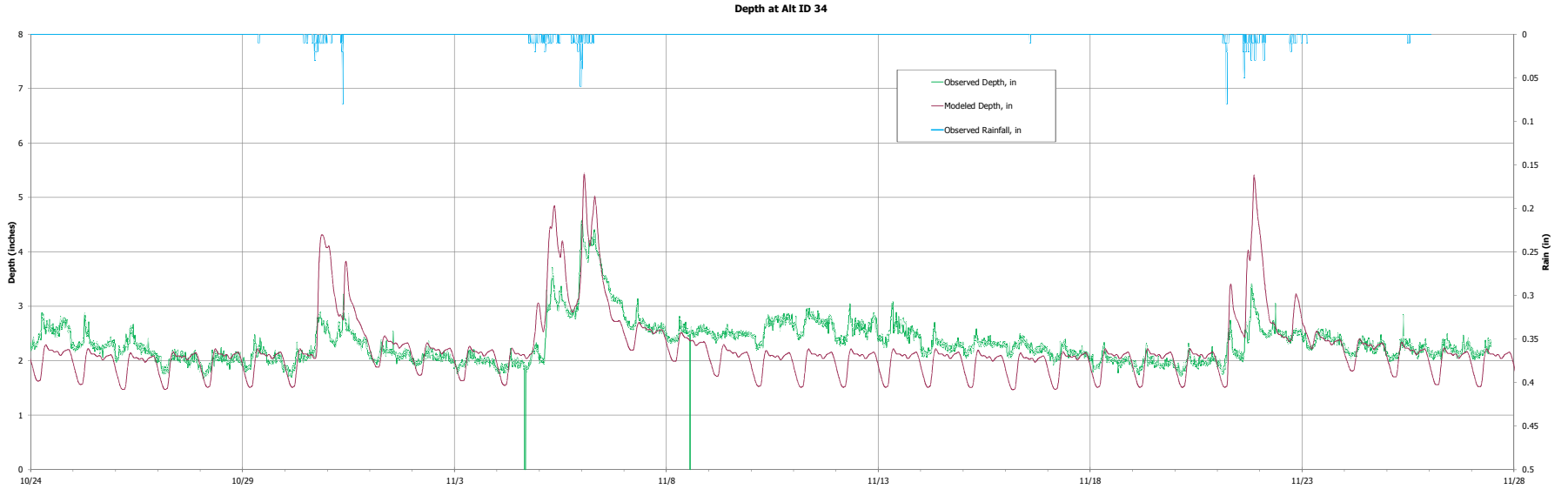

Flow at Alt ID 32
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

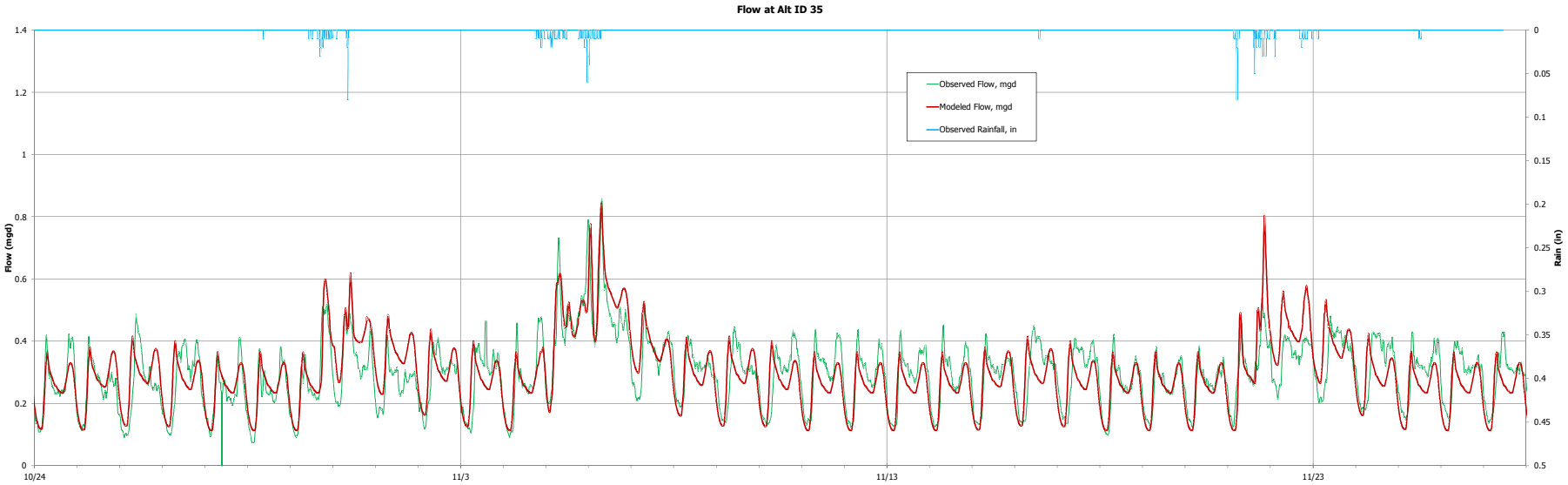

Depth at Alt ID 32
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

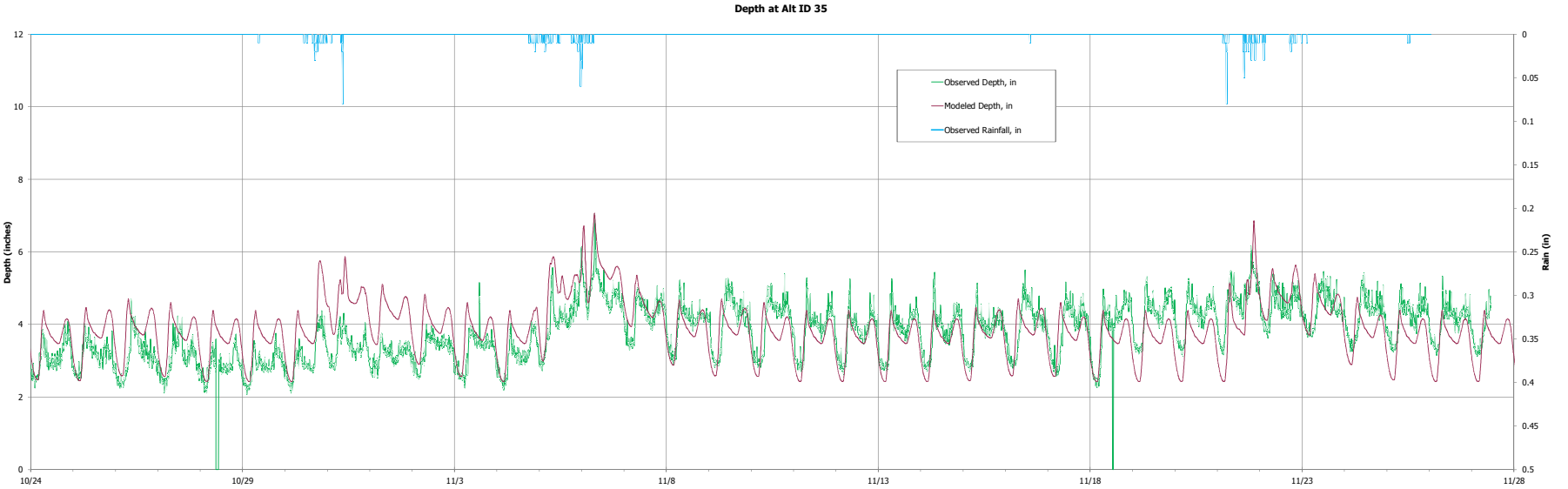

Flow at Alt ID 33
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
0.5
1
1.5
2
2.5
3
3.5
4
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

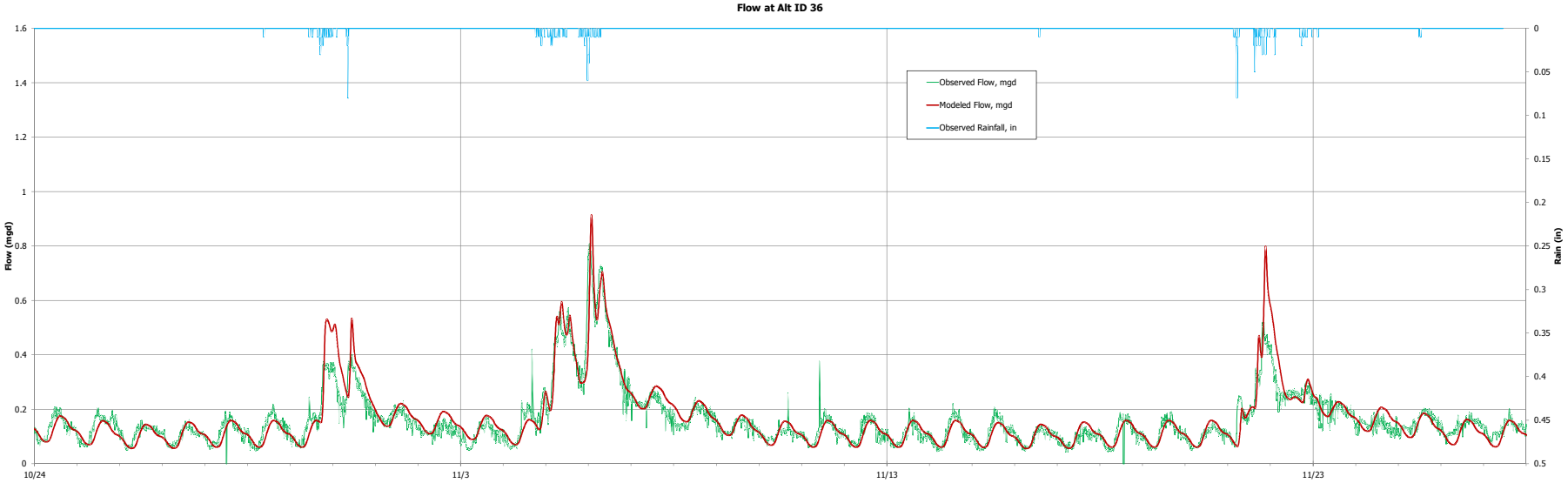

Depth at Alt ID 33
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

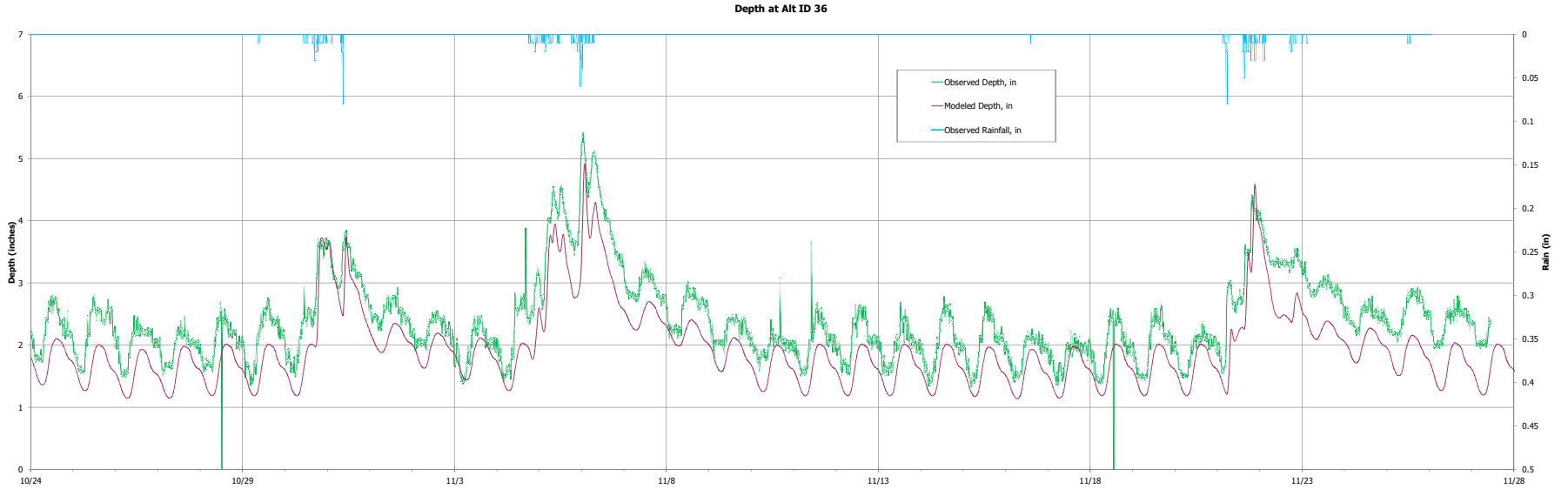

Flow at Alt ID 34
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

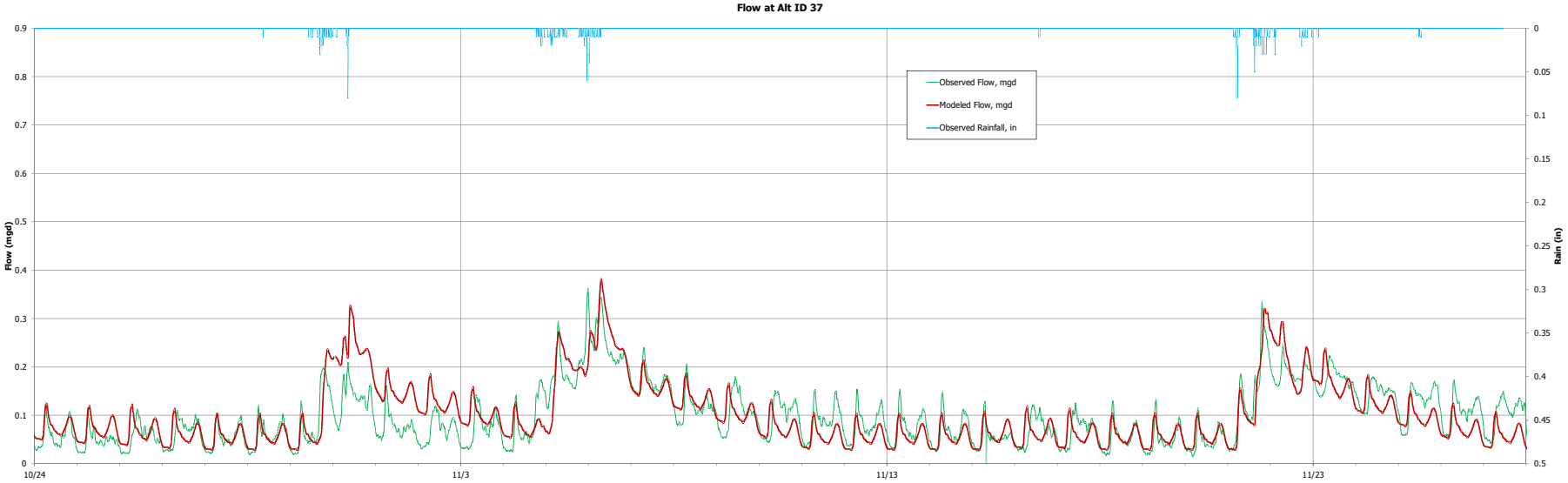

Depth at Alt ID 34
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

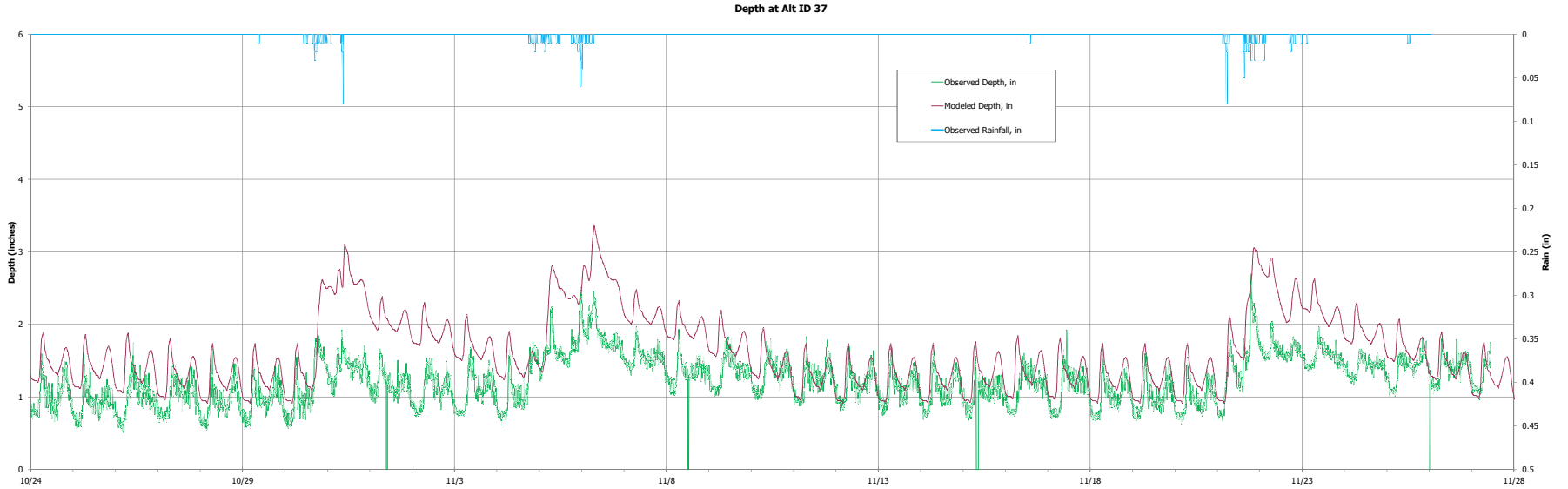

Flow at Alt ID 35
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

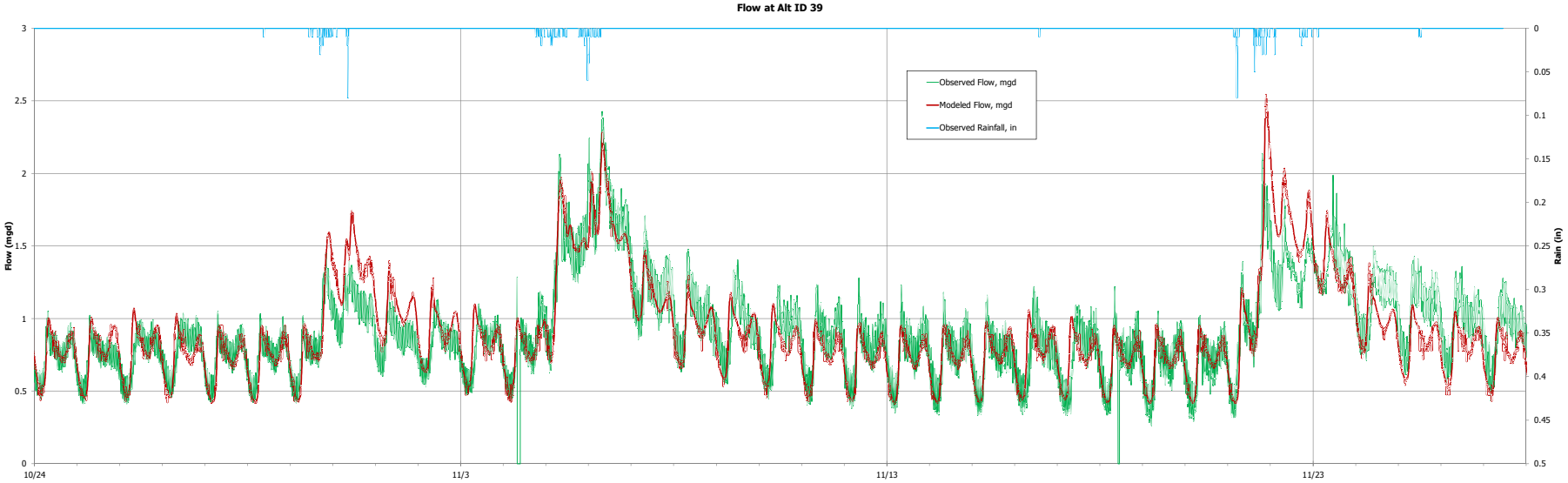

Depth at Alt ID 35
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

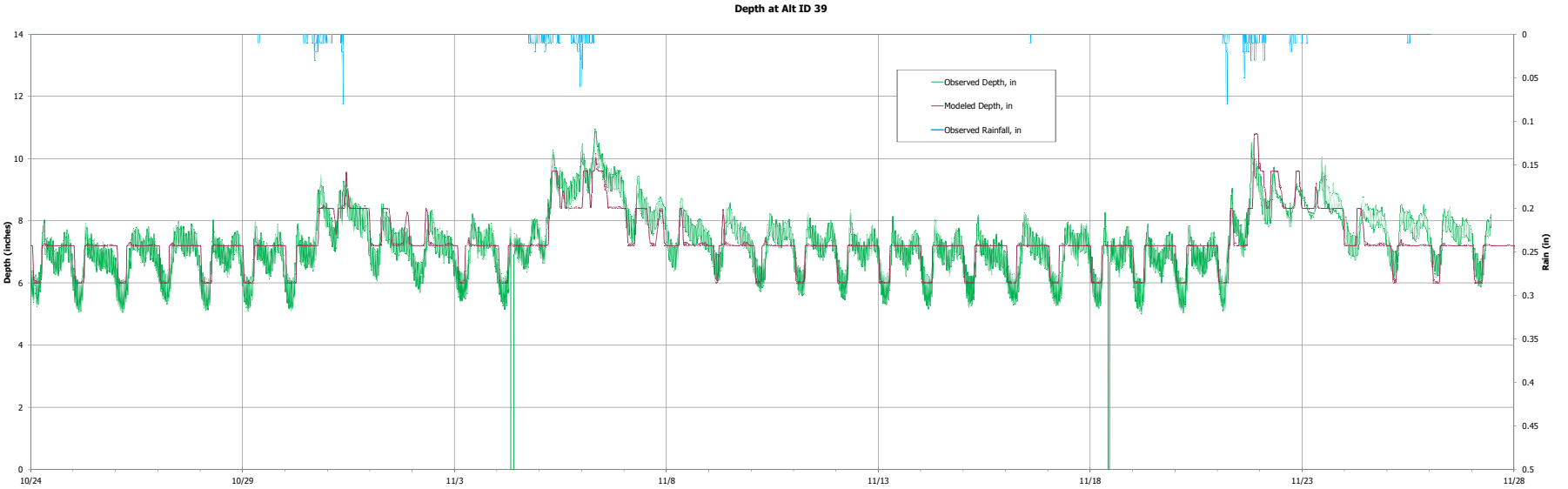

Flow at Alt ID 36
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

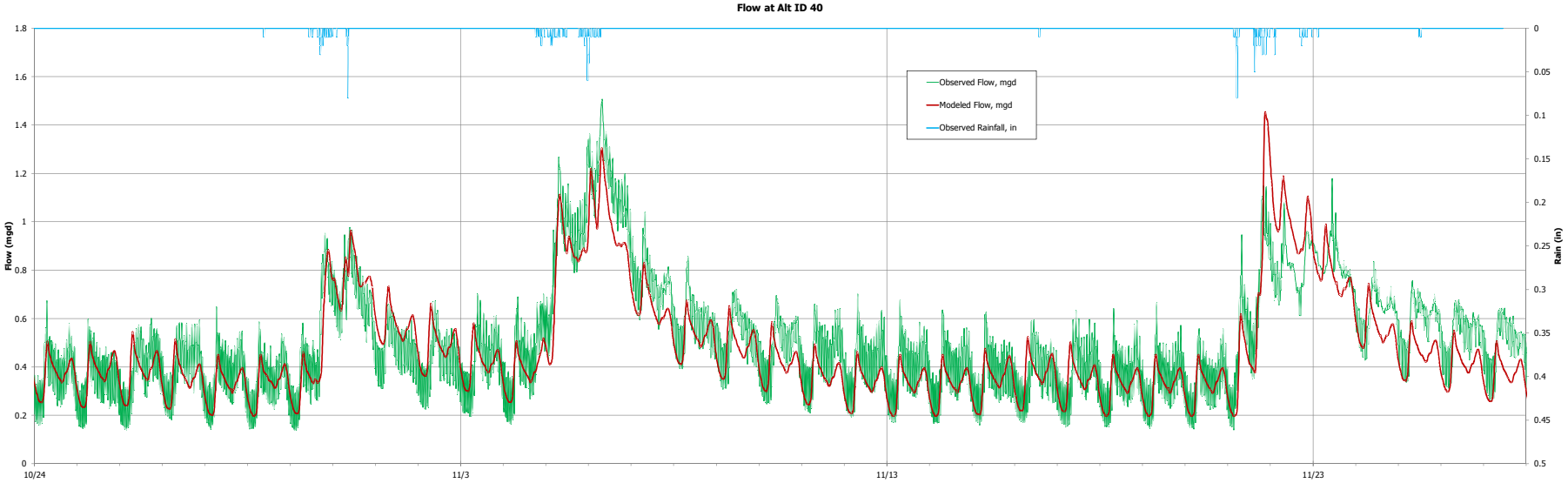

Depth at Alt ID 36
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

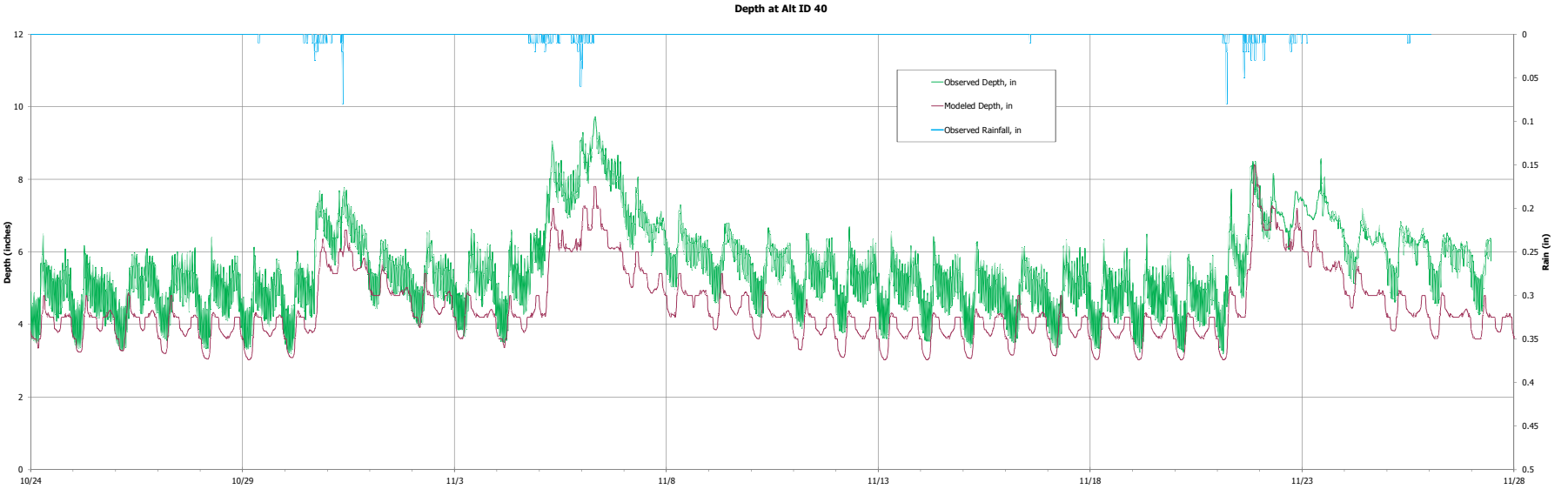

Flow at Alt ID 37
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

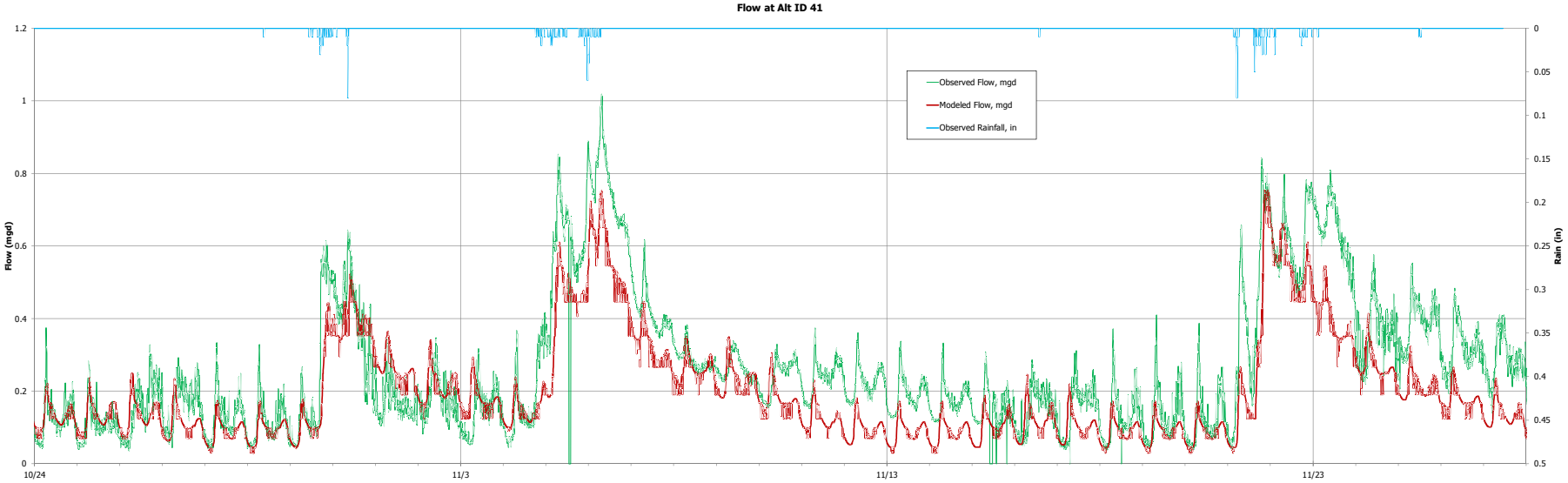

Depth at Alt ID 37
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

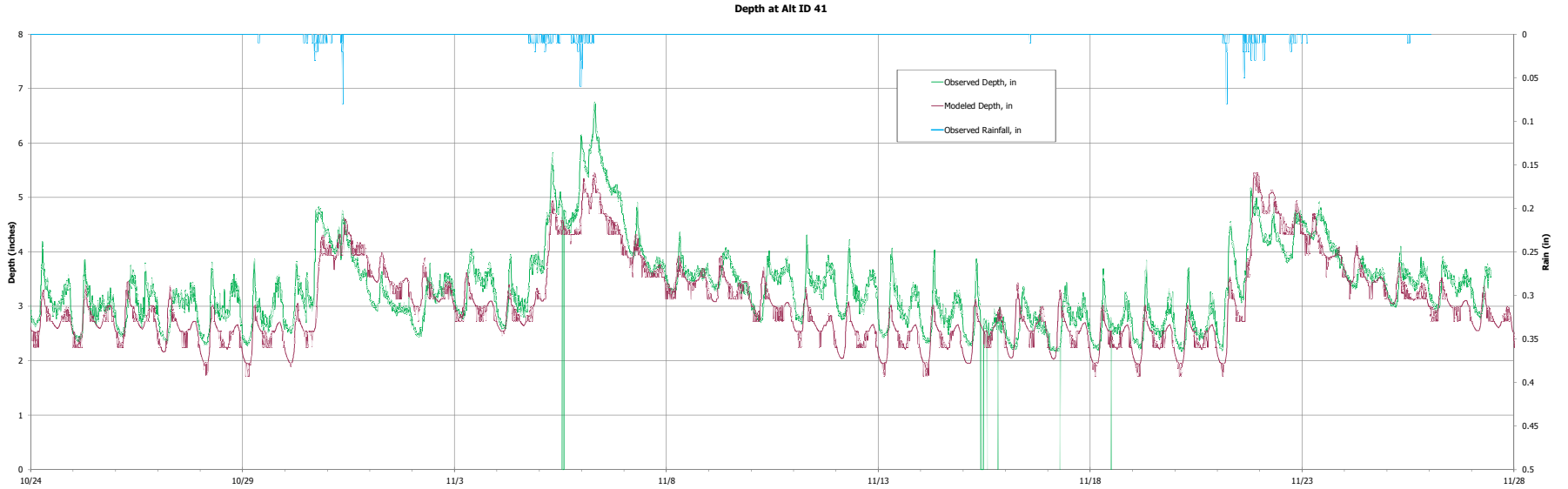

Flow at Alt ID 39
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

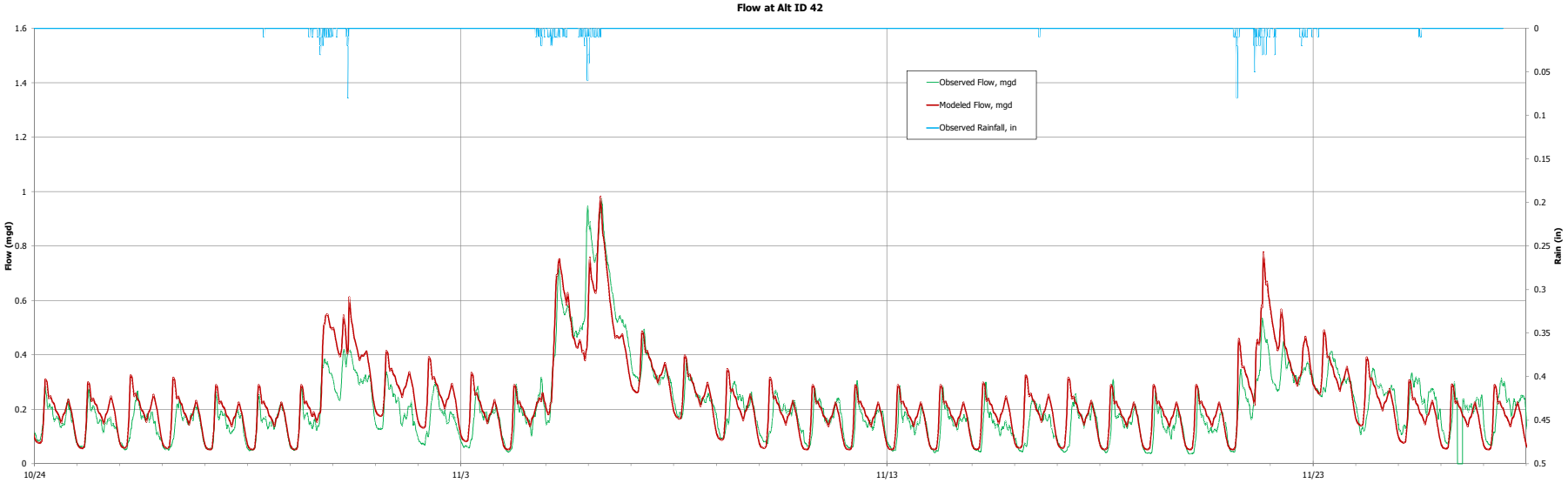

Depth at Alt ID 39
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
14
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

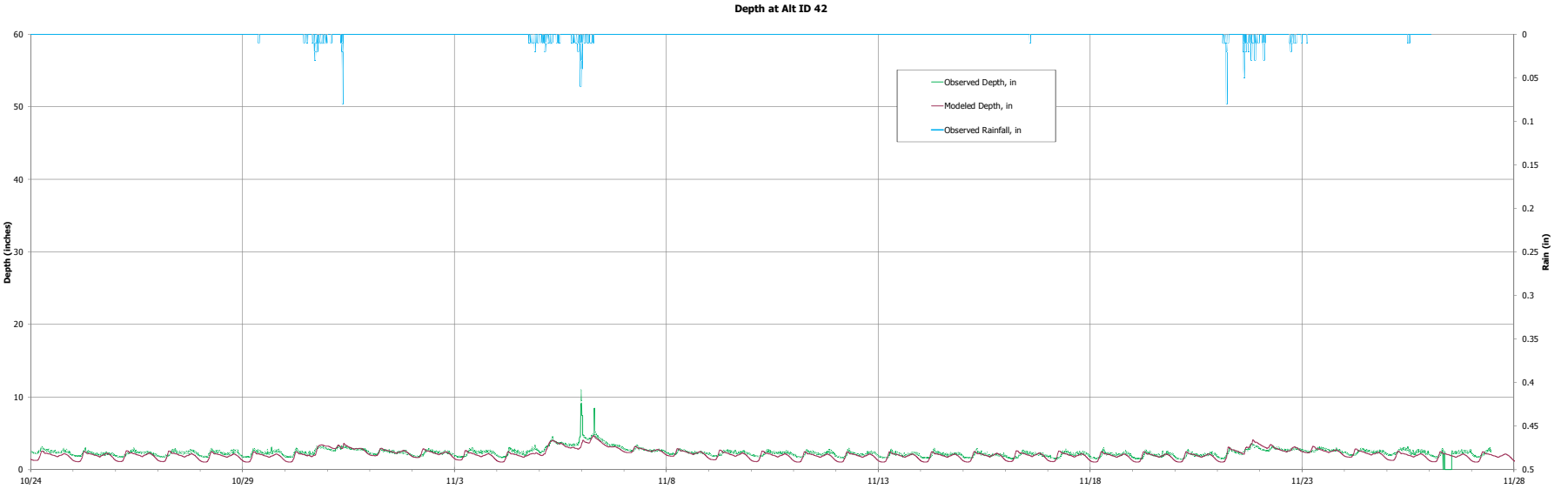

Flow at Alt ID 40
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

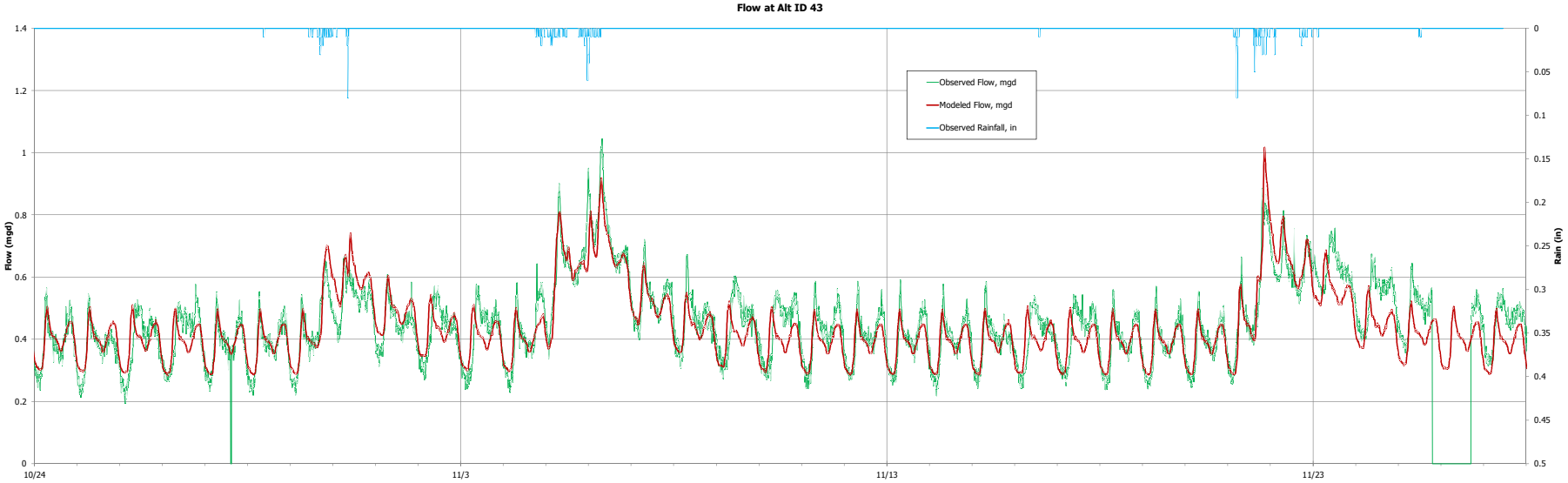

Depth at Alt ID 40
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
12
10
8
6
4
2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

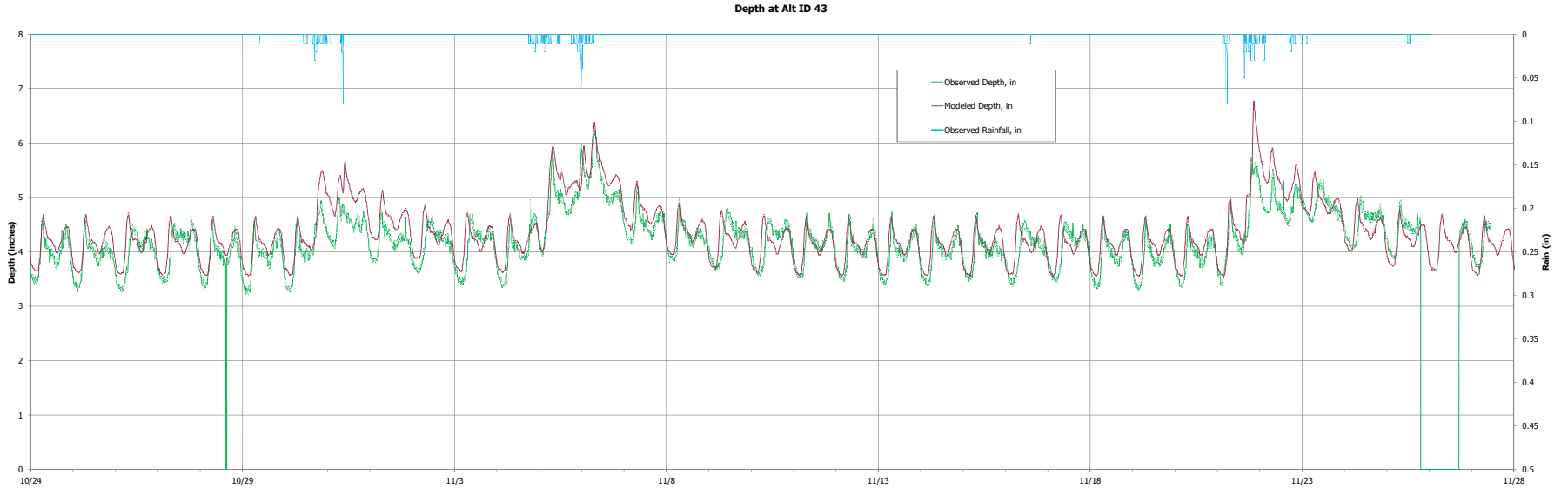

Flow at Alt ID 41
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

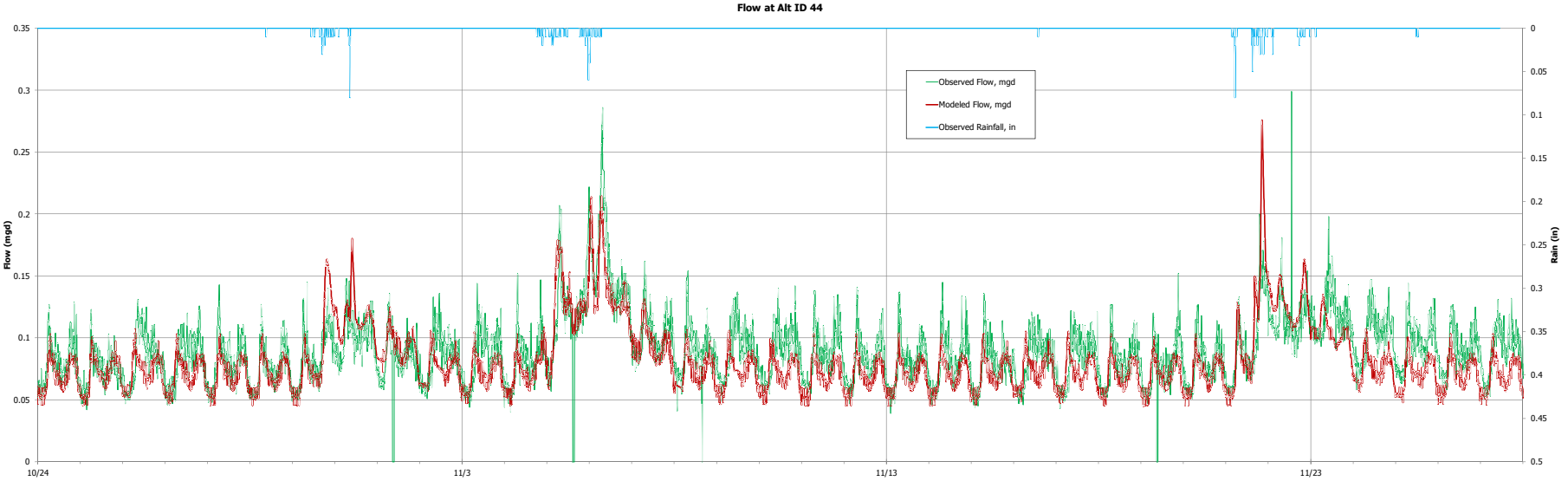

Depth at Alt ID 41
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

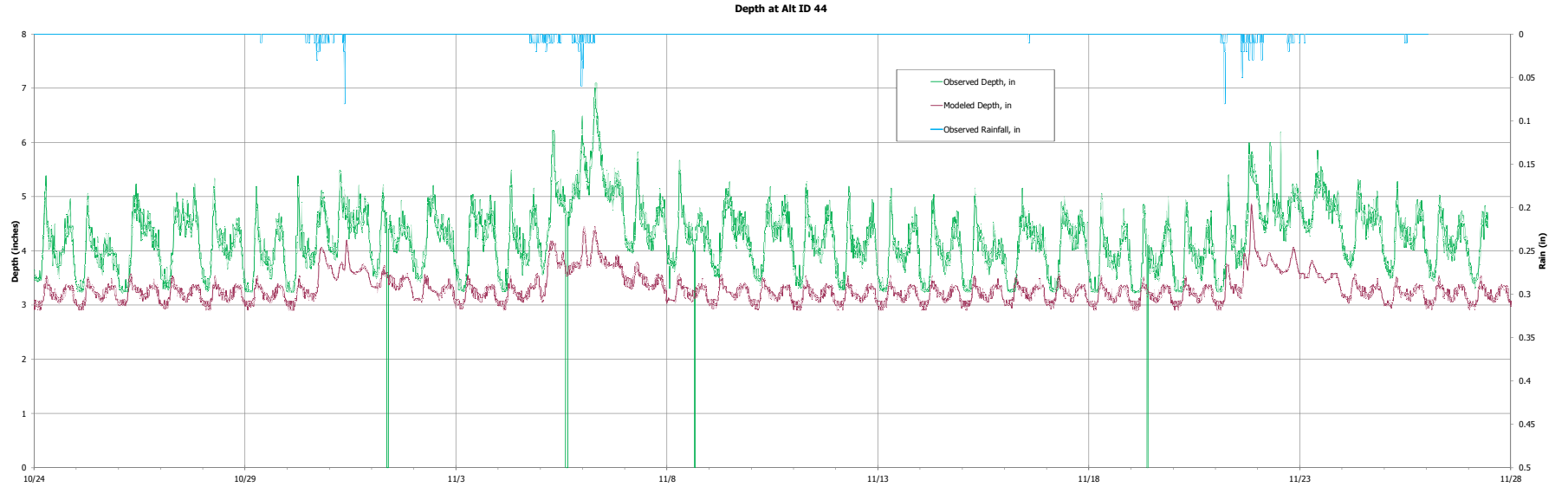

Flow at Alt ID 42
Flow (mgd)
Rain (in)
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

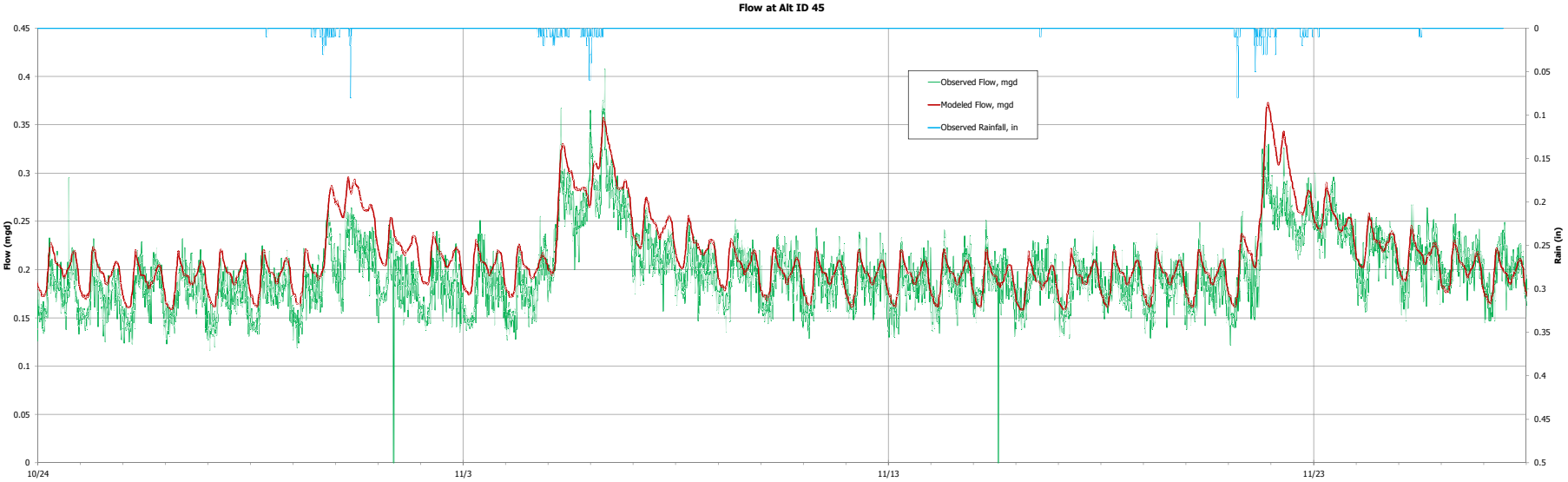

Depth at Alt ID 42
Depth (inches)
Rain (in)
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
60
50
40
30
20
10
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

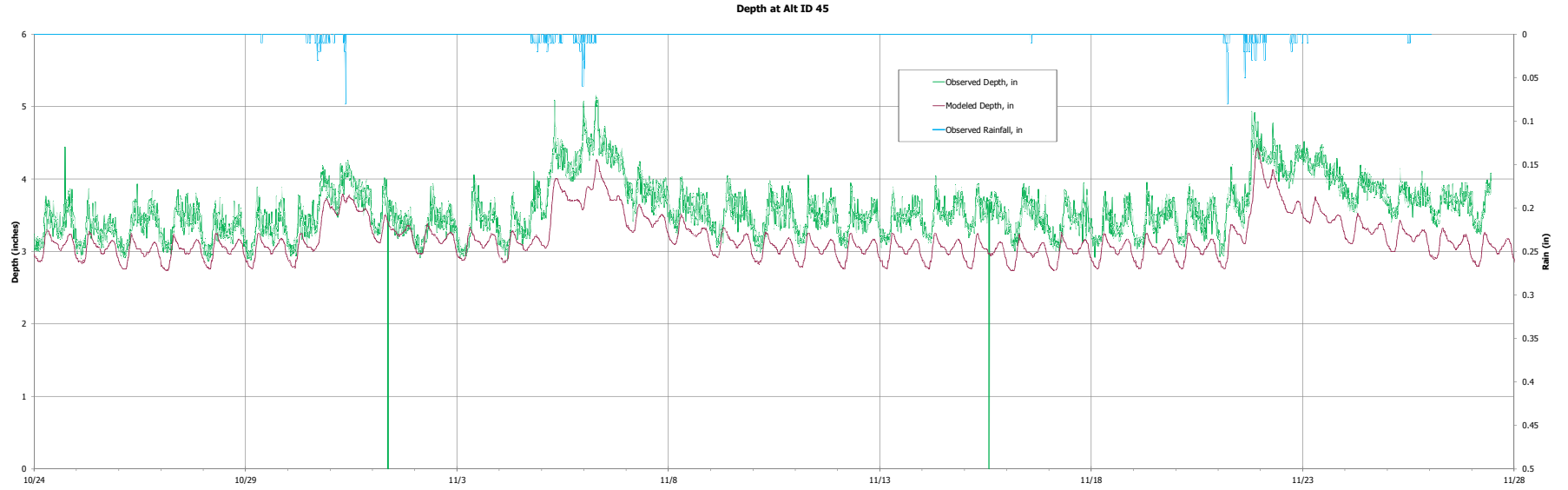

Flow at Alt ID 43
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

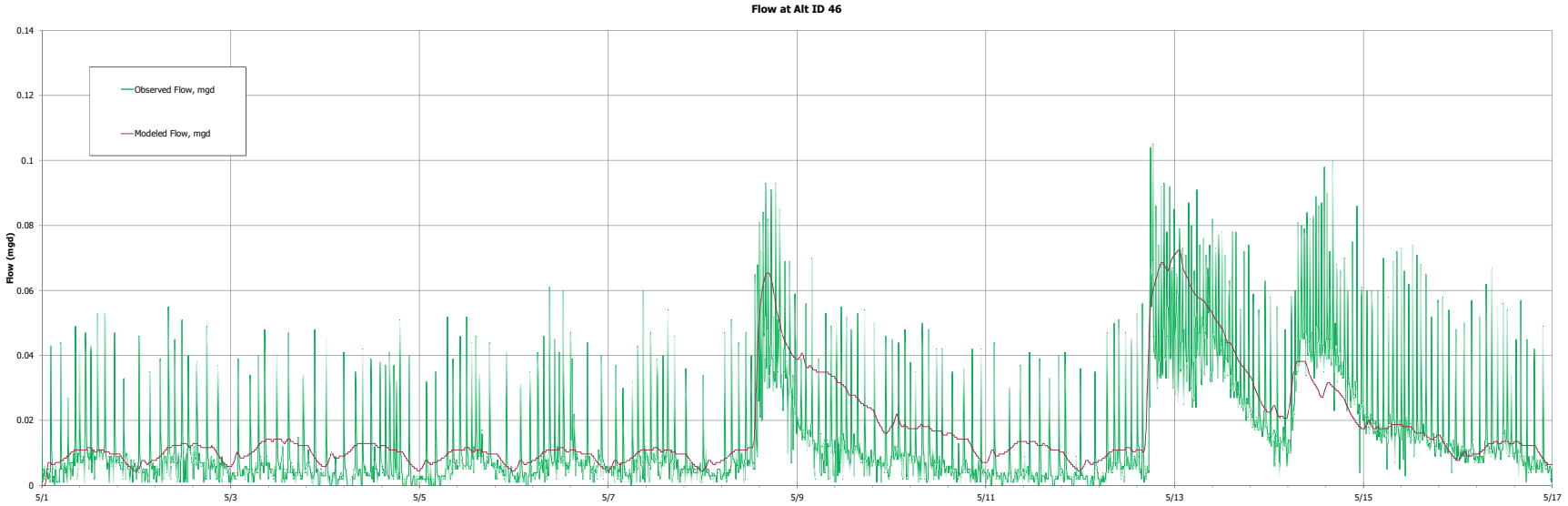

Depth at Alt ID 43
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

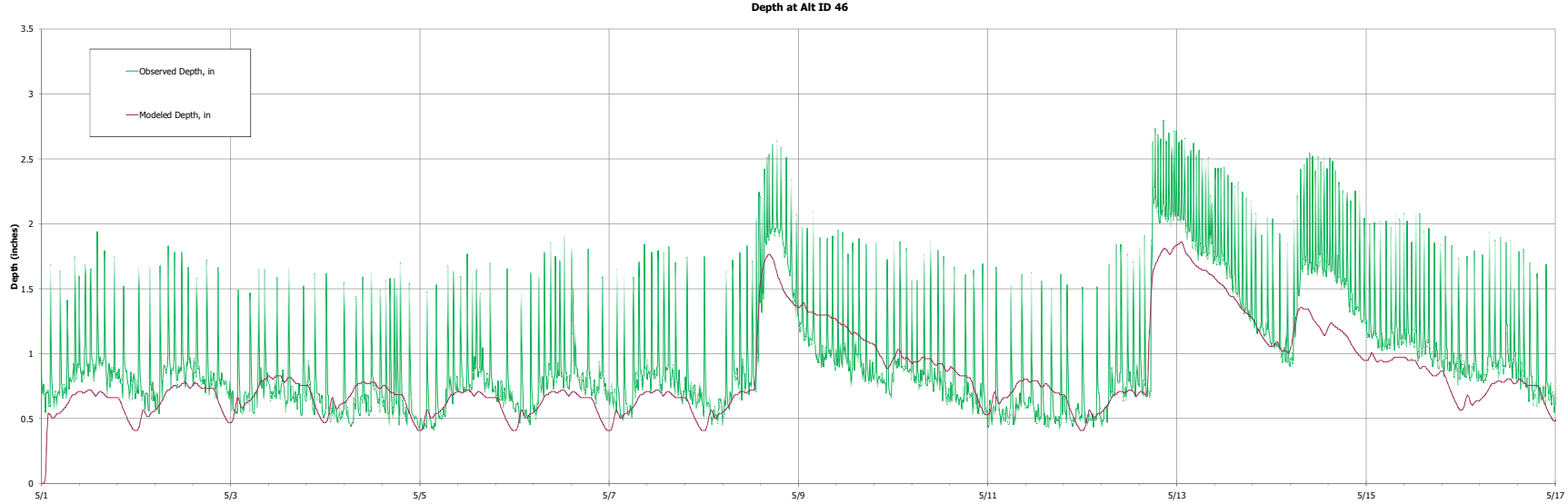

Flow at Alt ID 44
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

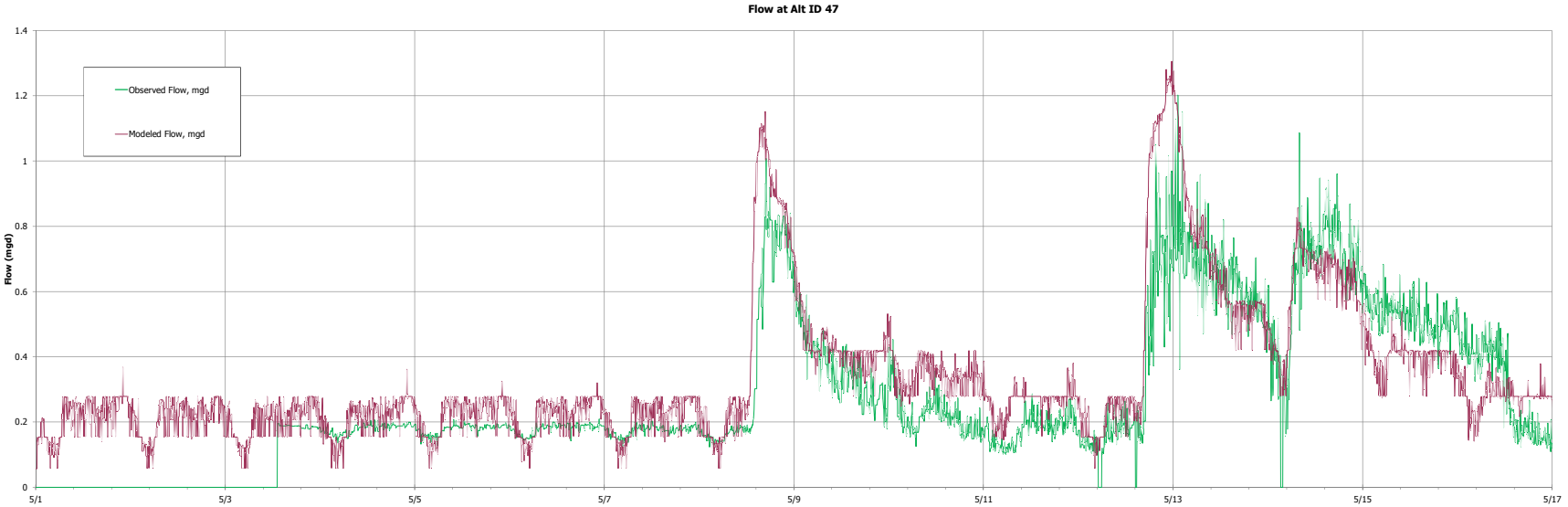

Depth at Alt ID 44
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

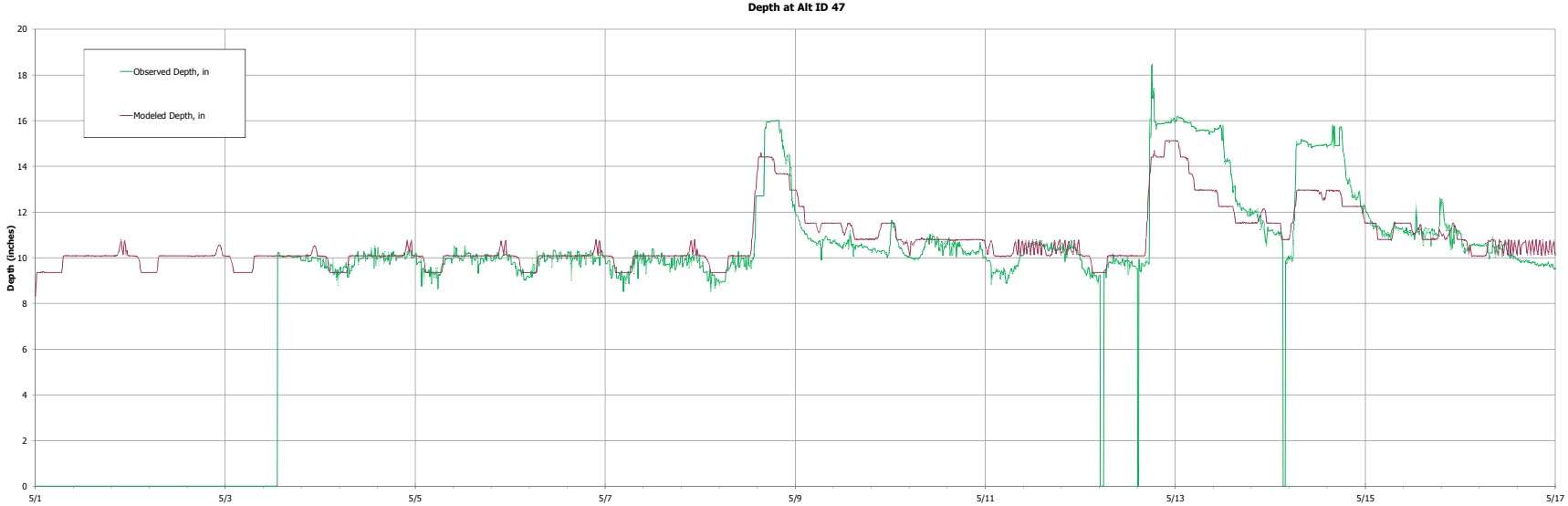

Flow at Alt ID 45
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
11/3
11/13
11/23

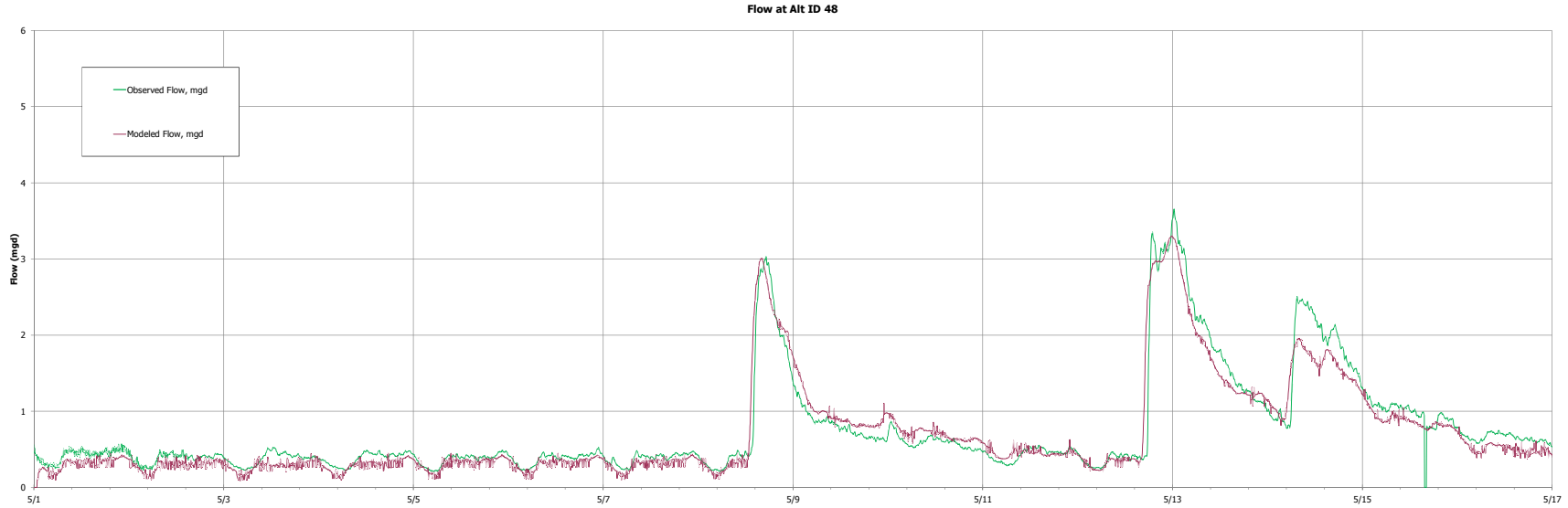

Depth at Alt ID 45
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/24
10/29
11/3
11/8
11/13
11/18
11/23
11/28

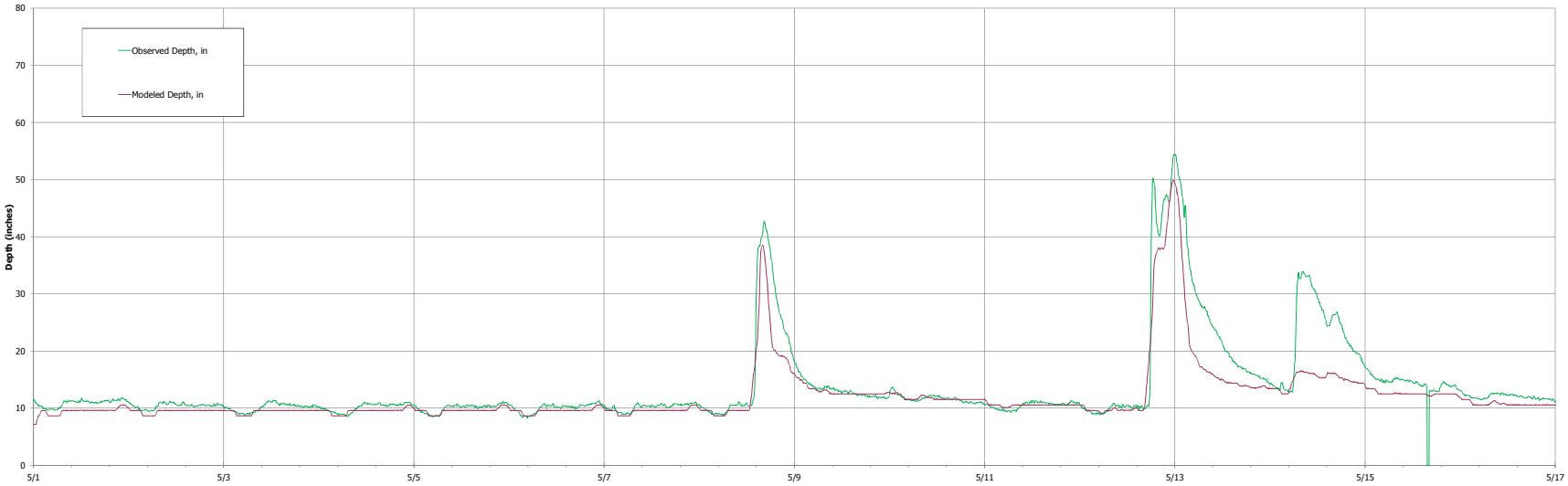

Flow at Alt ID 46
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17


Depth at Alt ID 46
Observed Depth, in
Modeled Depth, in
Depth (inches)
3.5
3
2.5
2
1.5
1
0.5
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

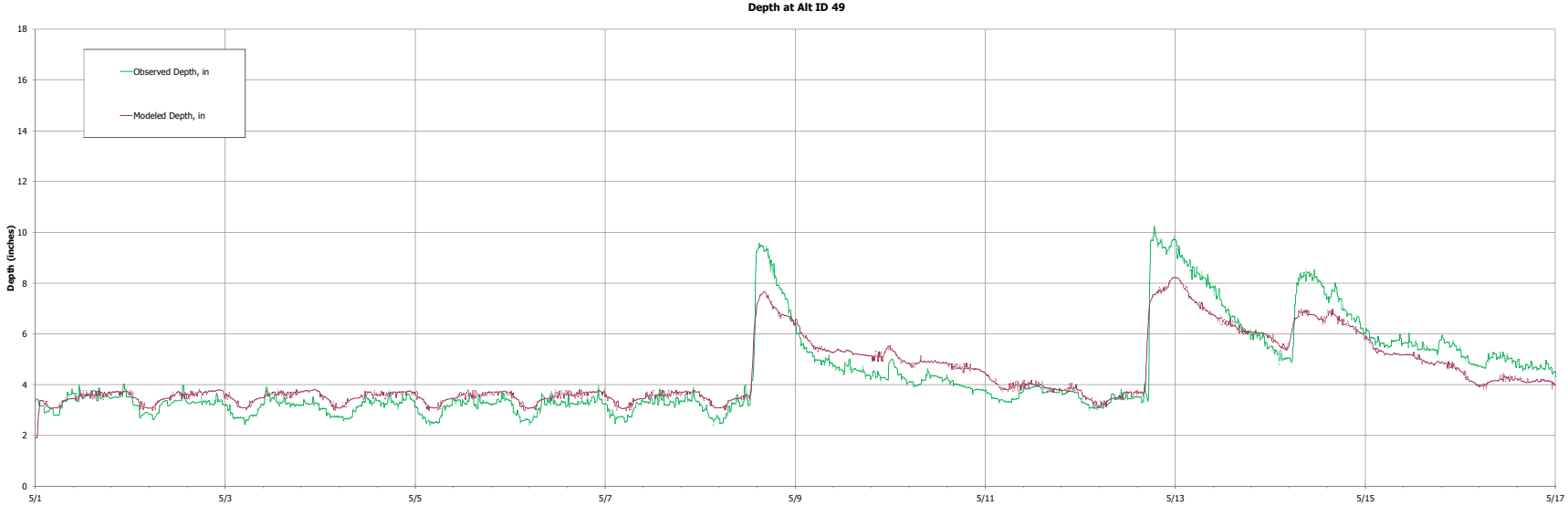

Flow at Alt ID 47
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

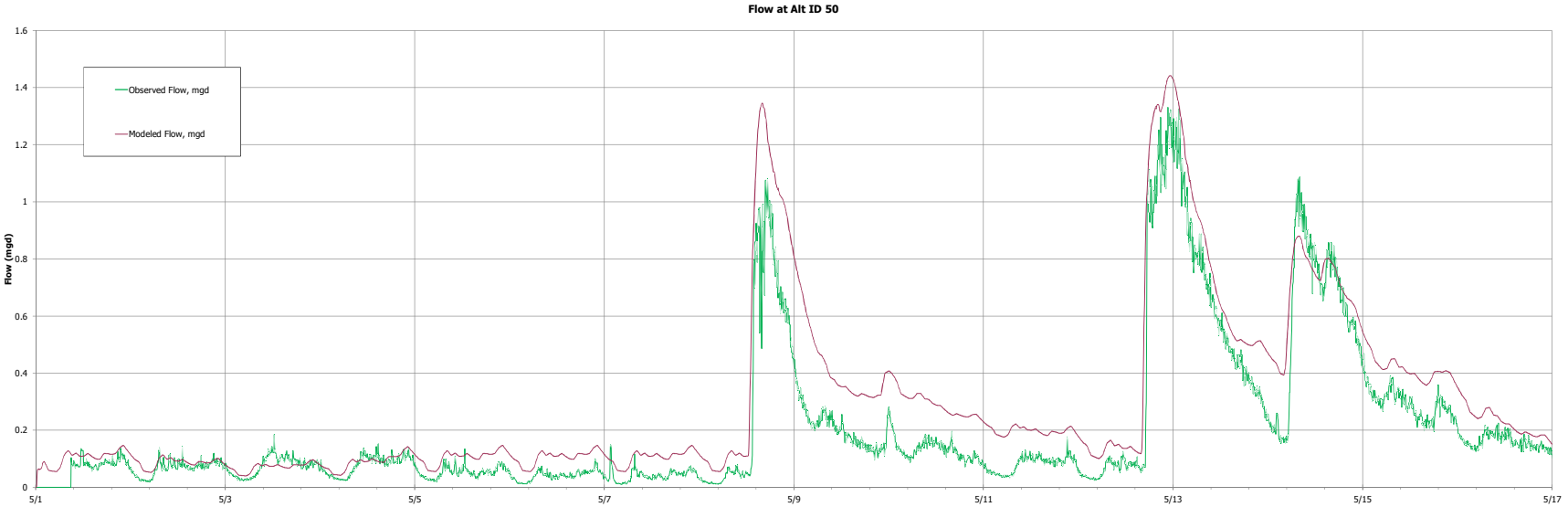

Depth at Alt ID 47
Observed Depth, in
Modeled Depth, in
Depth (inches)
20
18
16
14
12
10
8
6
4
2
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

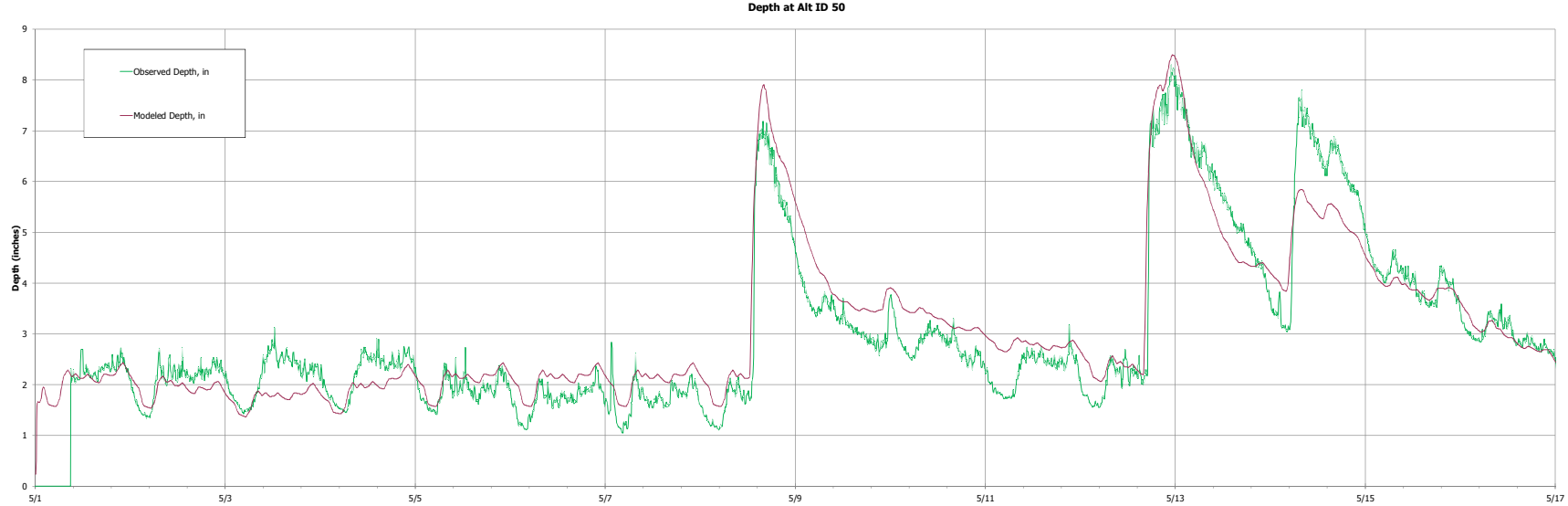

Flow at Alt ID 48
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
0
1
2
3
4
5
6
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

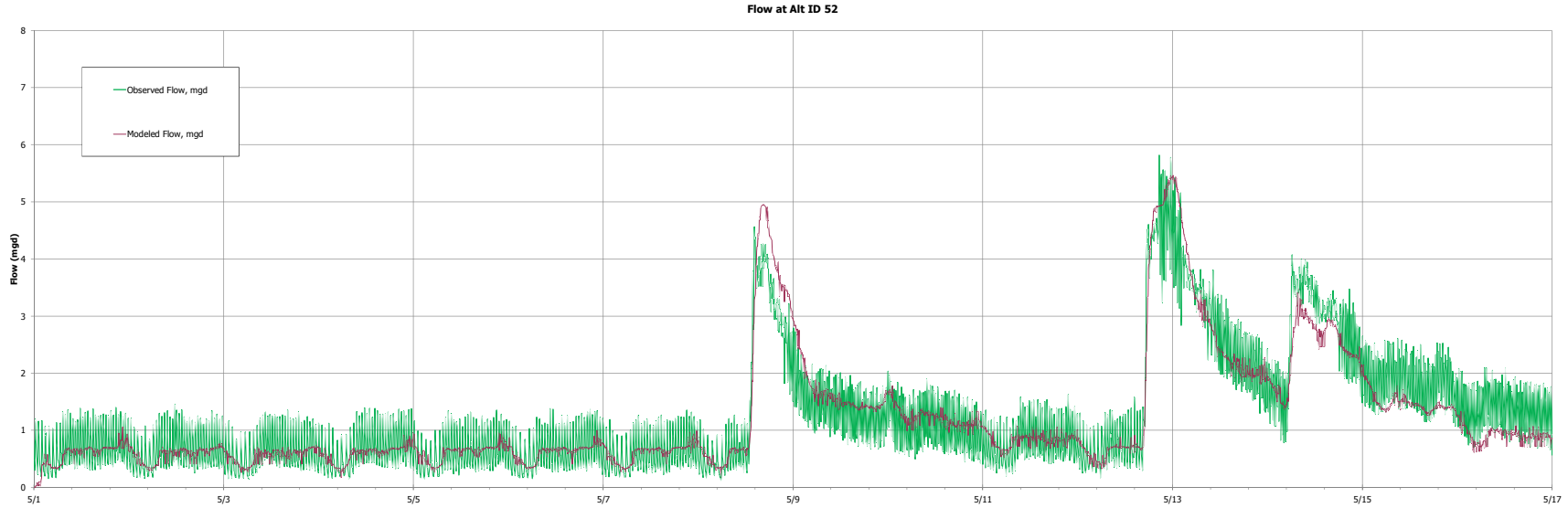

Depth at Alt ID 48
Observed Depth, in
Modeled Depth, in
Depth (inches)
0
10
20
30
40
50
60
70
80
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

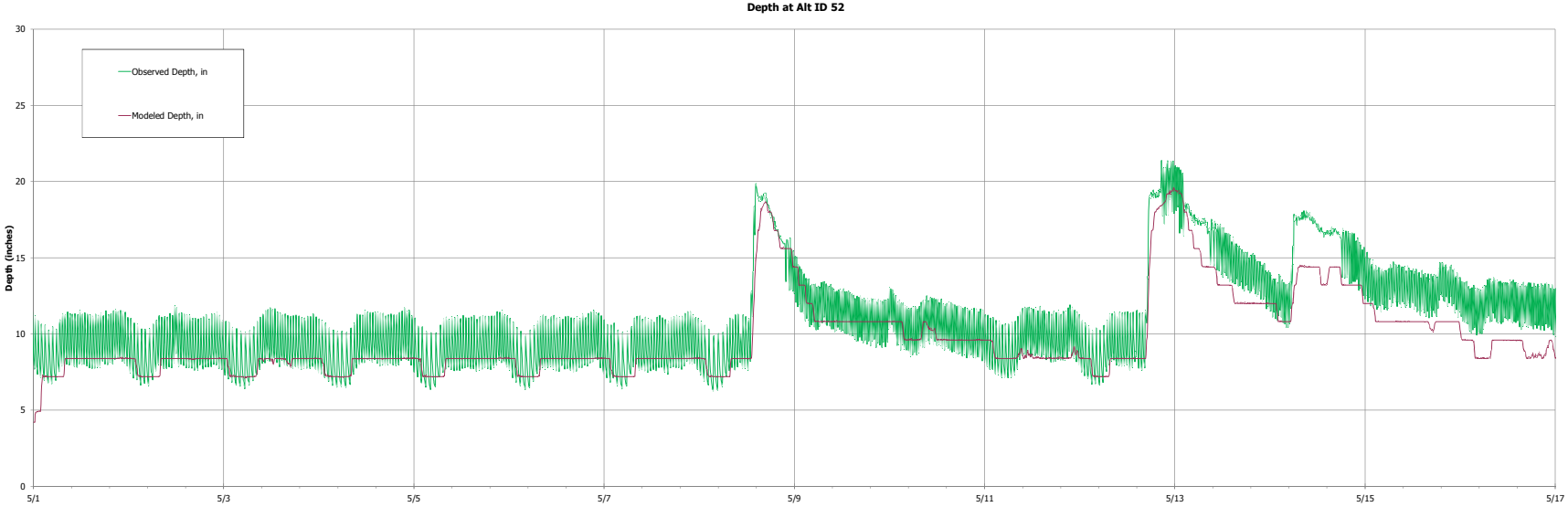
Flow at Alt ID 49
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

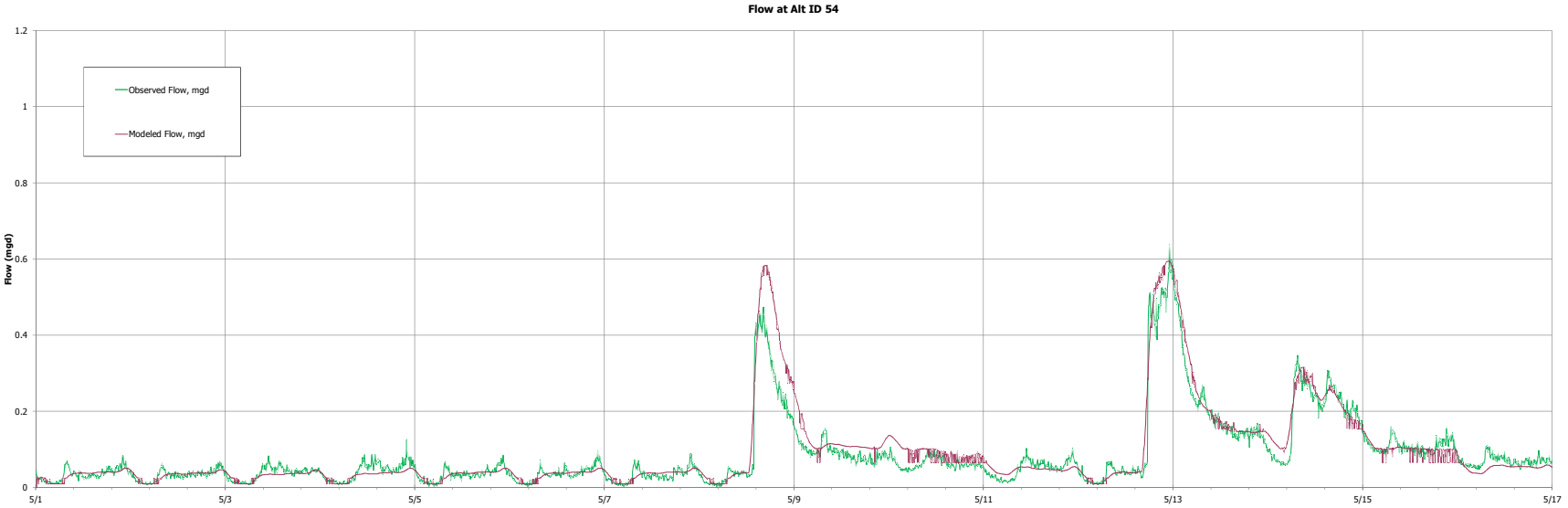

Depth at Alt ID 49
Observed Depth, in
Modeled Depth, in
Depth (inches)
18
16
14
12
10
8
6
4
2
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

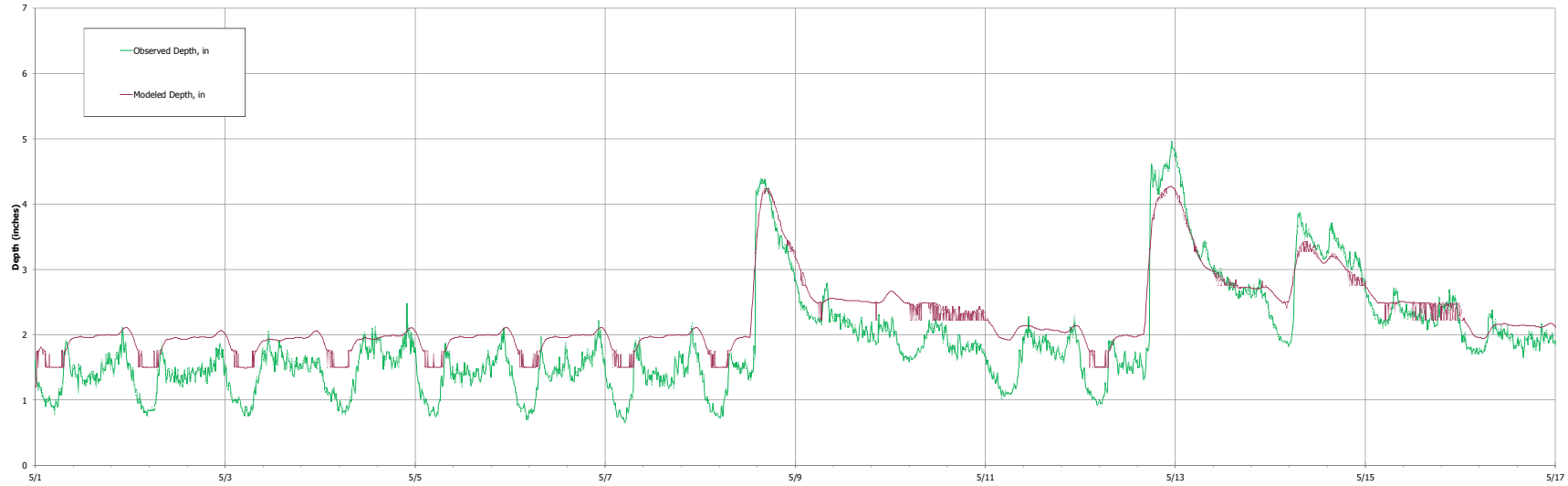

Flow at Alt ID 50
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

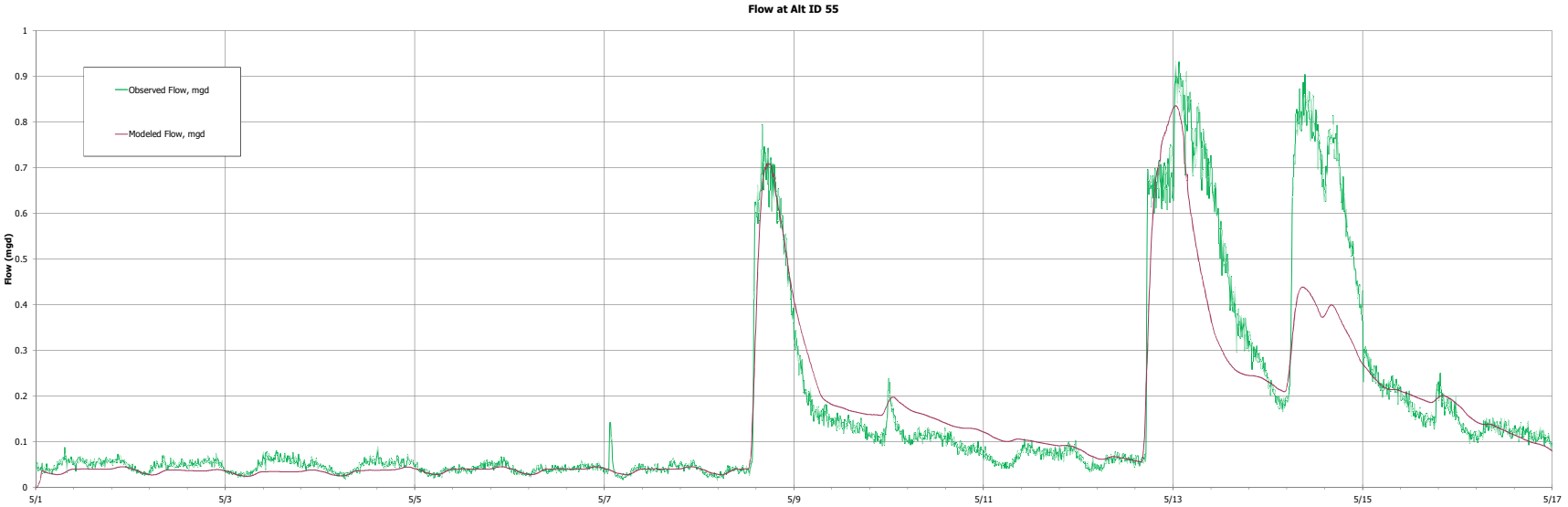

Depth at Alt ID 50
Observed Depth, in
Modeled Depth, in
Depth (inches)
9
8
7
6
5
4
3
2
1
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

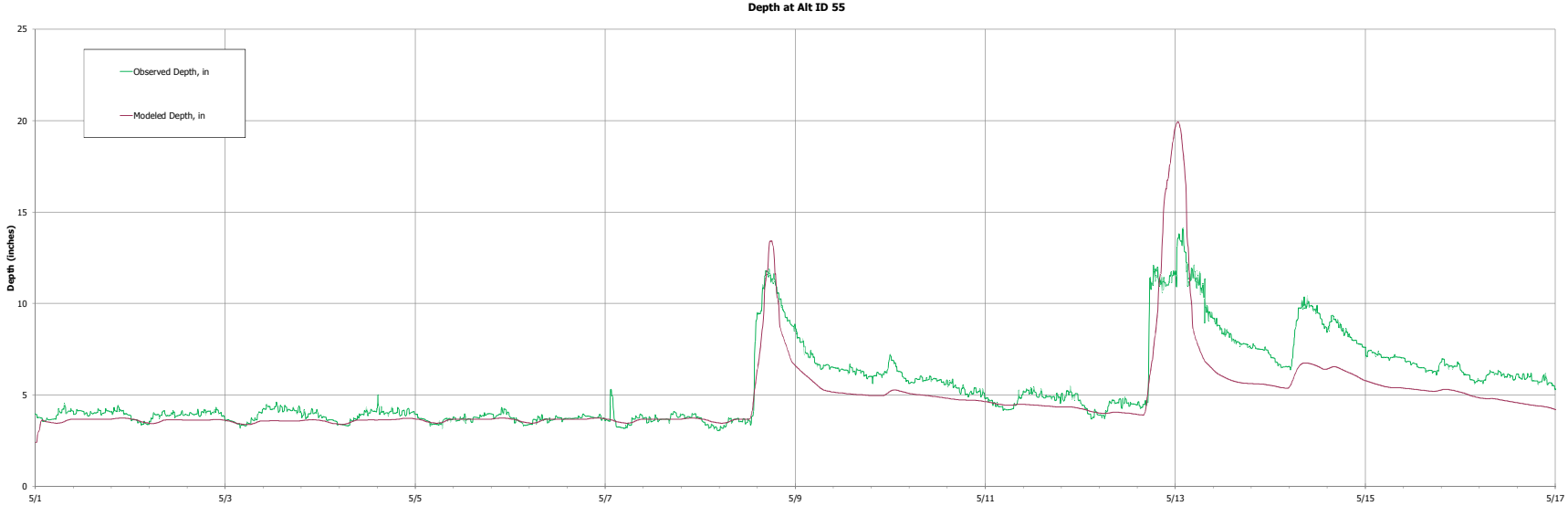

Flow at Alt ID 52
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
0
1
2
3
4
5
6
7
8
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

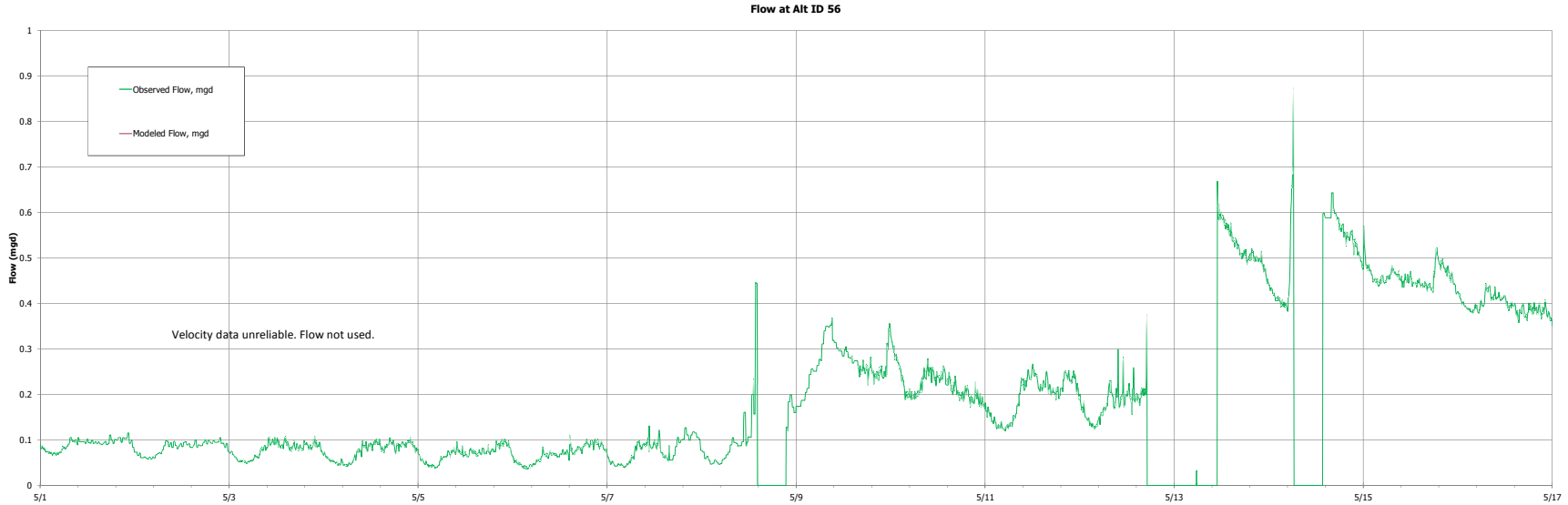

Depth at Alt ID 52
Observed Depth, in
Modeled Depth, in
Depth (inches)
0
5
10
15
20
25
30
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

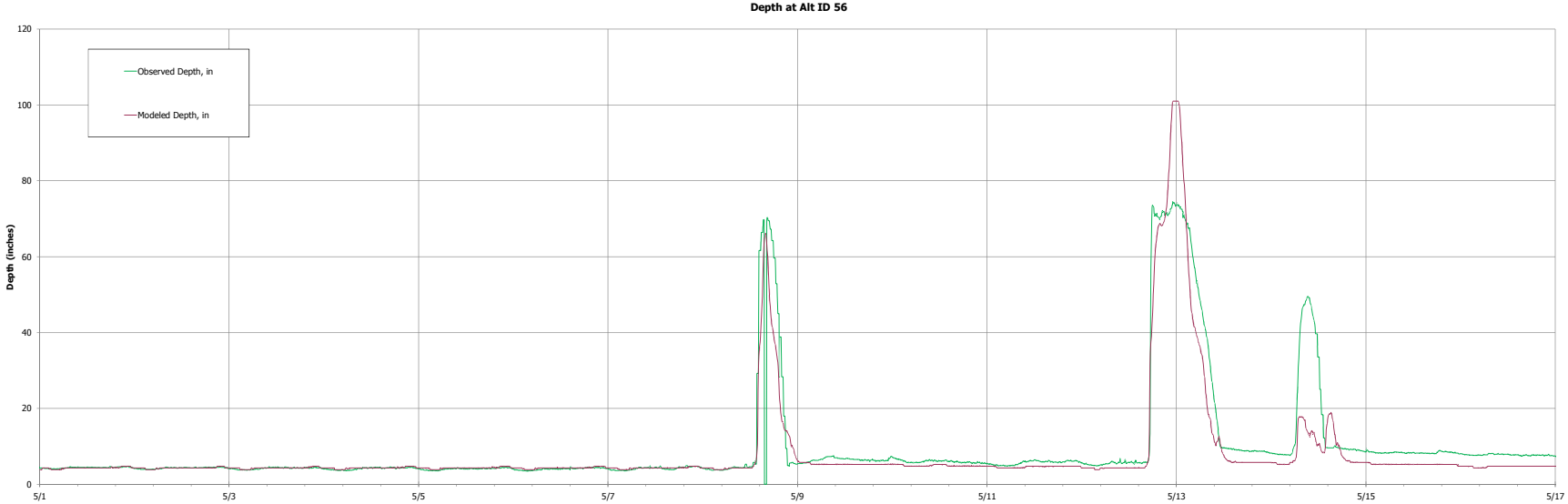

Flow at Alt ID 54
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
1.2
1
0.8
0.6
0.4
0.2
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

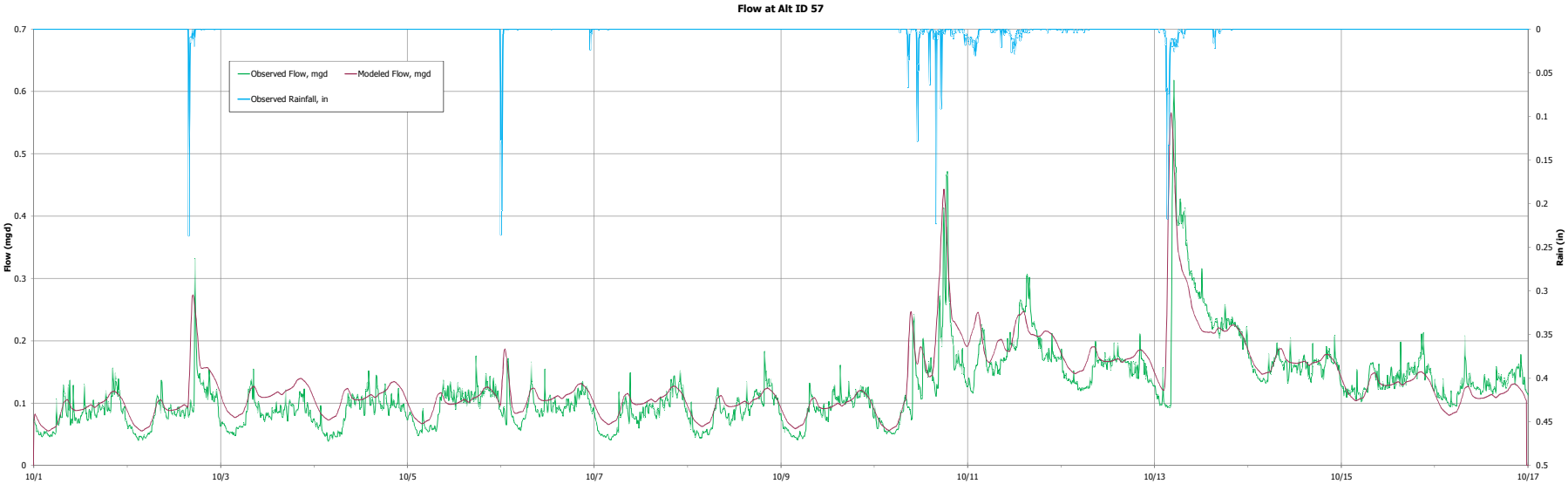

Depth at Alt ID 54
Observed Depth, in
Modeled Depth, in
Depth (inches)
7
6
5
4
3
2
1
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

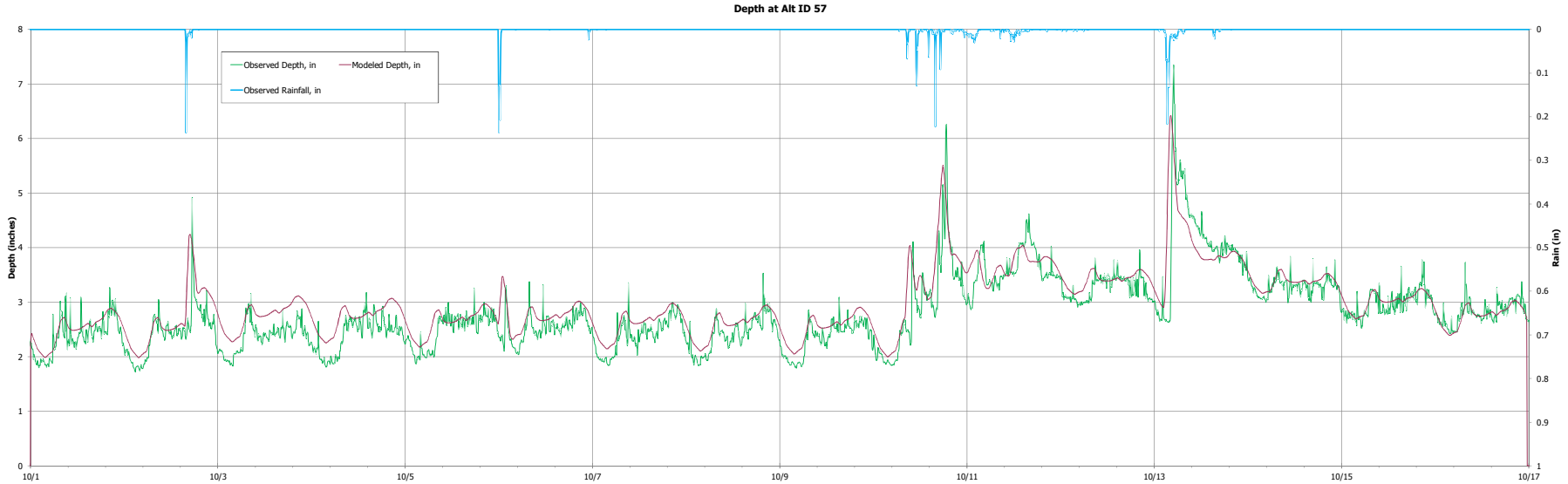

Flow at Alt ID 55
Observed Flow, mgd
Modeled Flow, mgd
Flow (mgd)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

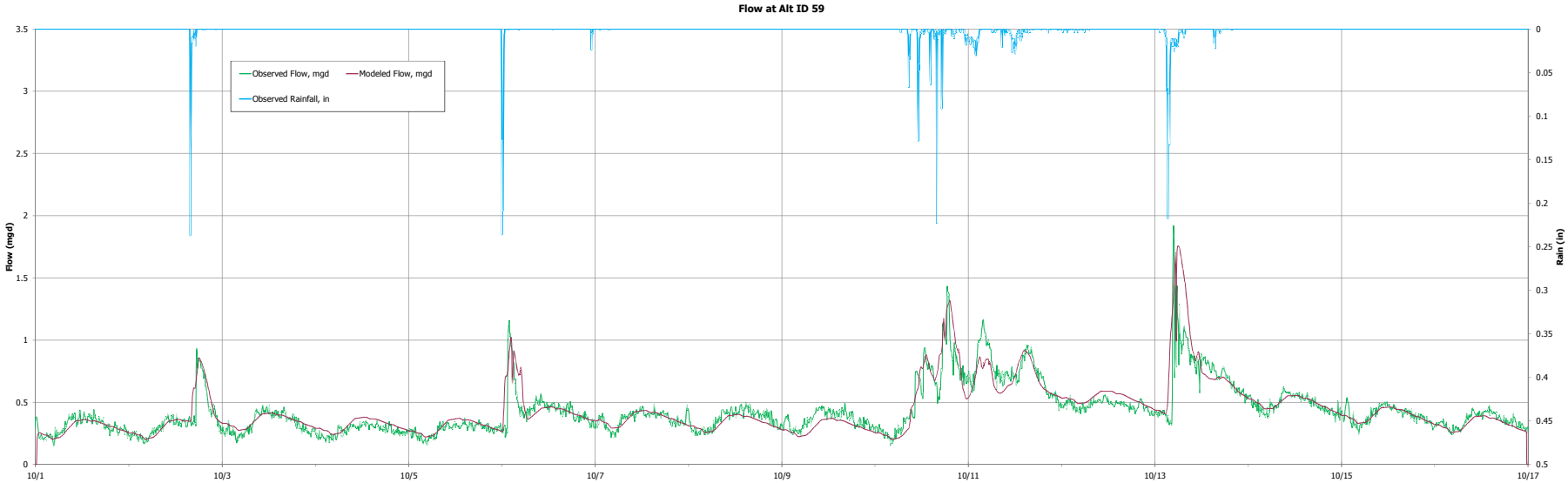

Depth at Alt ID 55
Observed Depth, in
Modeled Depth, in
Depth (inches)
25
20
15
10
5
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

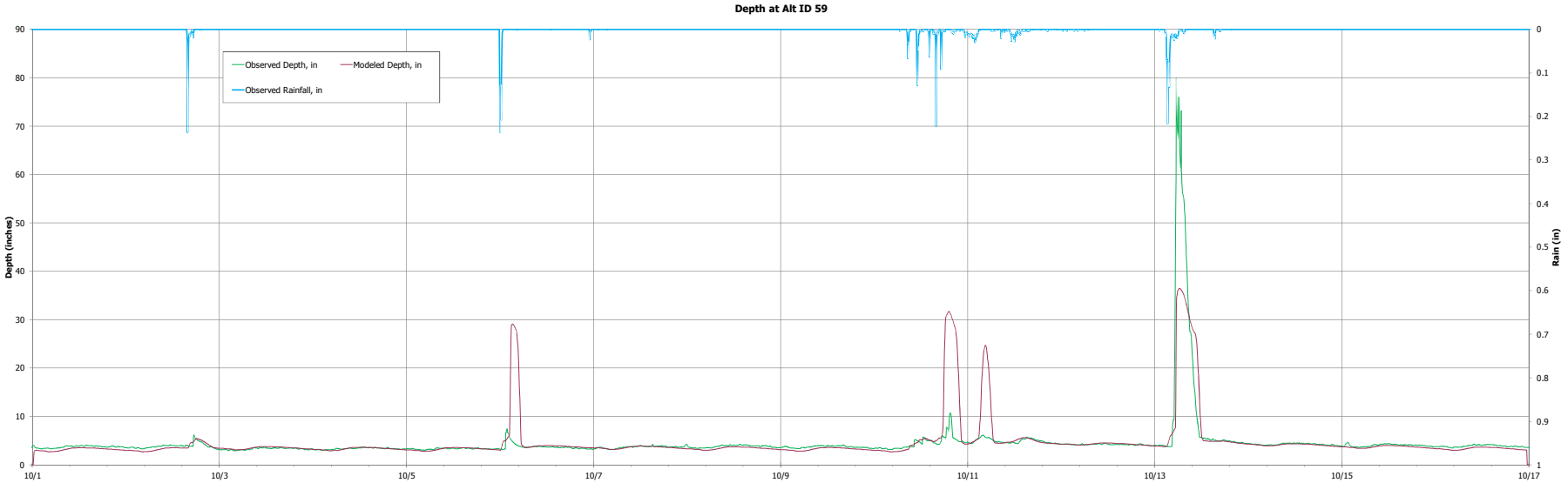

Flow at Alt ID 56
Observed Flow, mgd
Modeled Flow, mgd
Velocity data unreliable. Flow not used.
Flow (mgd)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

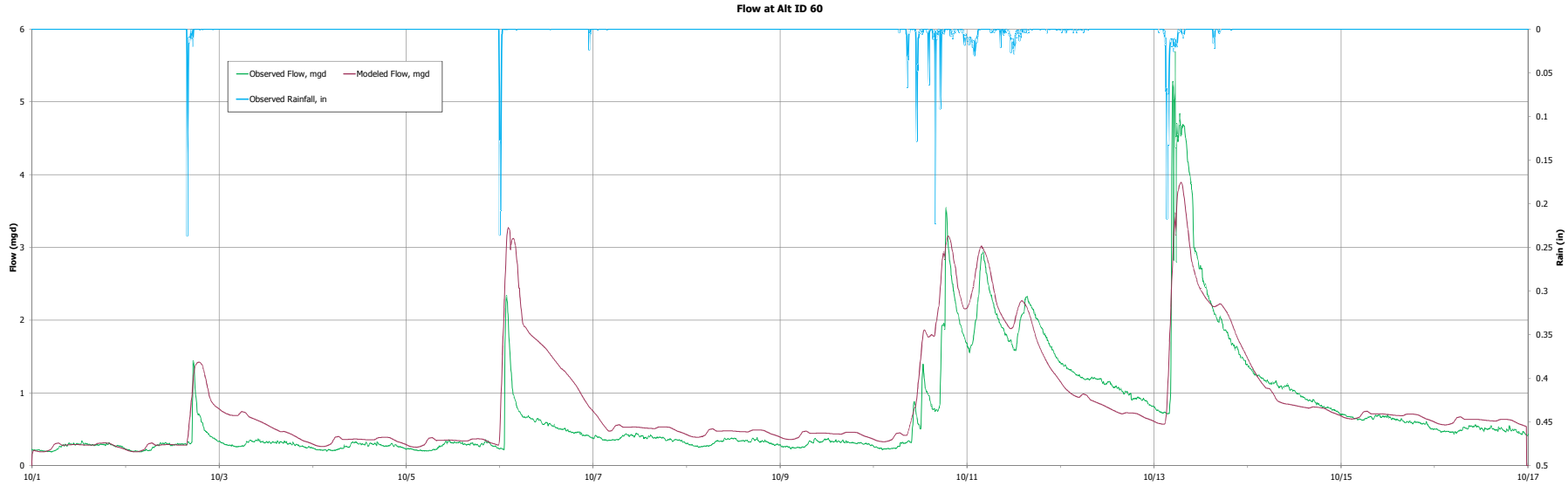

Depth at Alt ID 56
Observed Depth, in
Modeled Depth, in
Depth (inches)
120
100
80
60
40
20
0
5/1
5/3
5/5
5/7
5/9
5/11
5/13
5/15
5/17

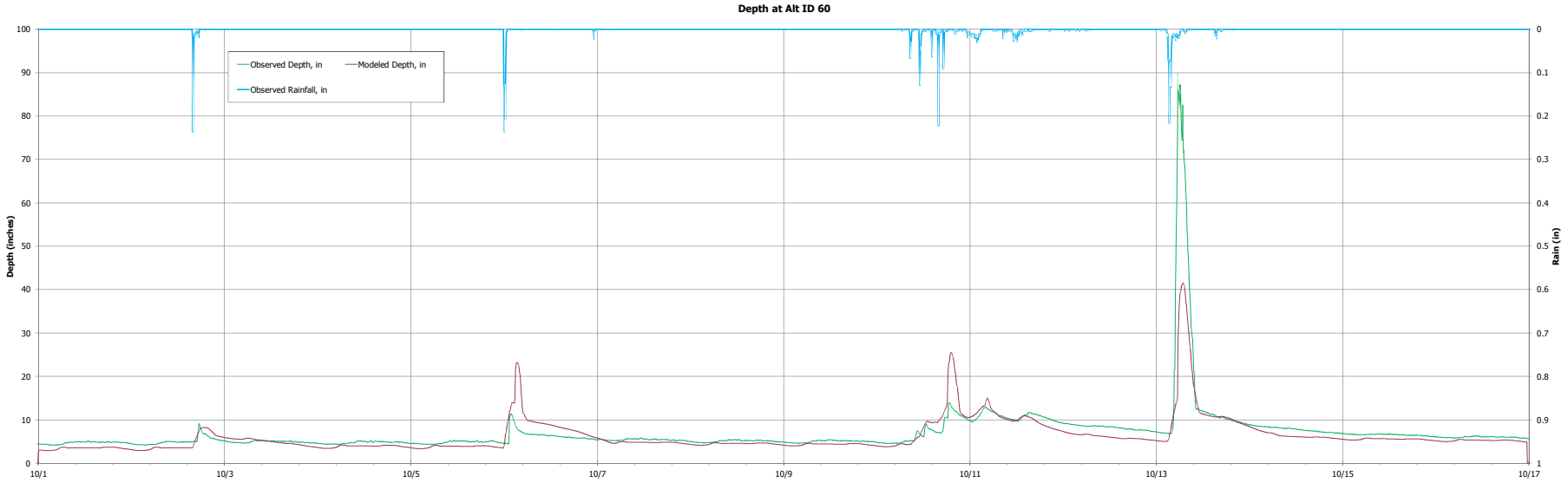

Flow at Alt ID 57
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.05
0.15
0.25
0.35
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

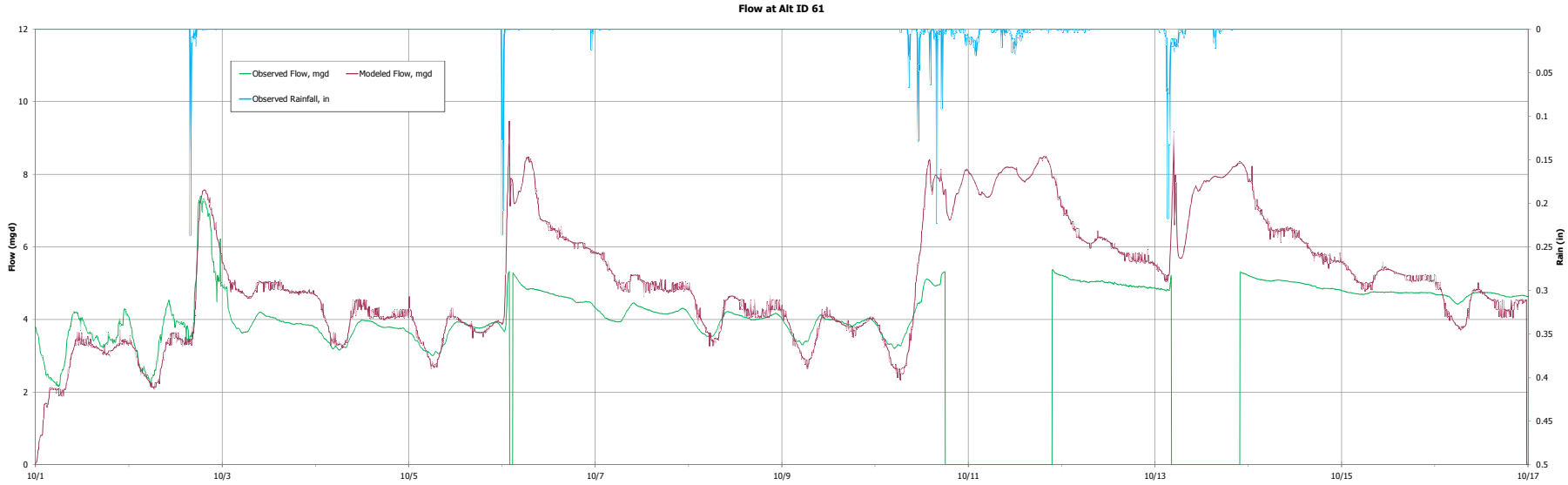

Depth at Alt ID 57
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

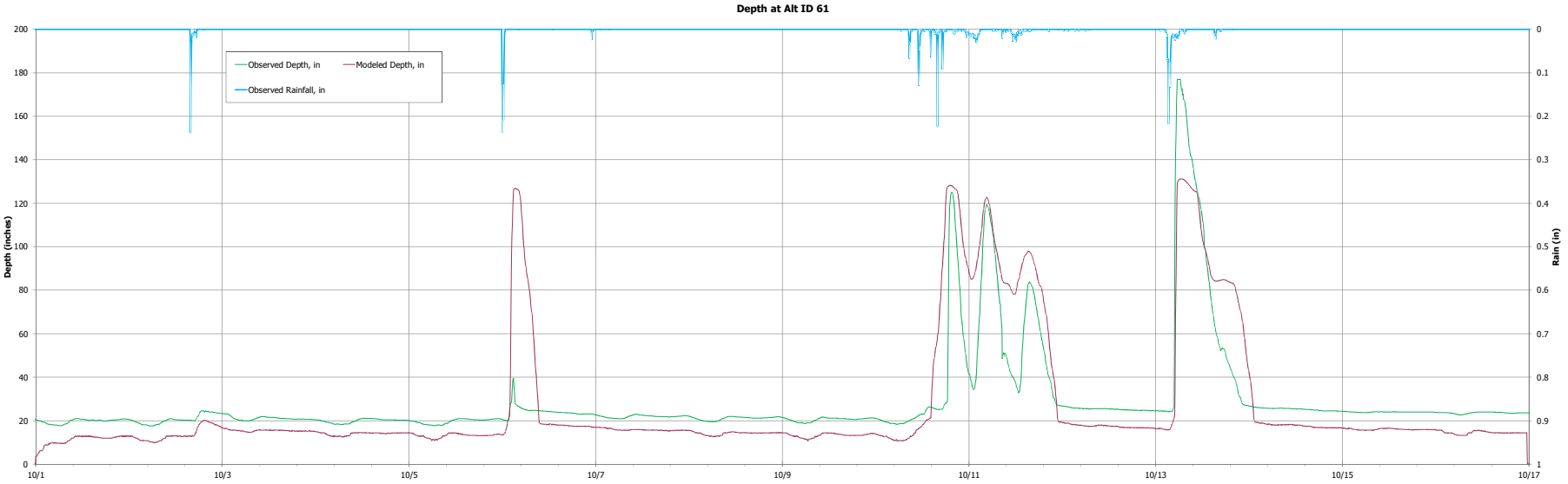

Flow at Alt ID 59
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

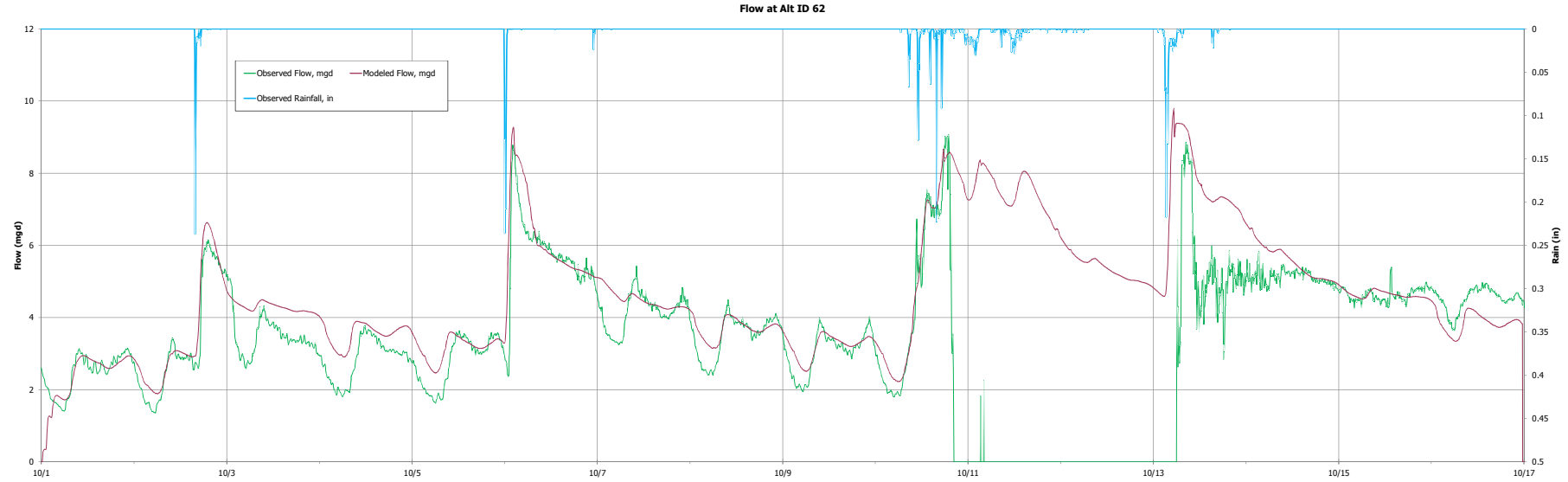

Depth at Alt ID 59
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
90
80
70
60
50
40
30
20
10
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

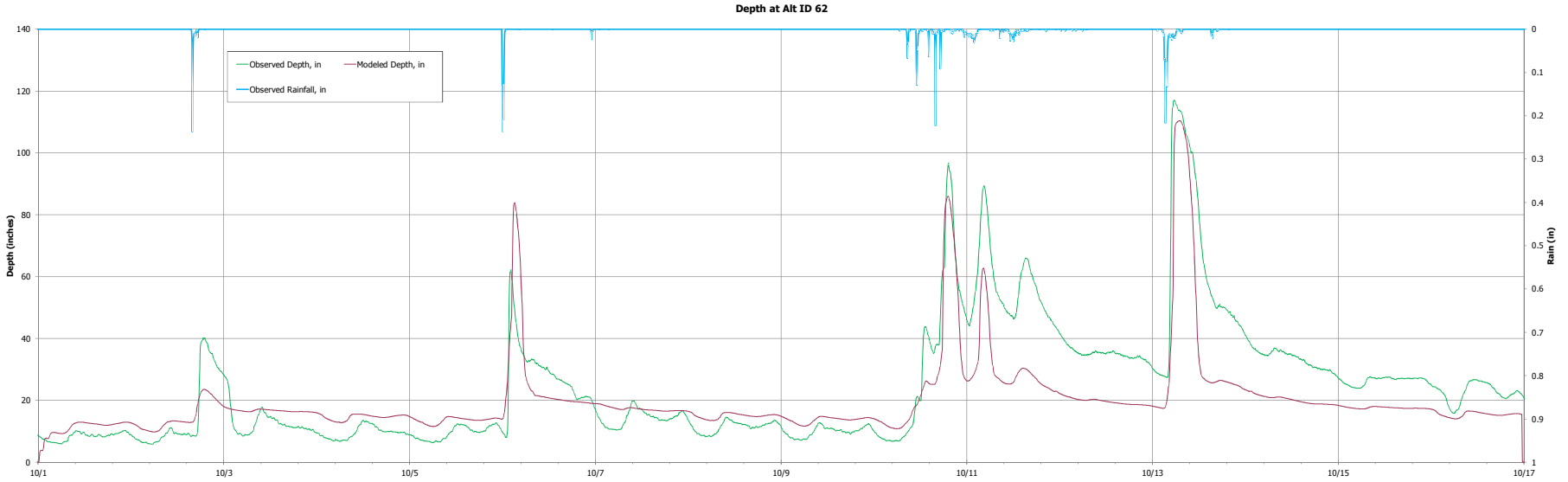

Flow at Alt ID 60
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

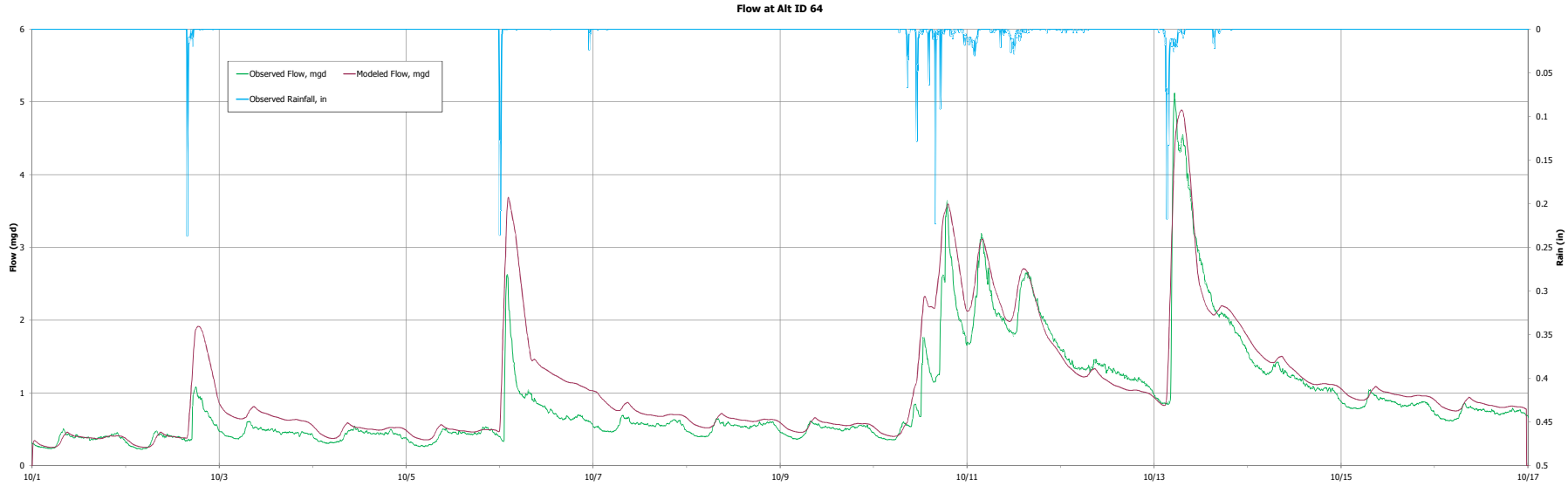

Depth at Alt ID 60
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
10
20
30
40
50
60
70
80
90
100
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

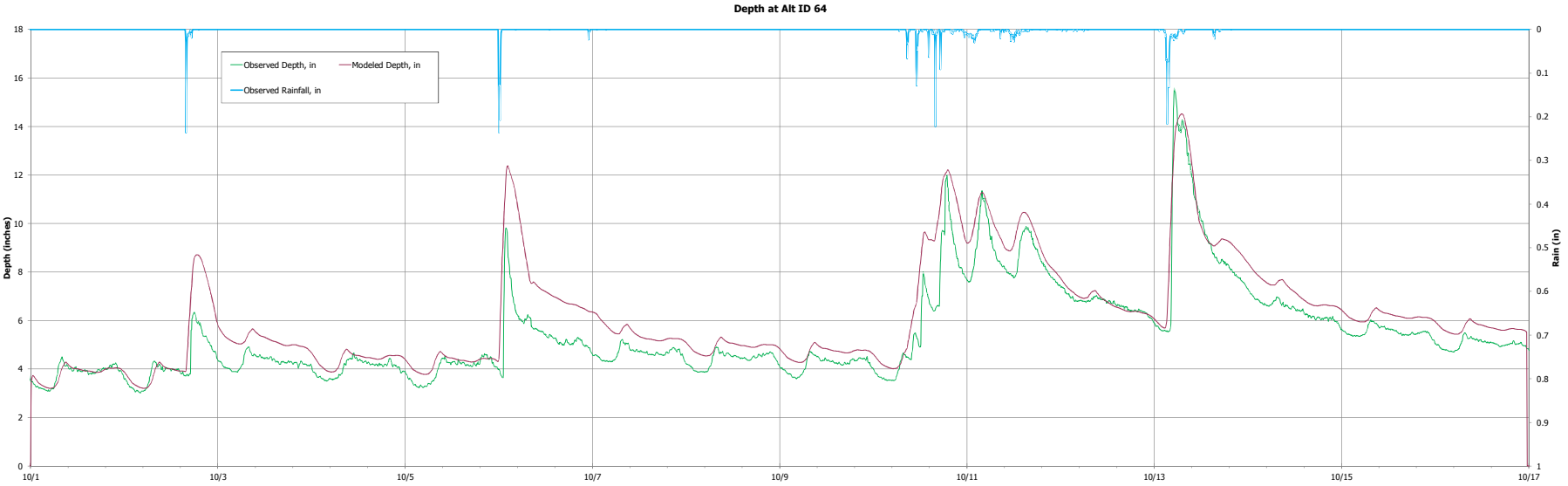

Flow at Alt ID 61
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
2
4
6
8
10
12
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

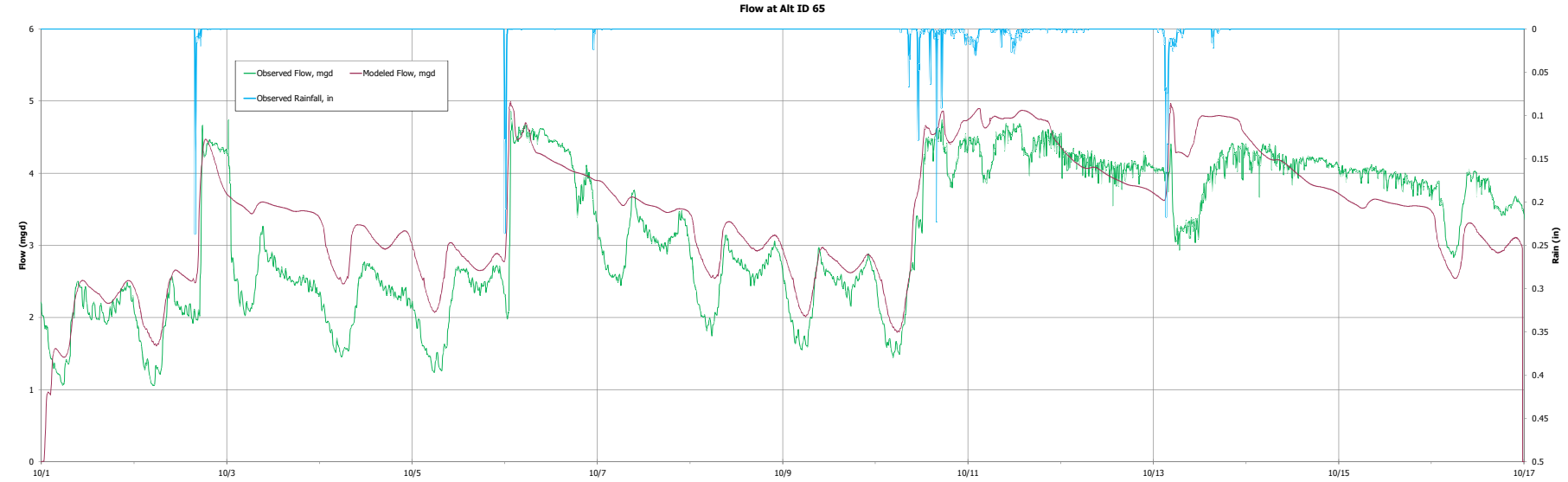

Depth at Alt ID 61
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

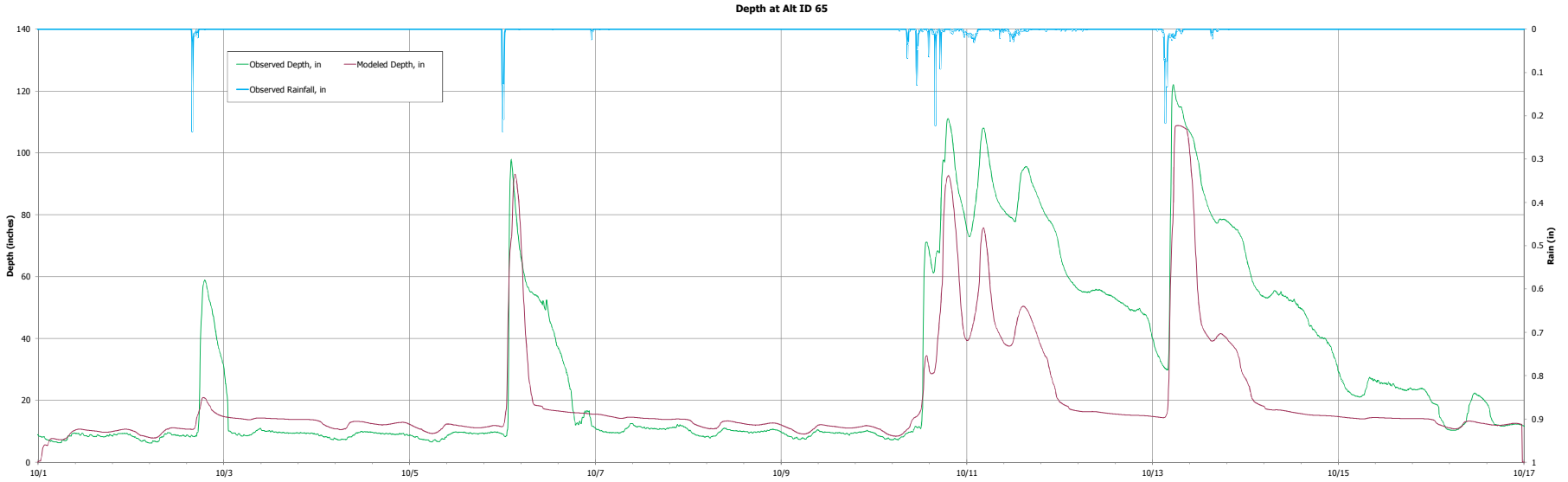

Flow at Alt ID 62
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
2
4
6
8
10
12
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

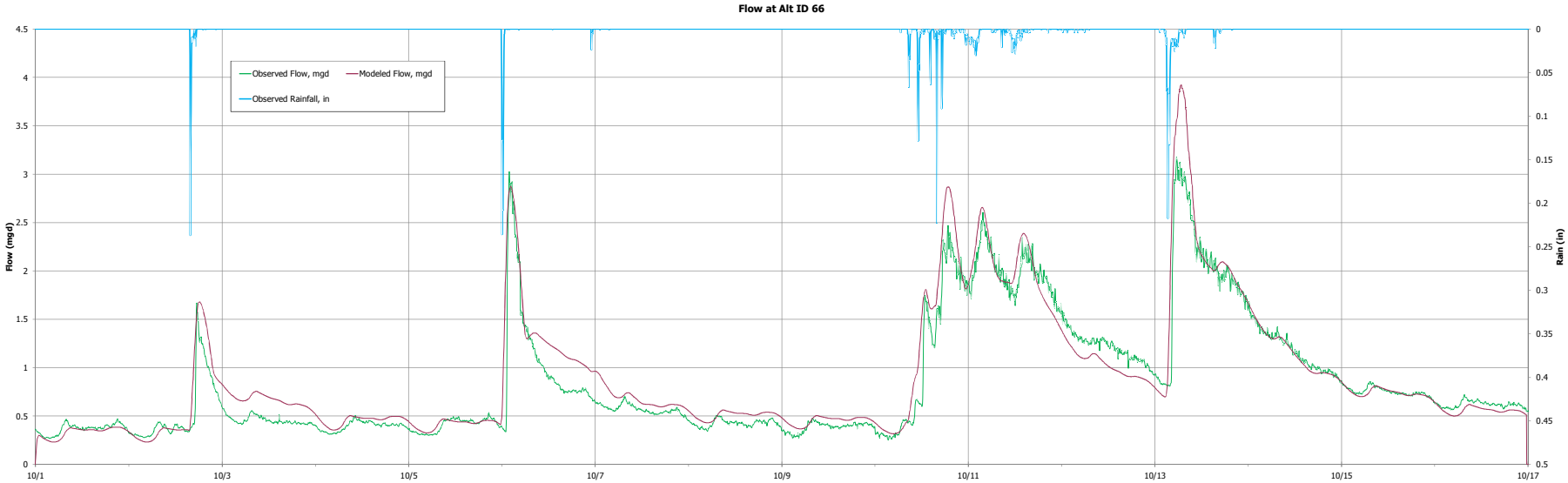

Depth at Alt ID 62
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
140
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

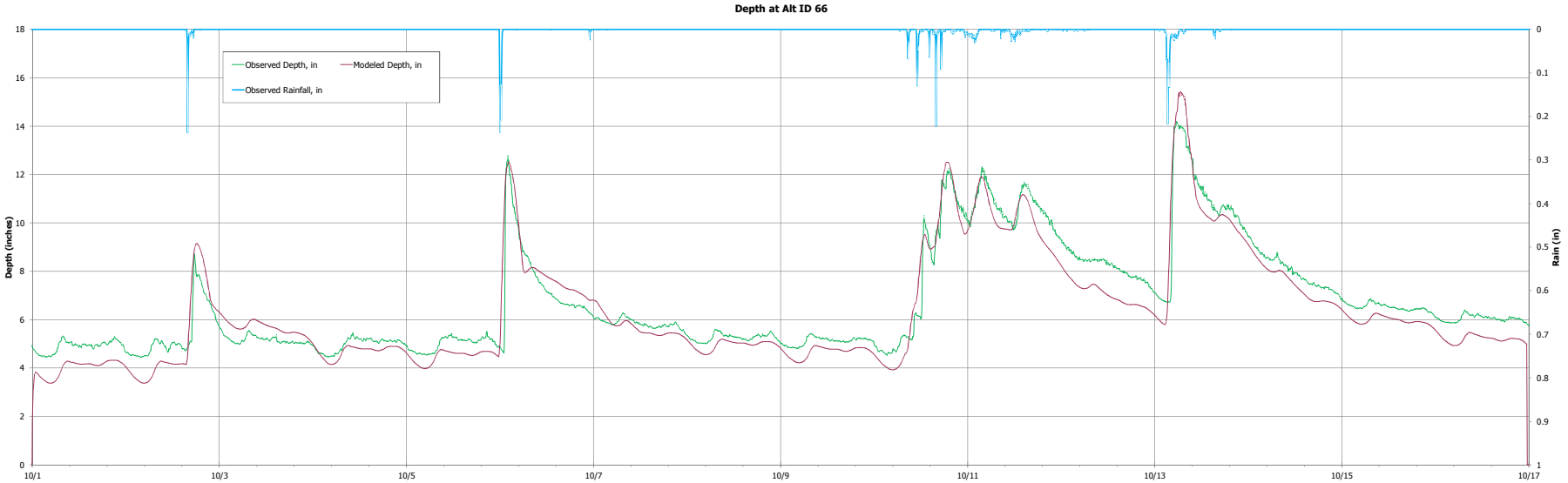

Flow at Alt ID 64
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

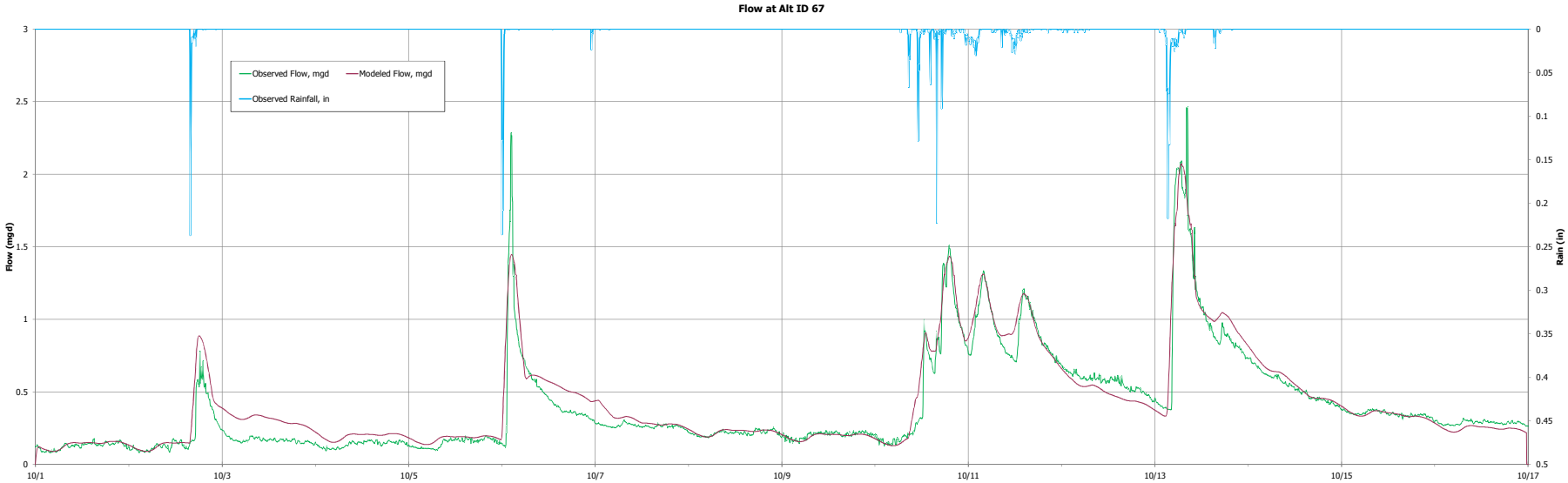

Depth at Alt ID 64
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
2
4
6
8
10
12
14
16
18
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

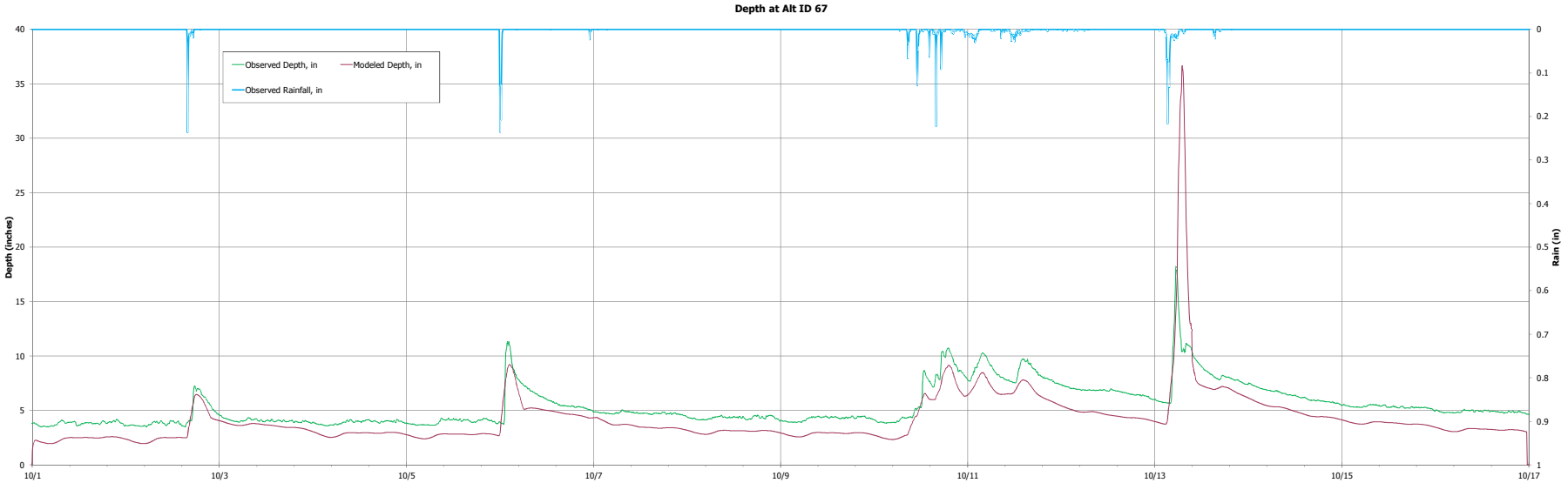

Flow at Alt ID 65
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

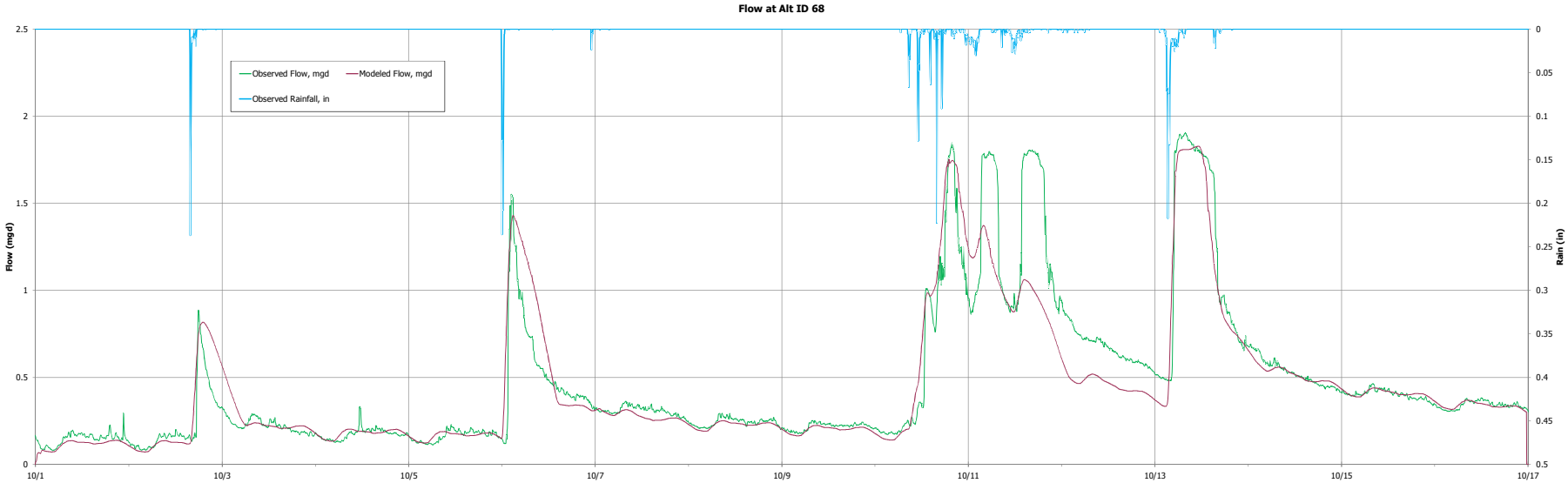

Depth at Alt ID 65
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
140
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

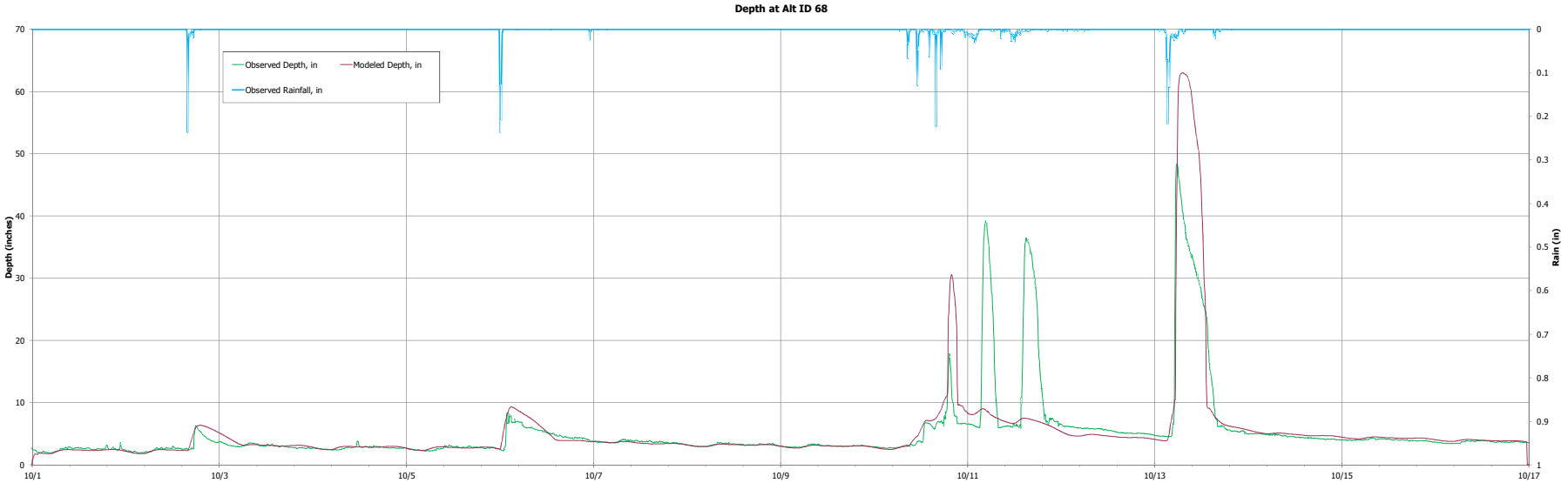

Flow at Alt ID 66
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

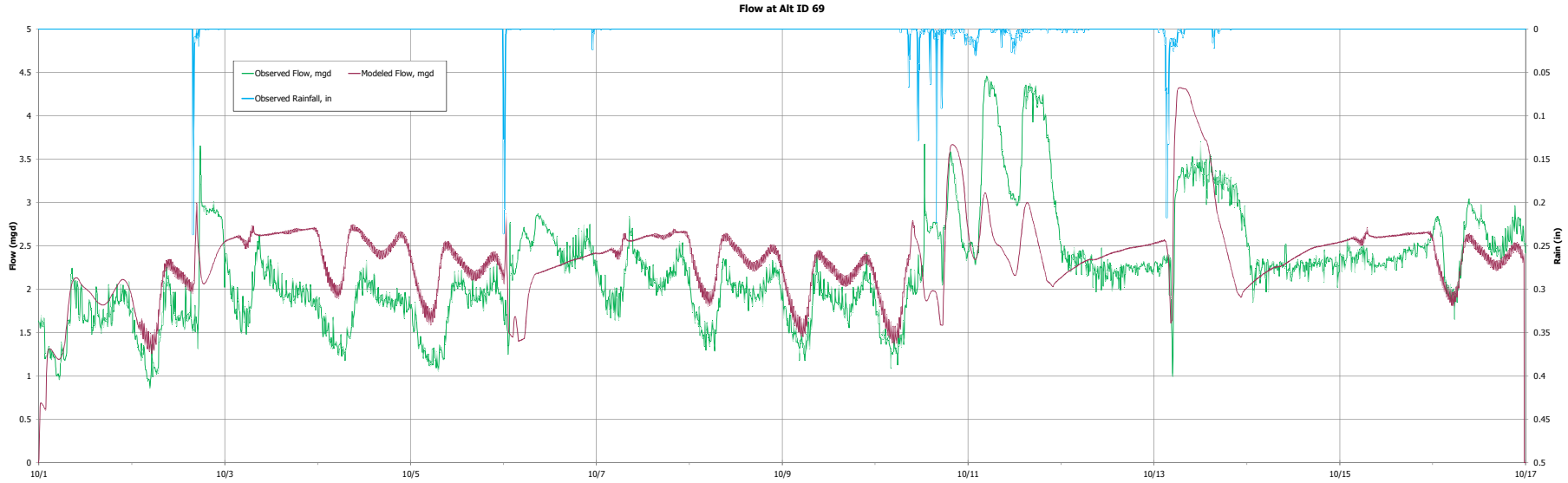

Depth at Alt ID 66
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
18
16
14
12
10
8
6
4
2
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

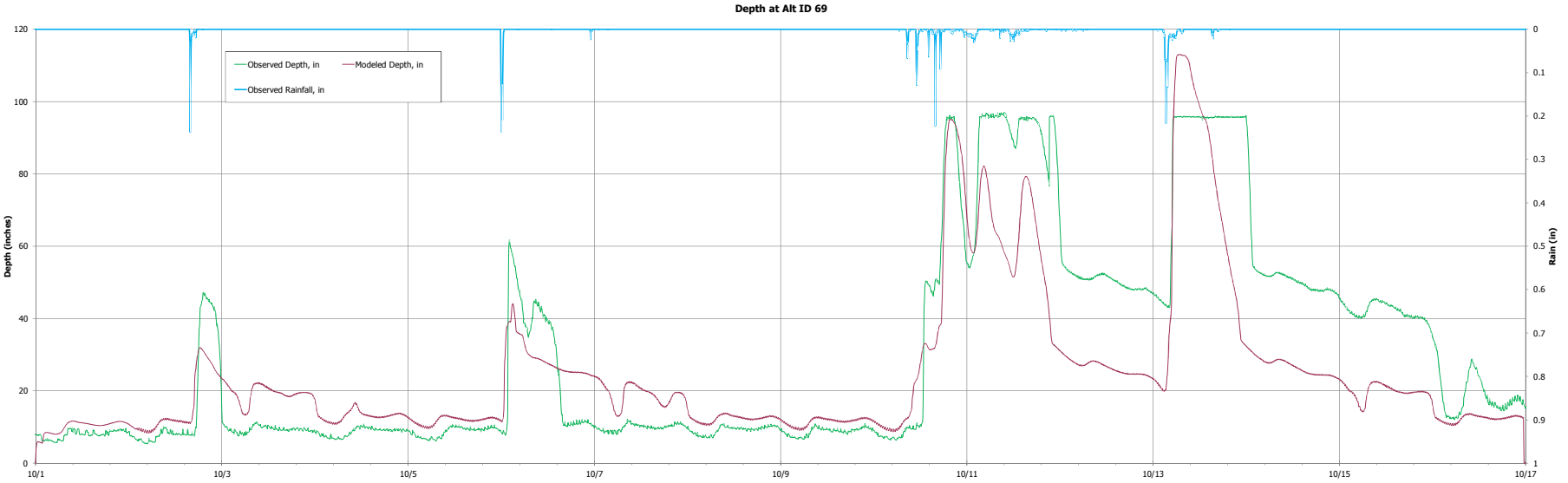

Flow at Alt ID 67
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

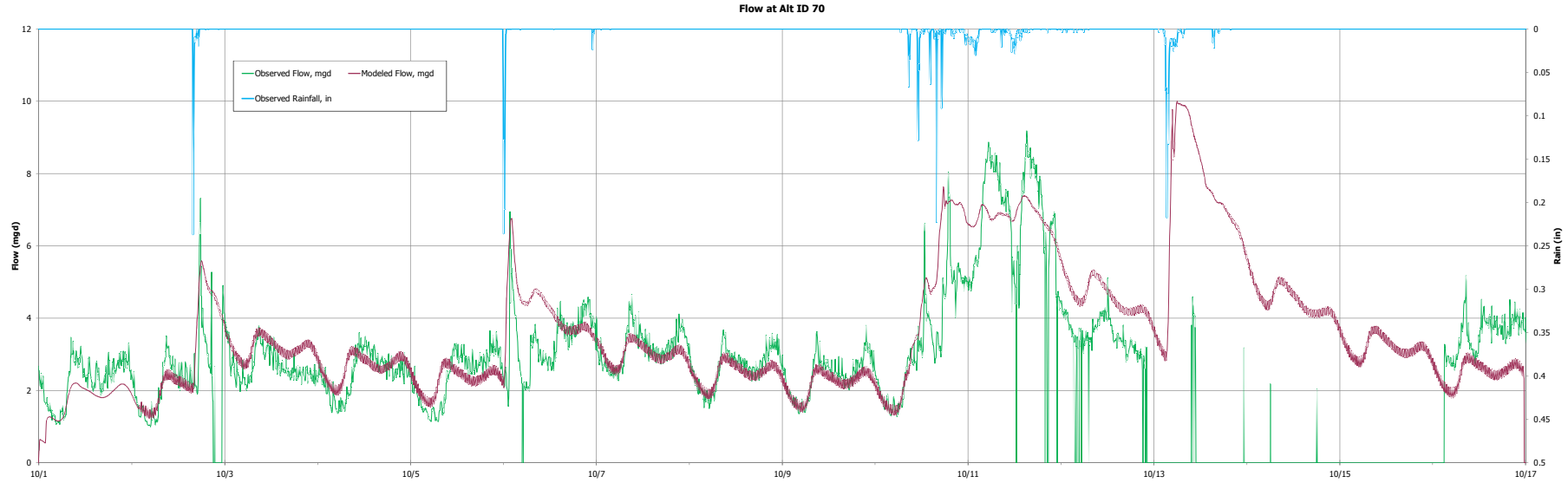

Depth at Alt ID 67
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
40
35
30
25
20
15
10
5
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

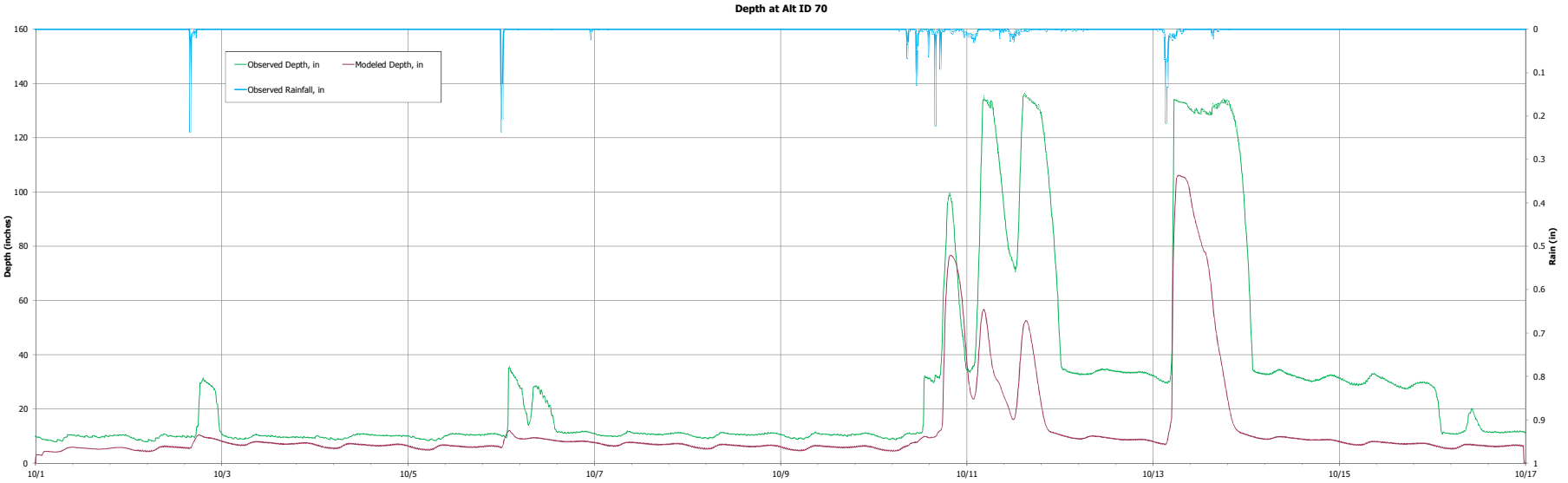

Flow at Alt ID 68
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

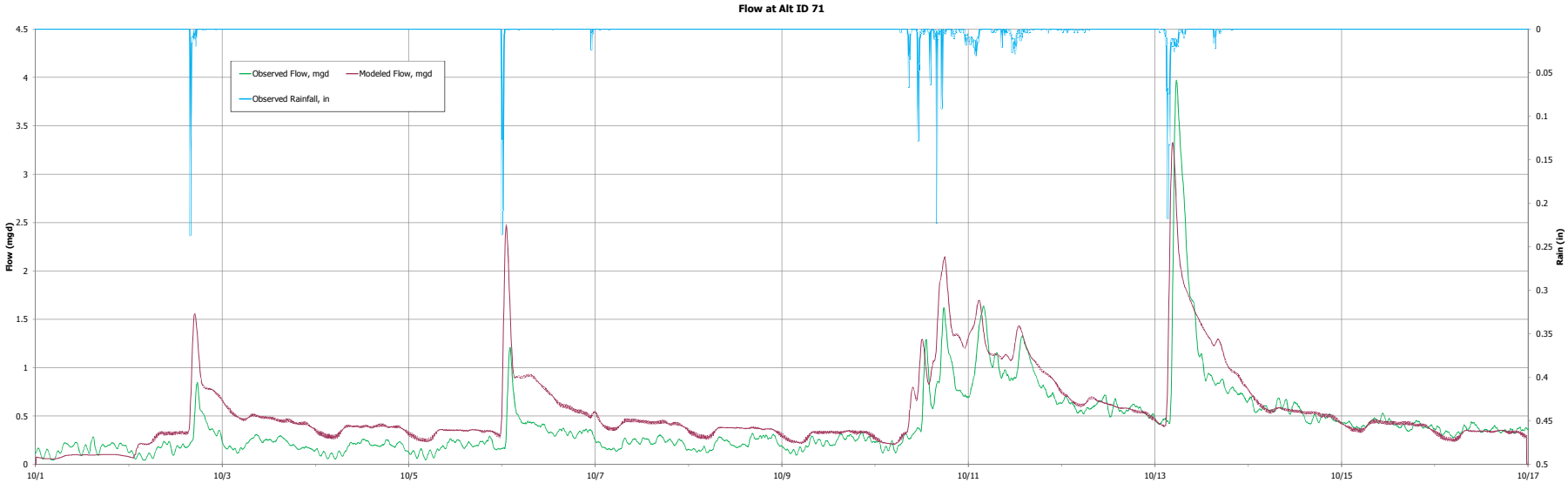

Depth at Alt ID 68
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
70
60
50
40
30
20
10
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

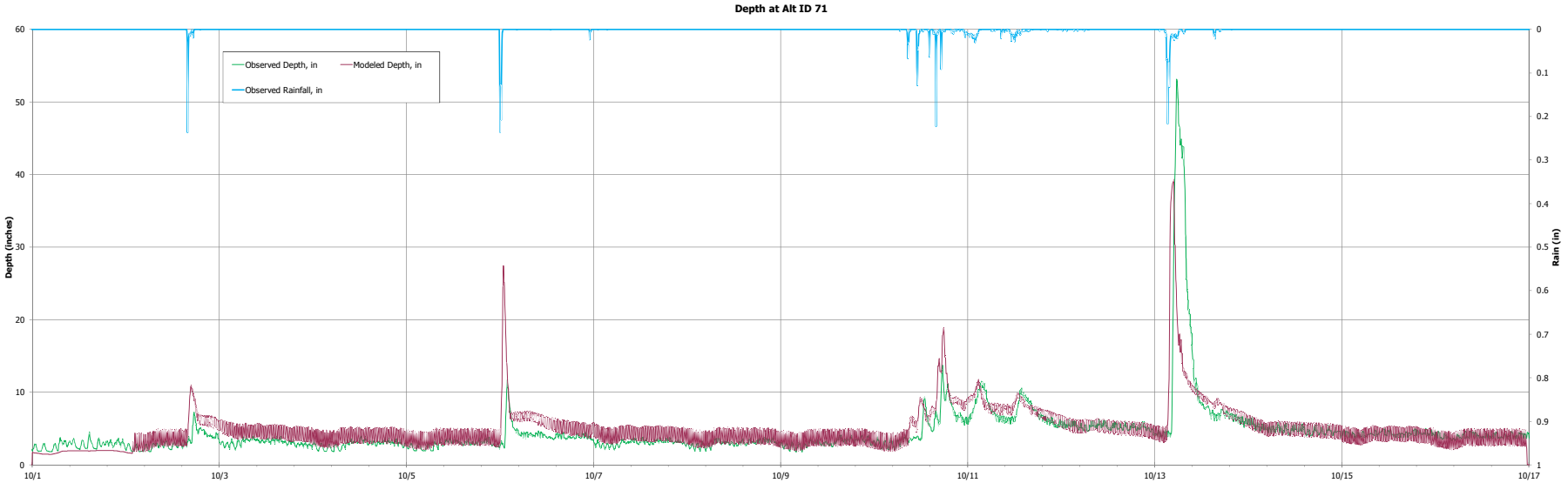

Flow at Alt ID 69
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

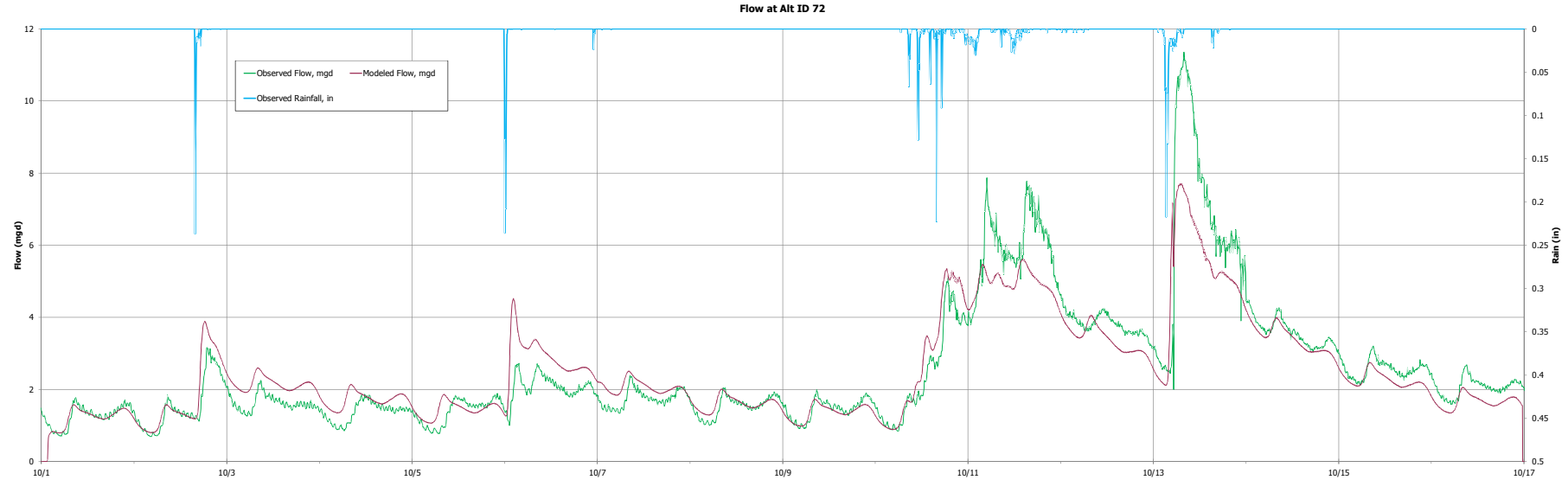

Depth at Alt ID 69
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

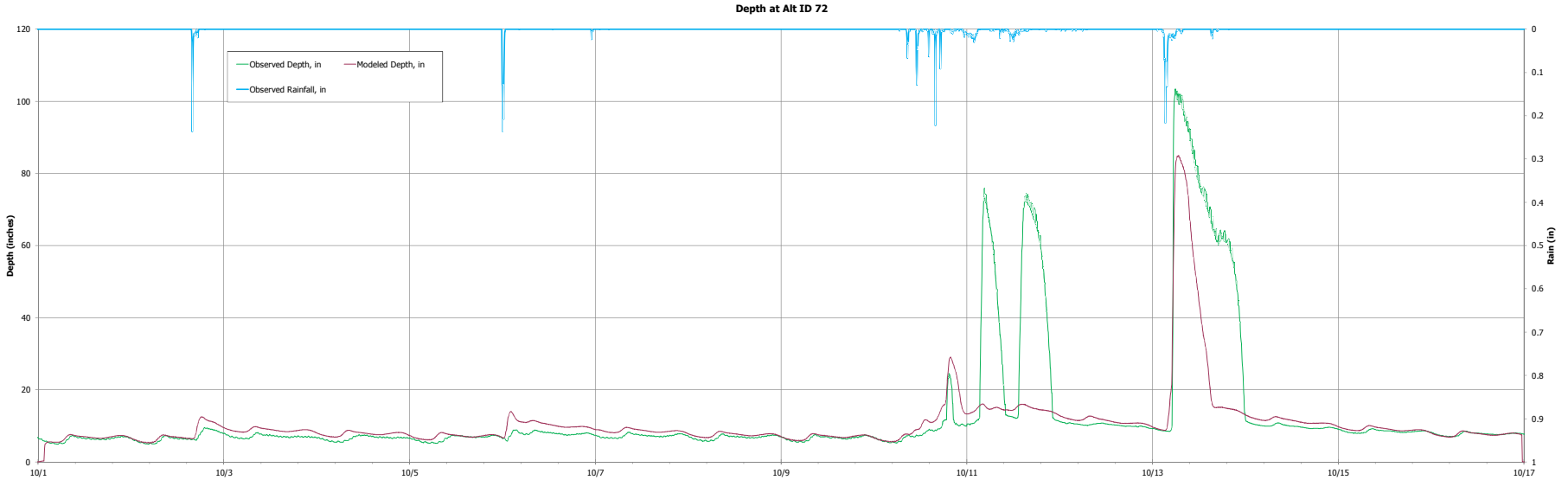

Flow at Alt ID 70
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
2
4
6
8
10
12
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

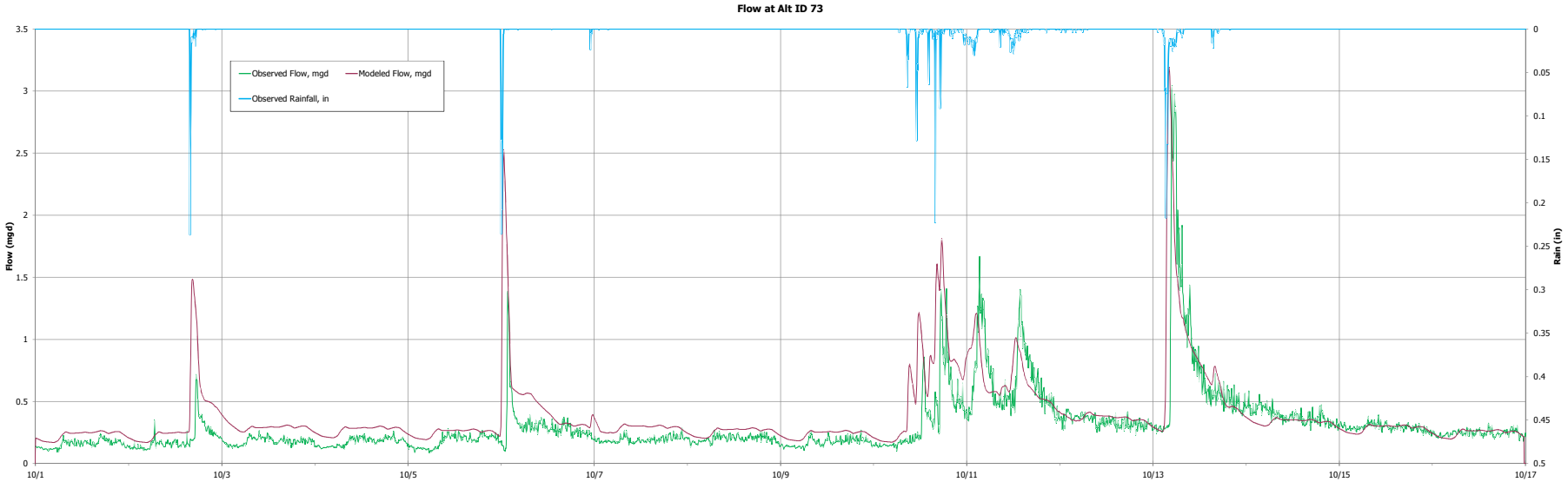

Depth at Alt ID 70
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
140
160
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

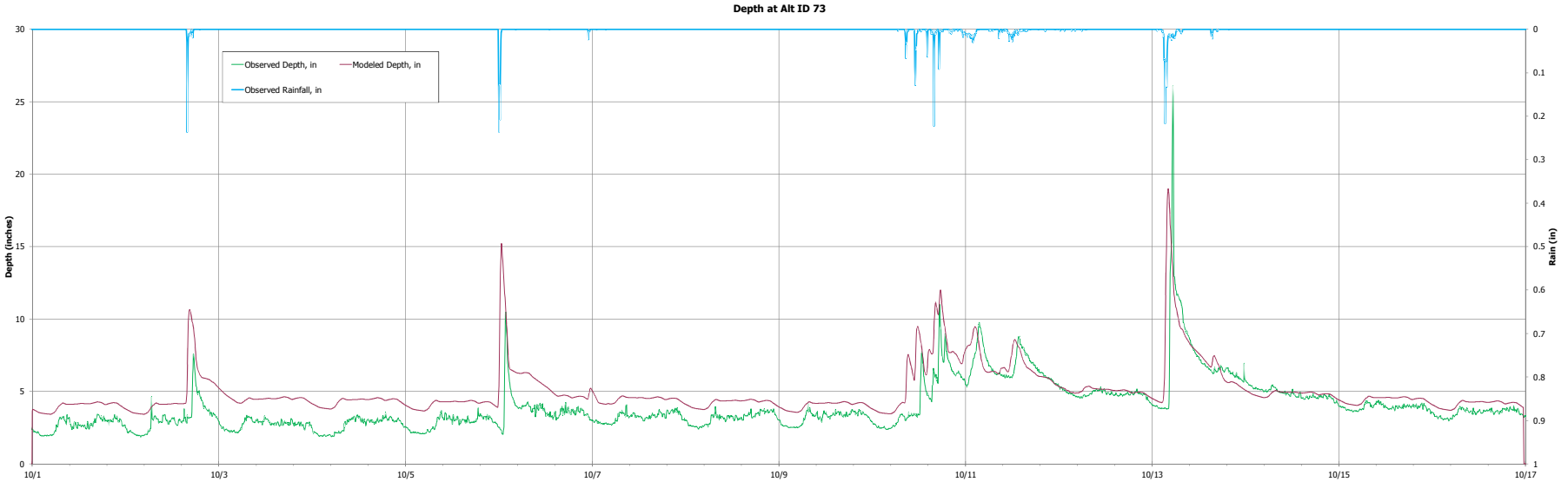

Flow at Alt ID 71
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

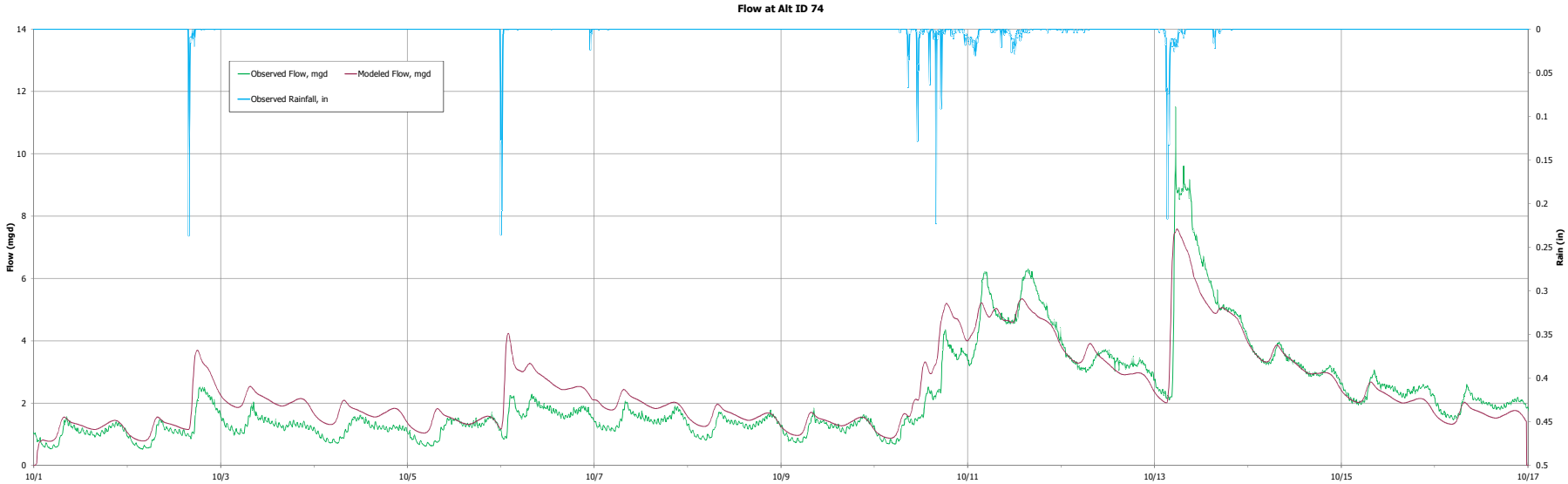

Depth at Alt ID 71
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
60
50
40
30
20
10
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

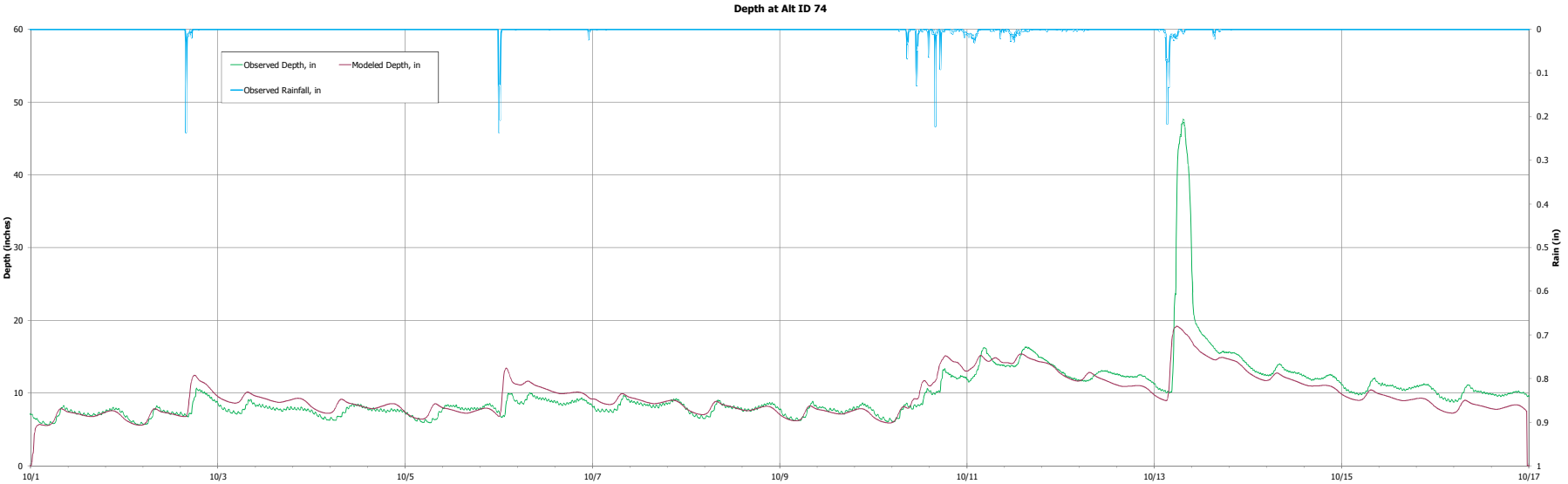

Flow at Alt ID 72
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
2
4
6
8
10
12
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

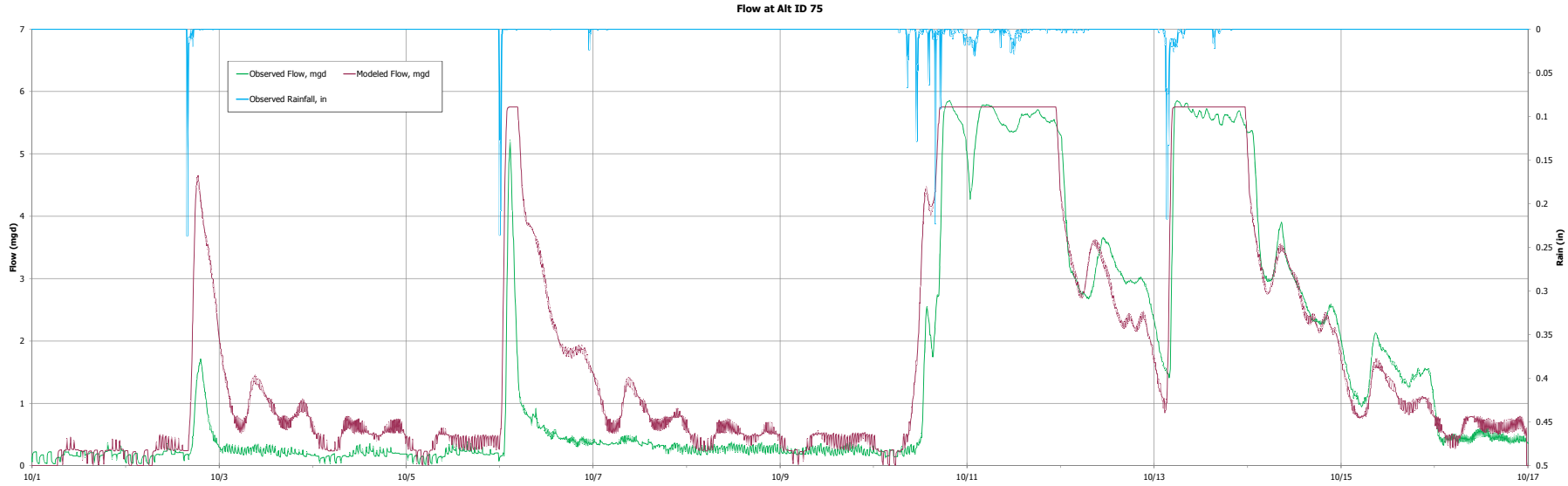

Depth at Alt ID 72
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

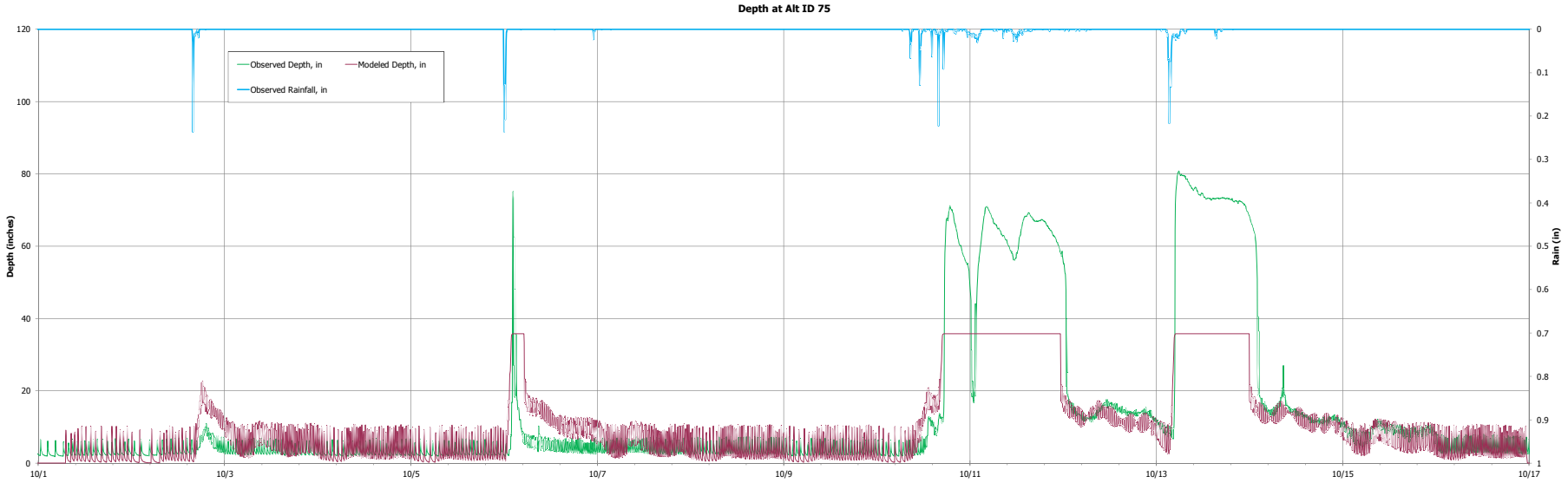

Flow at Alt ID 73
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
3.5
3
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

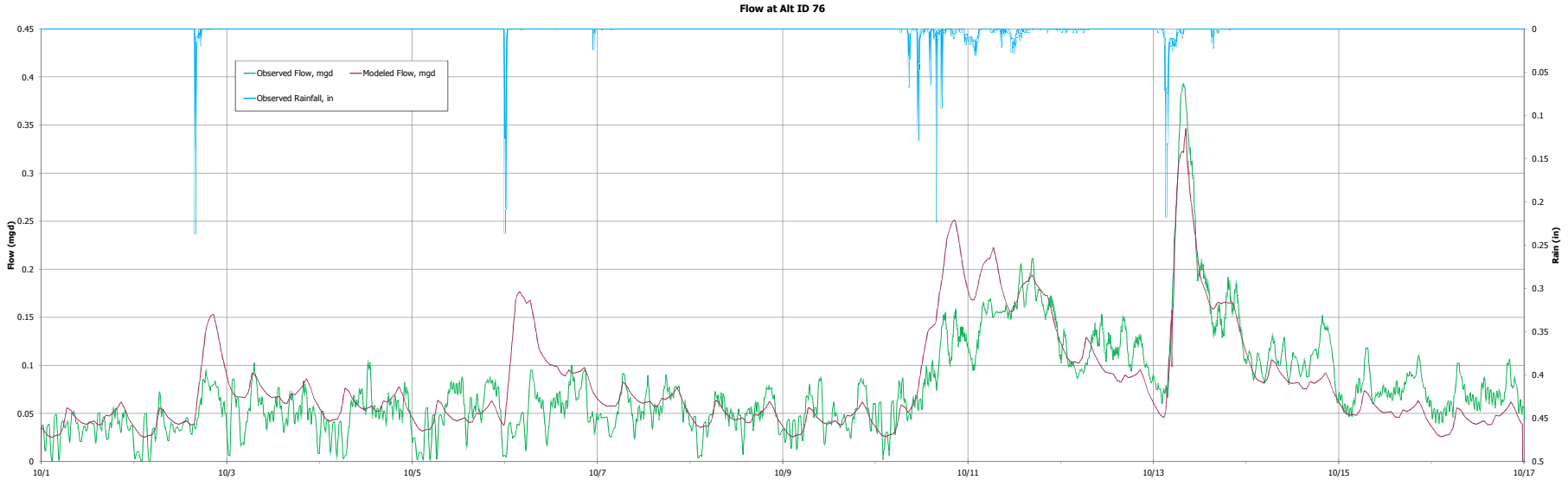

Depth at Alt ID 73
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
30
25
20
15
10
5
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

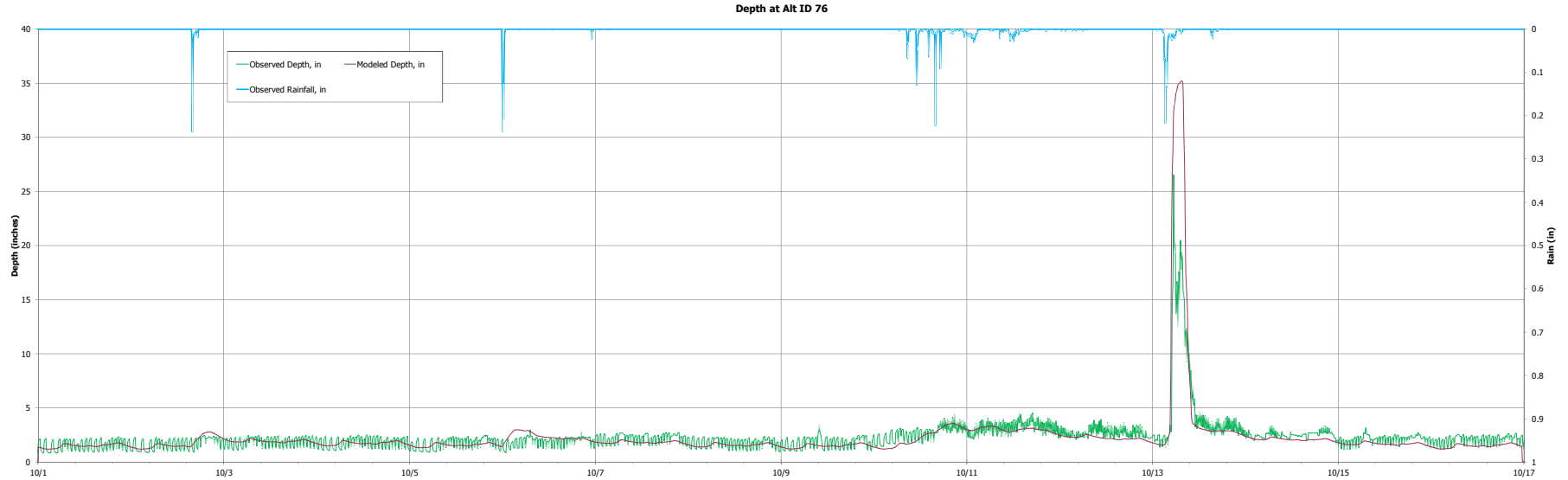

Flow at Alt ID 74
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
2
4
6
8
10
12
14
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

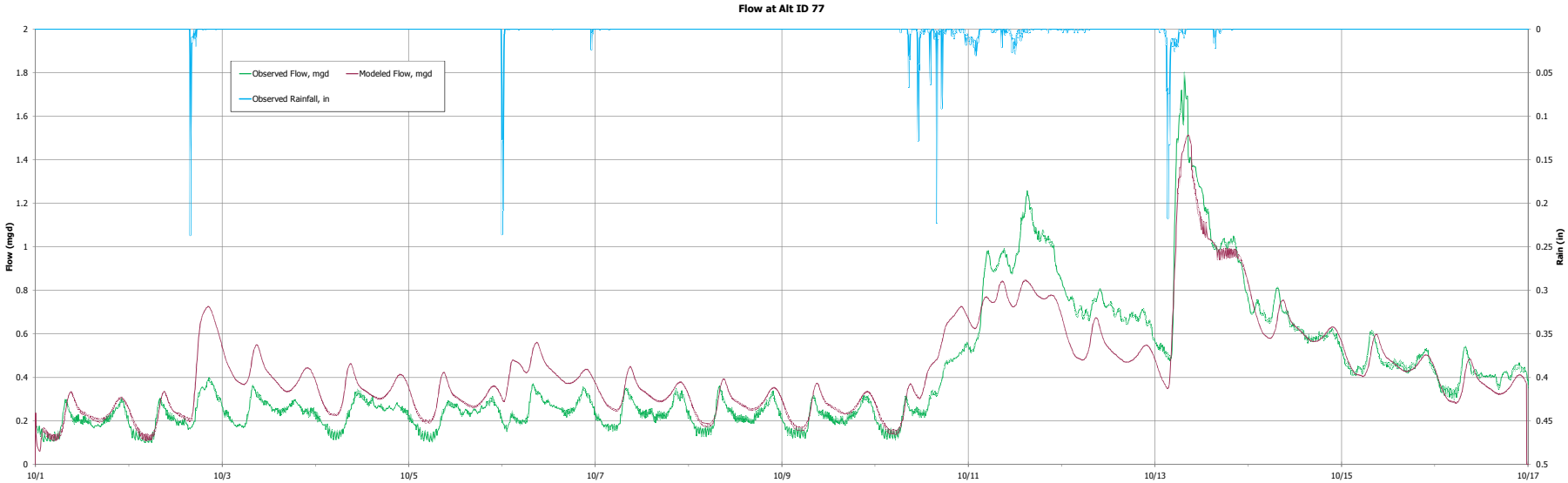

Depth at Alt ID 74
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
10
20
30
40
50
60
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

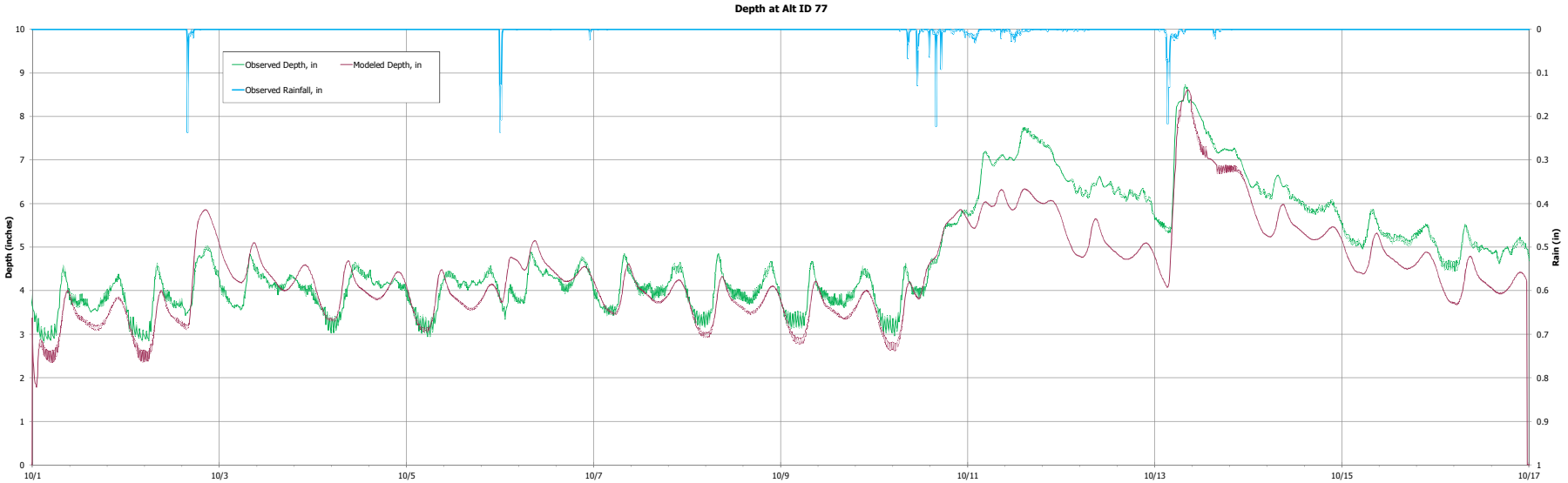

Flow at Alt ID 75
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

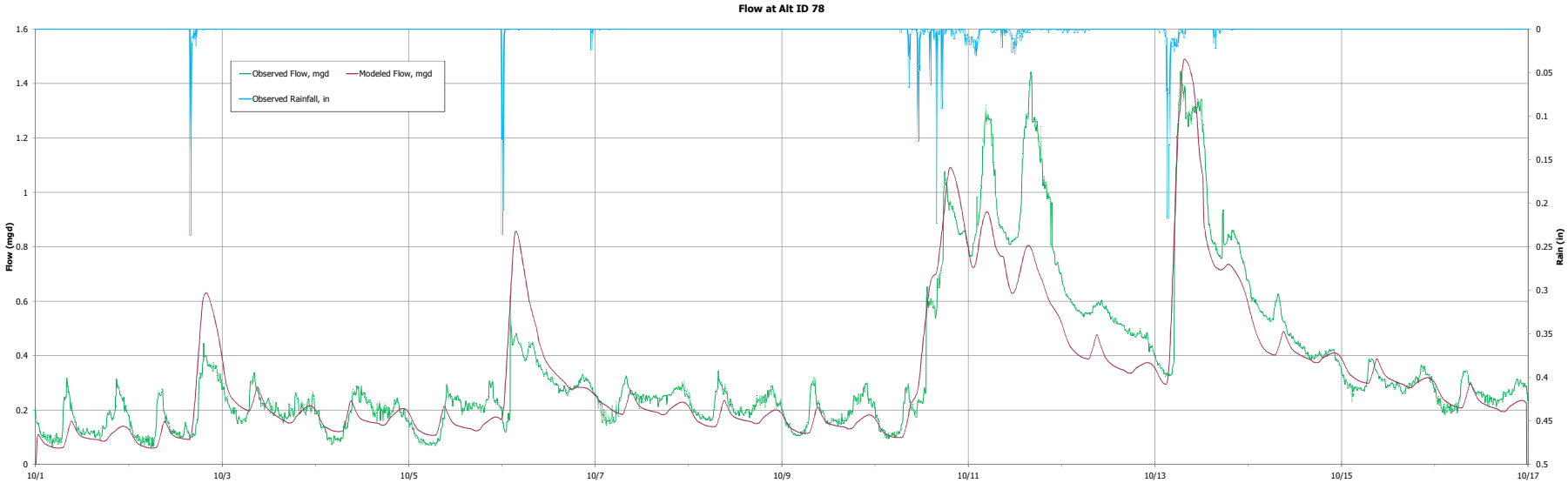

Depth at Alt ID 75
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
20
40
60
80
100
120
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

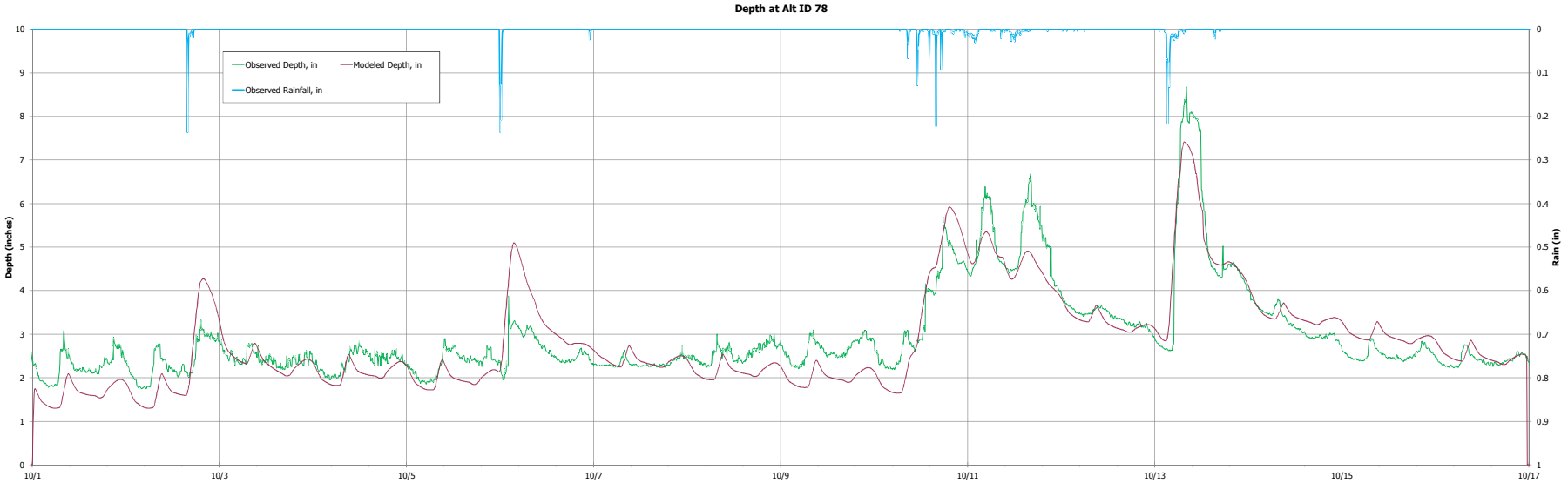

Flow at Alt ID 76
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

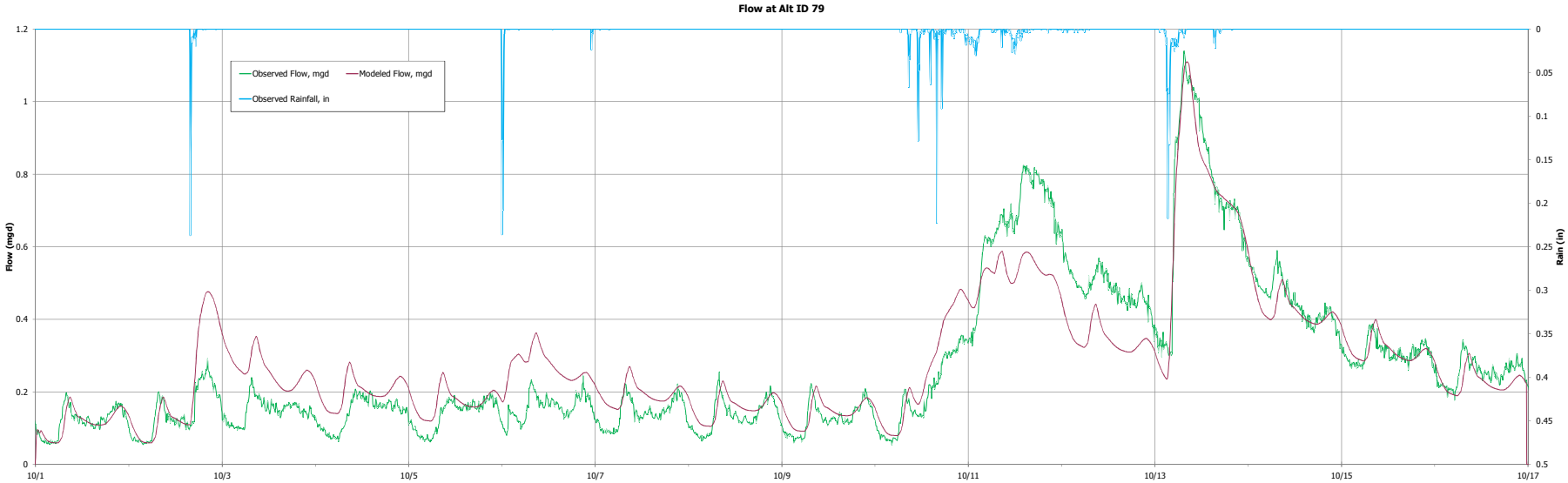

Depth at Alt ID 76
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
40
35
30
25
20
15
10
5
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

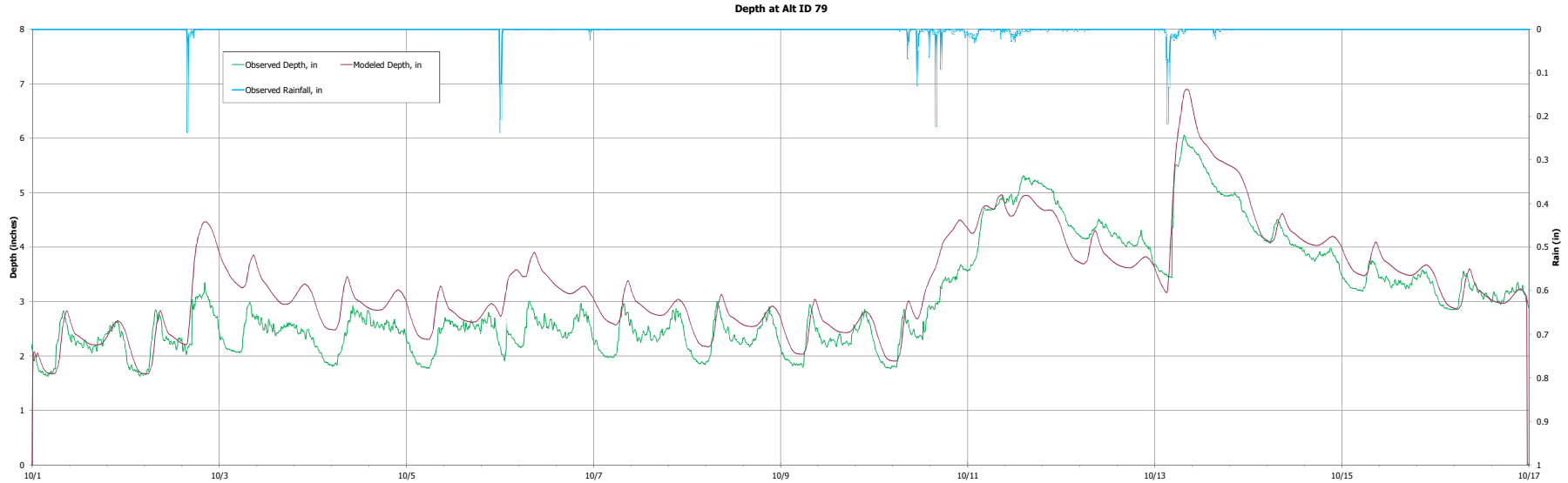

Flow at Alt ID 77
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

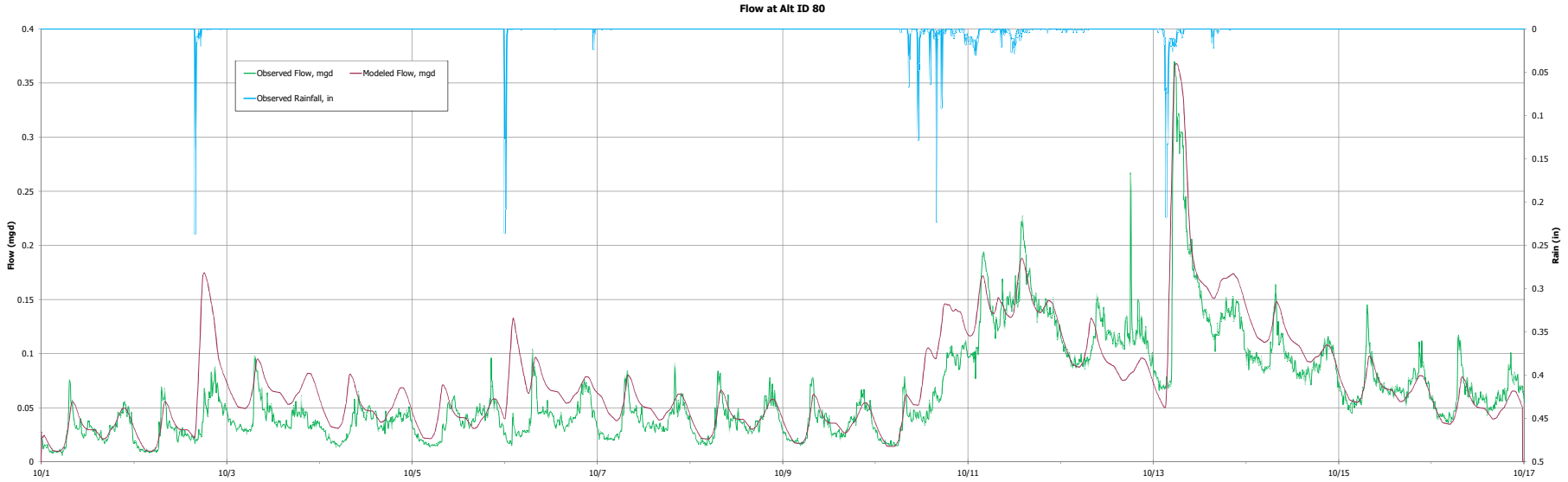

Depth at Alt ID 77
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
10
9
8
7
6
5
4
3
2
1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

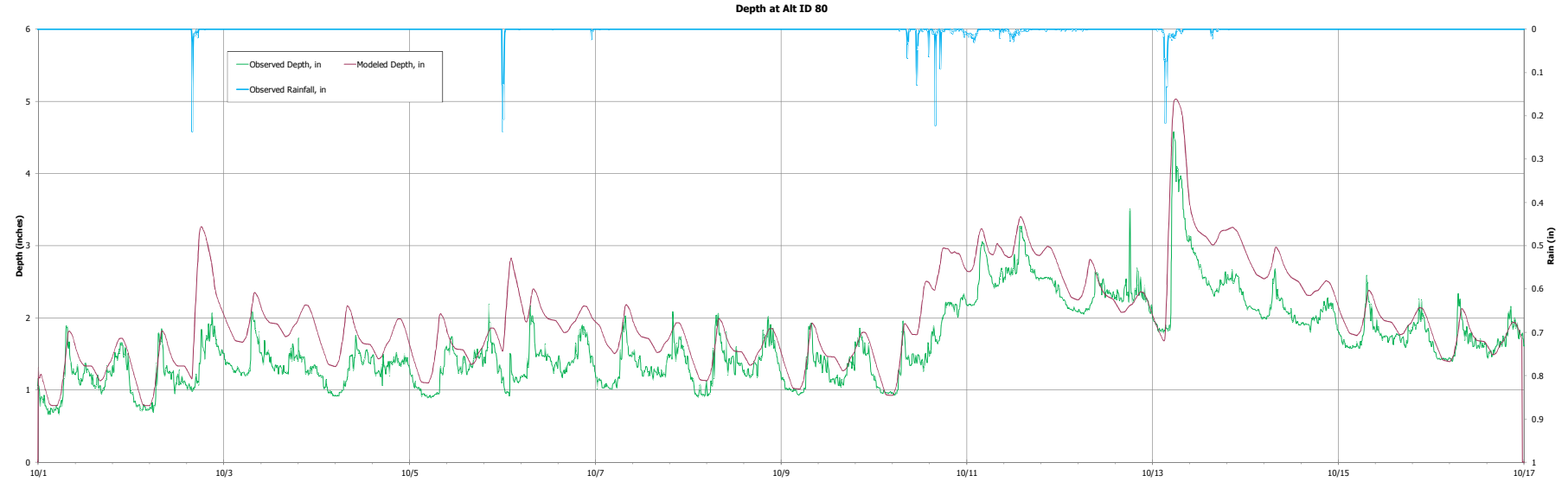

Flow at Alt ID 78
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

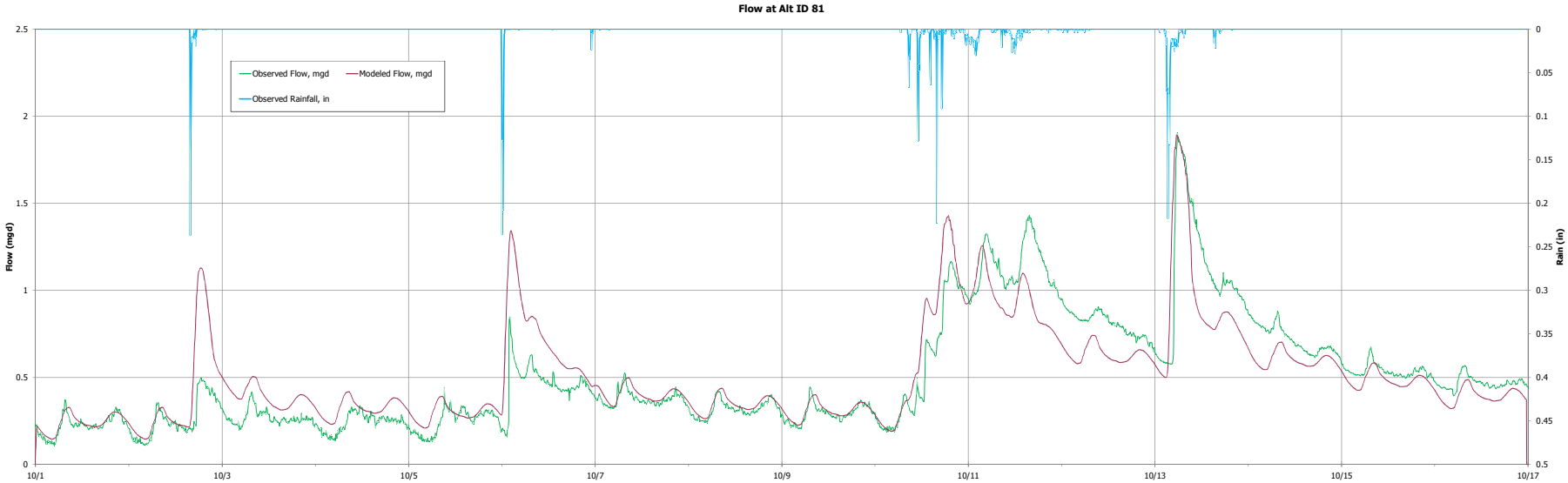

Depth at Alt ID 78
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
10
9
8
7
6
5
4
3
2
1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

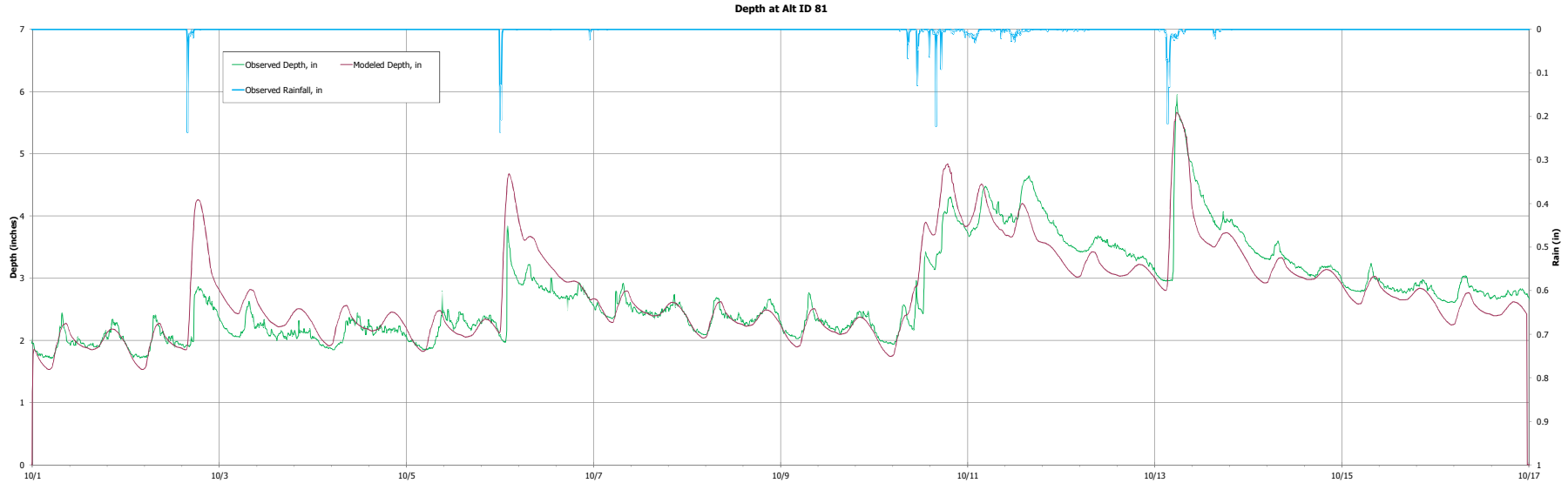

Flow at Alt ID 79
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
1.2
1
0.8
0.6
0.4
0.2
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

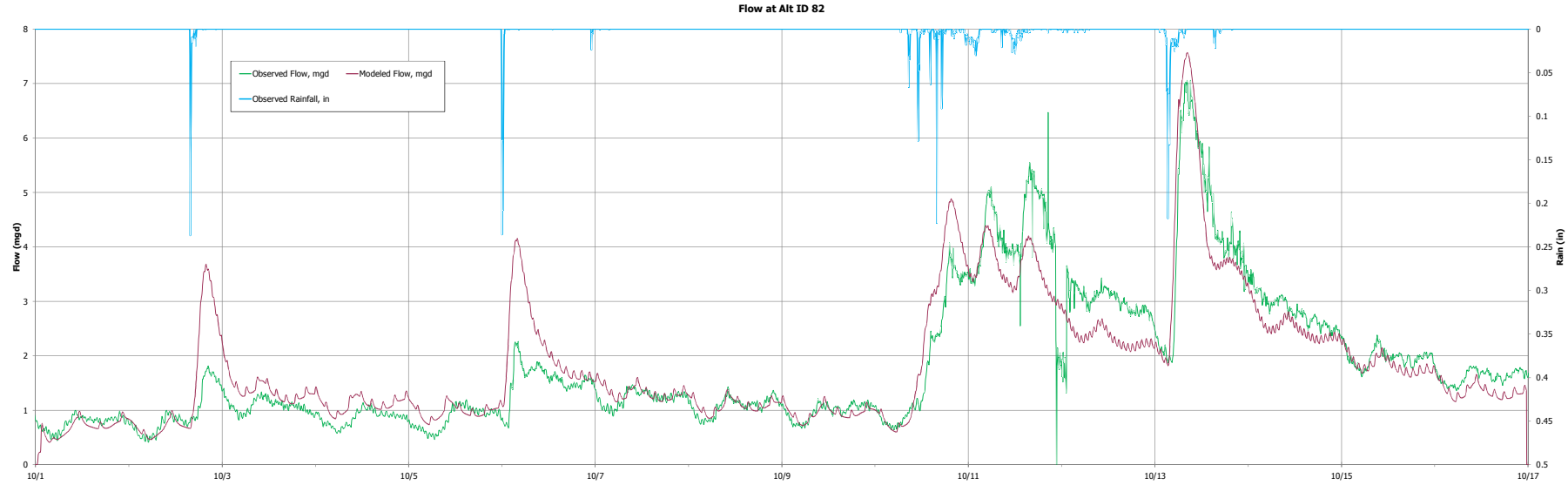

Depth at Alt ID 79
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
8
7
6
5
4
3
2
1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

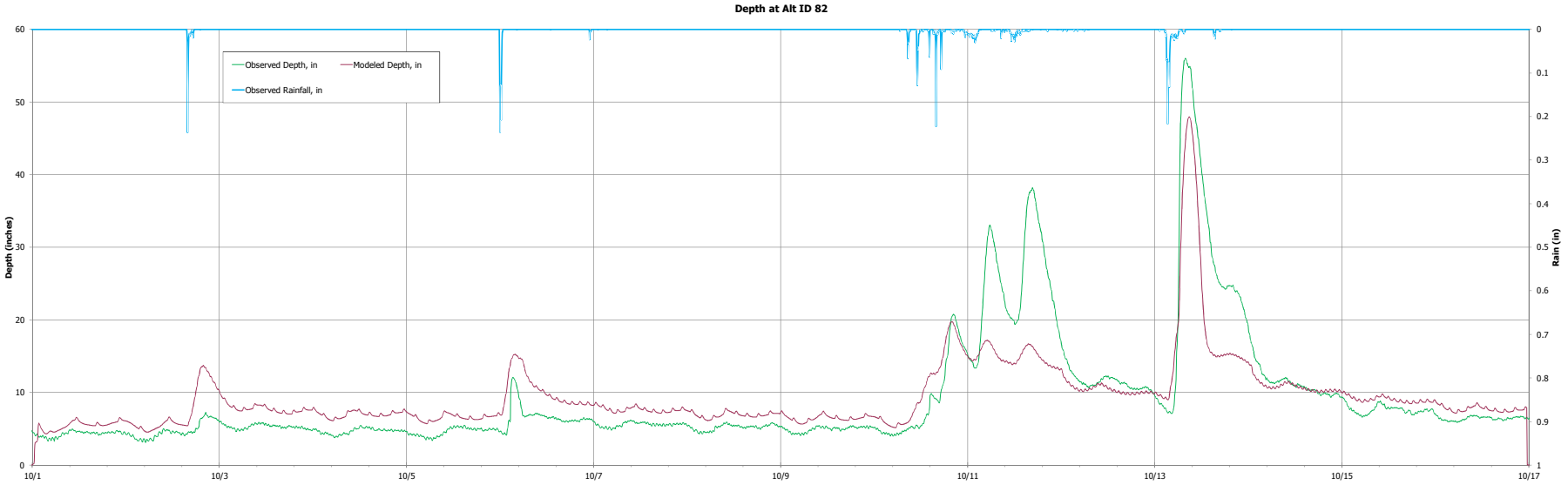

Flow at Alt ID 80
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

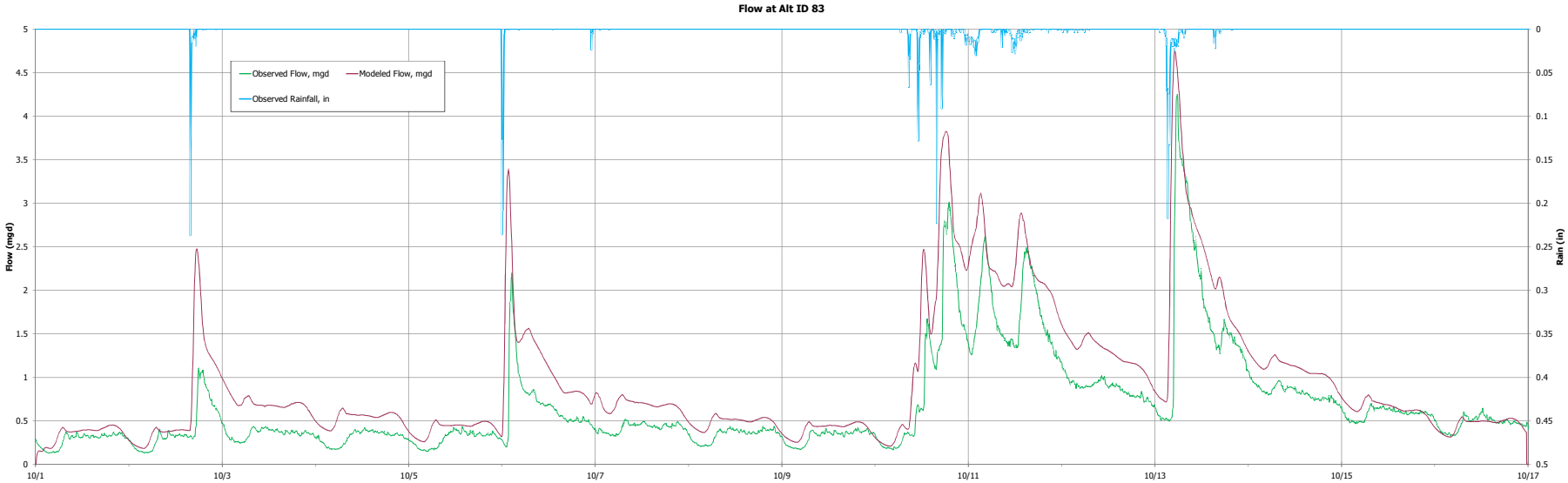

Depth at Alt ID 80
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
6
5
4
3
2
1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

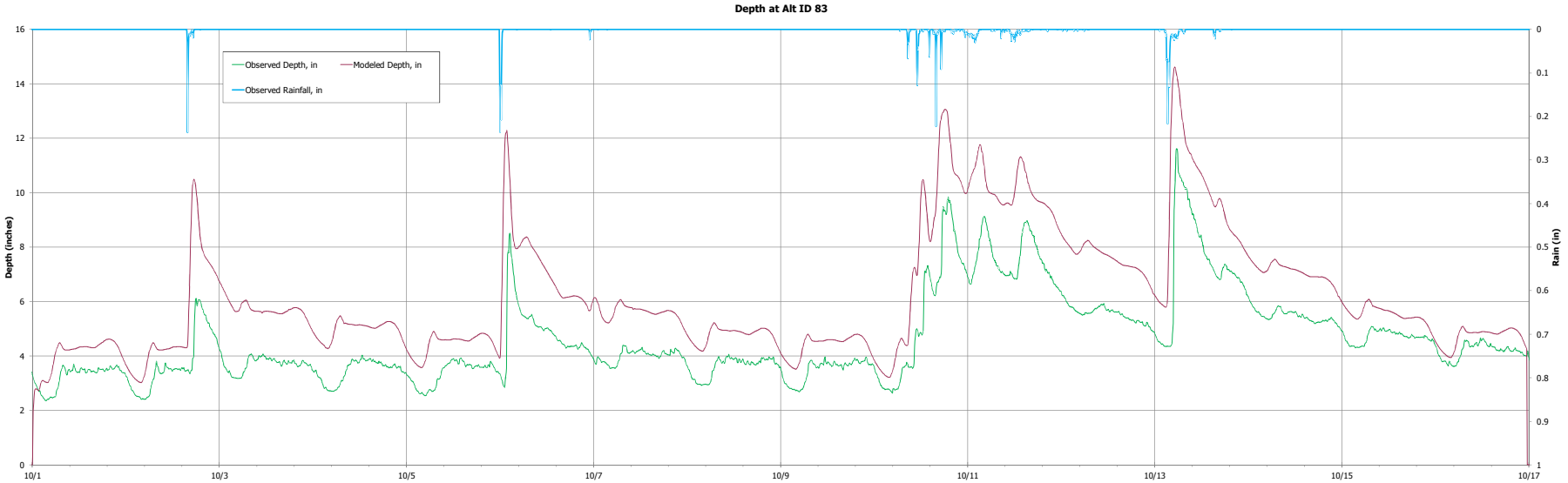

Flow at Alt ID 81
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
2.5
2
1.5
1
0.5
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17

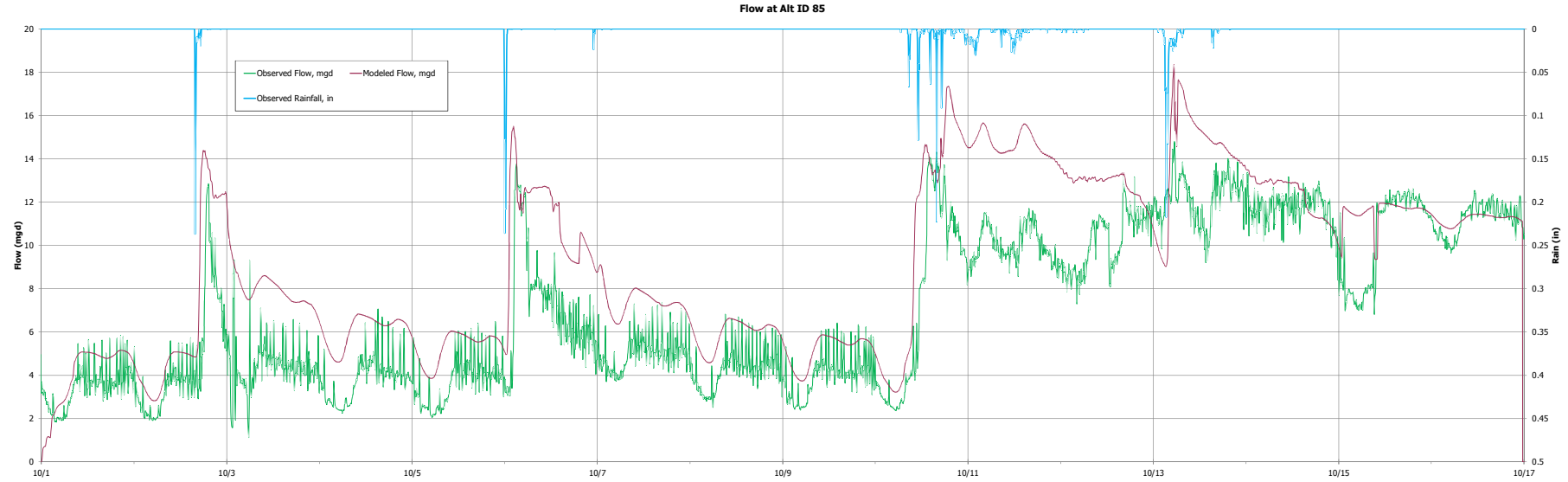

Depth at Alt ID 81
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
7
6
5
4
3
2
1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17


Flow at Alt ID 82
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
1
2
3
4
5
6
7
8
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17


Depth at Alt ID 82
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
10
20
30
40
50
60
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17


Flow at Alt ID 83
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17


Depth at Alt ID 83
Observed Depth, in
Modeled Depth, in
Observed Rainfall, in
Depth (inches)
Rain (in)
0
2
4
6
8
10
12
14
16
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
10/1
10/3
10/5
10/7
10/9
10/11
10/13
10/15
10/17


Flow at Alt ID 85
Observed Flow, mgd
Modeled Flow, mgd
Observed Rainfall, in
Flow (mgd)
Rain (in)
0
2
4
6
8
10
12
14
16
18
20
0
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0.1
0.15
0.2
0.25
0.3
0.35
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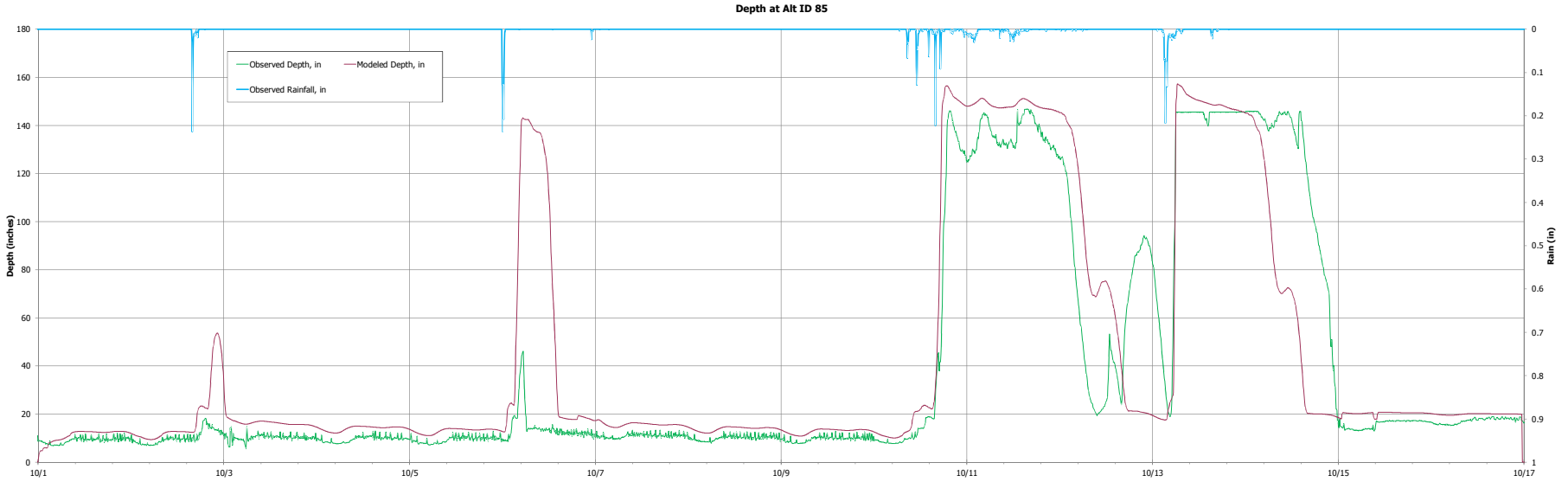
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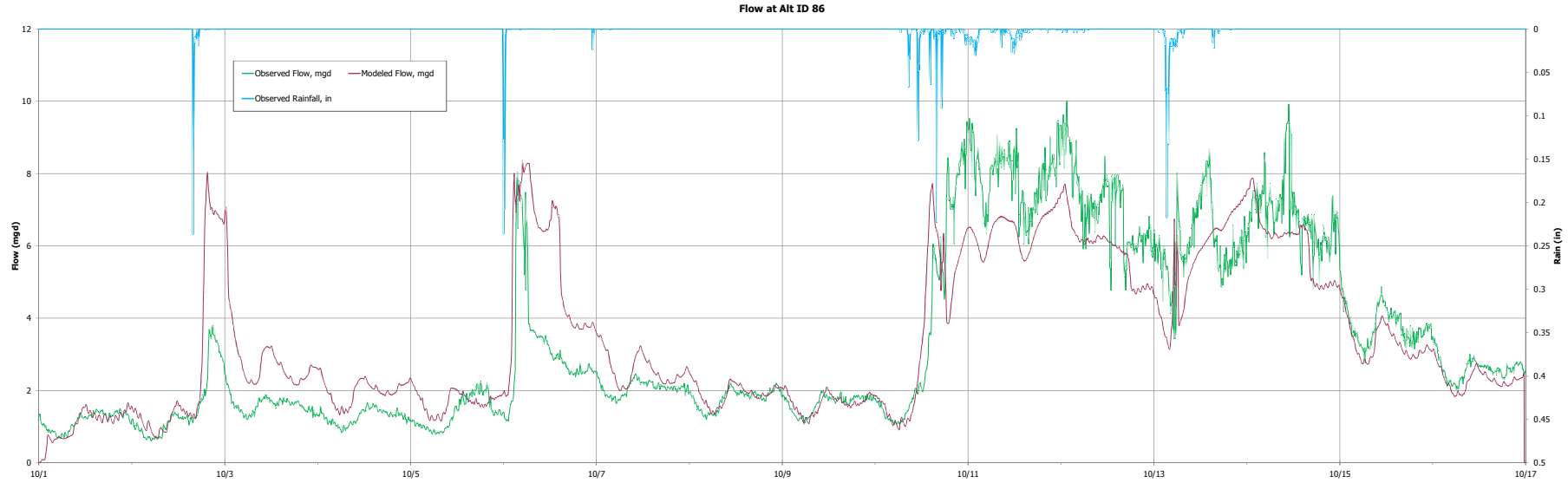
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Flow (mgd)
Rain (in)
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6
8
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12
0
0.05
0.1
0.15
0.2
0.25
0.3
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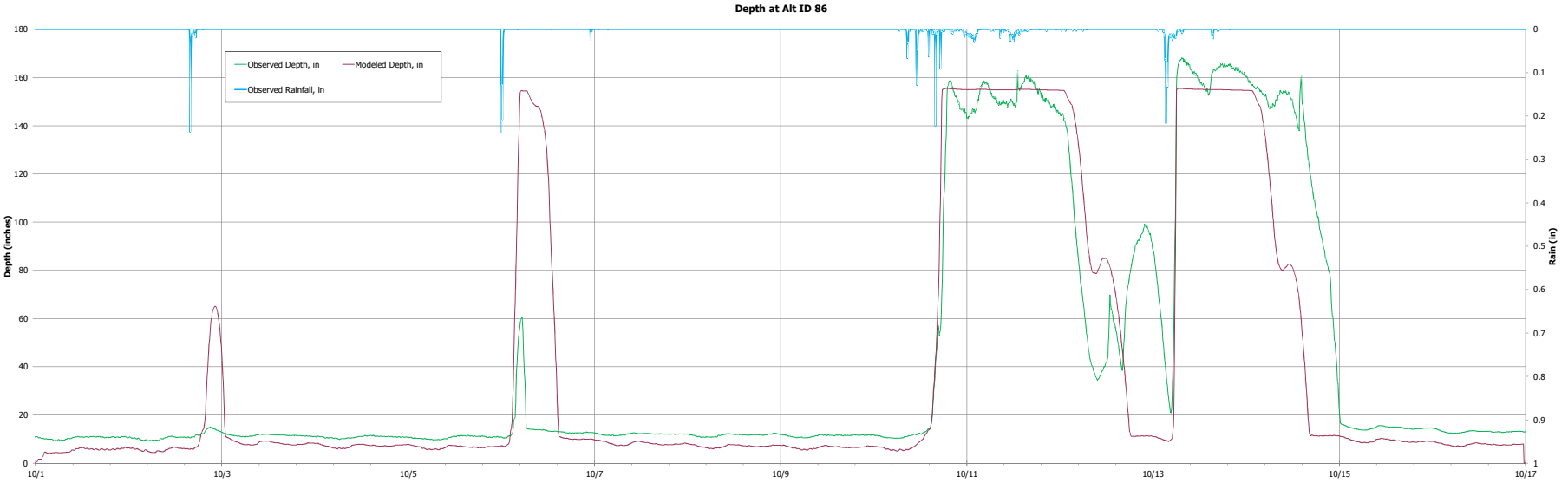
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Observed Rainfall, in
Depth (inches)
Rain (in)
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140
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180
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0.1
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0.3
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0.5
0.6
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1
10/1
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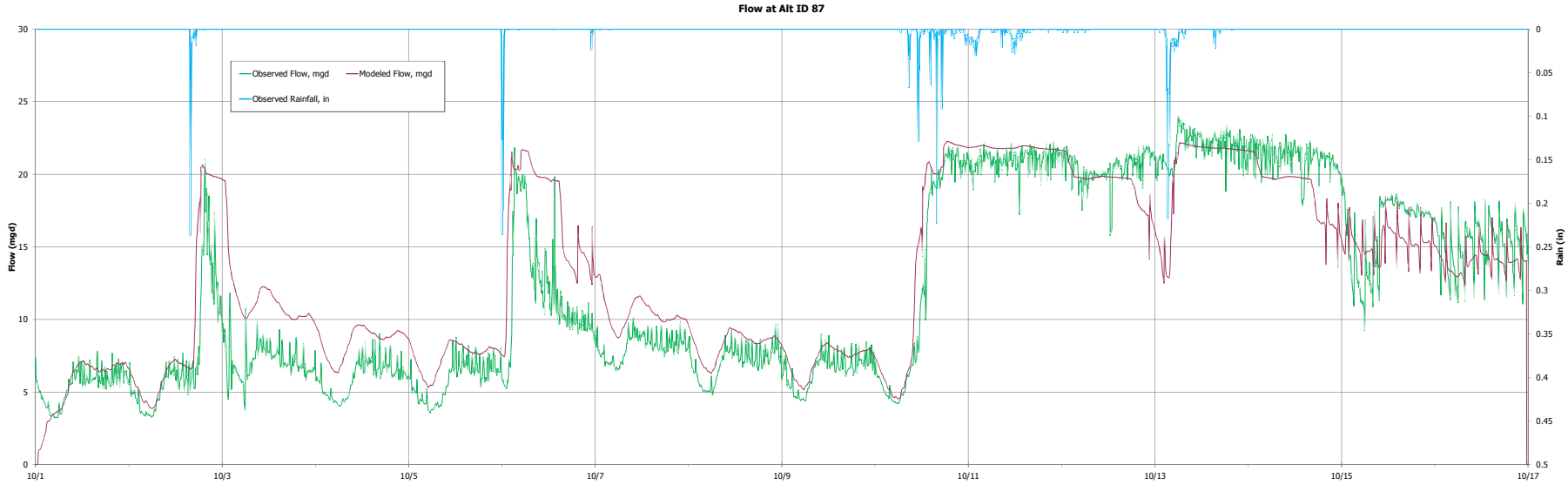
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Observed Rainfall, in
Flow (mgd)
Rain (in)
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10
15
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25
30
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
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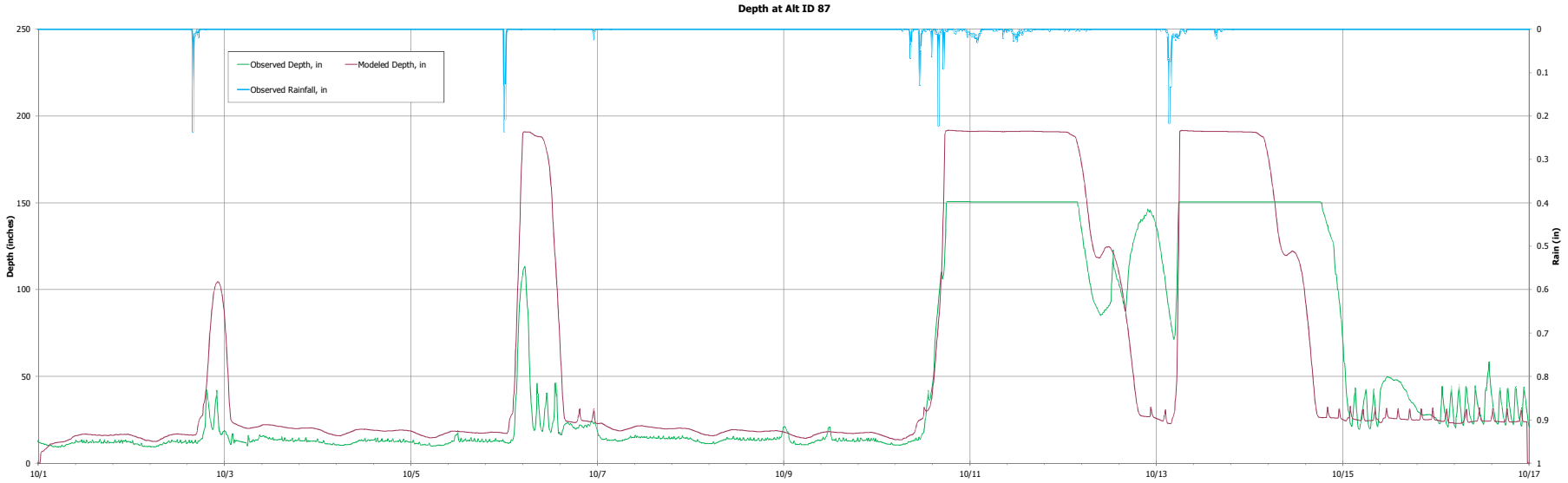
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Rain (in)
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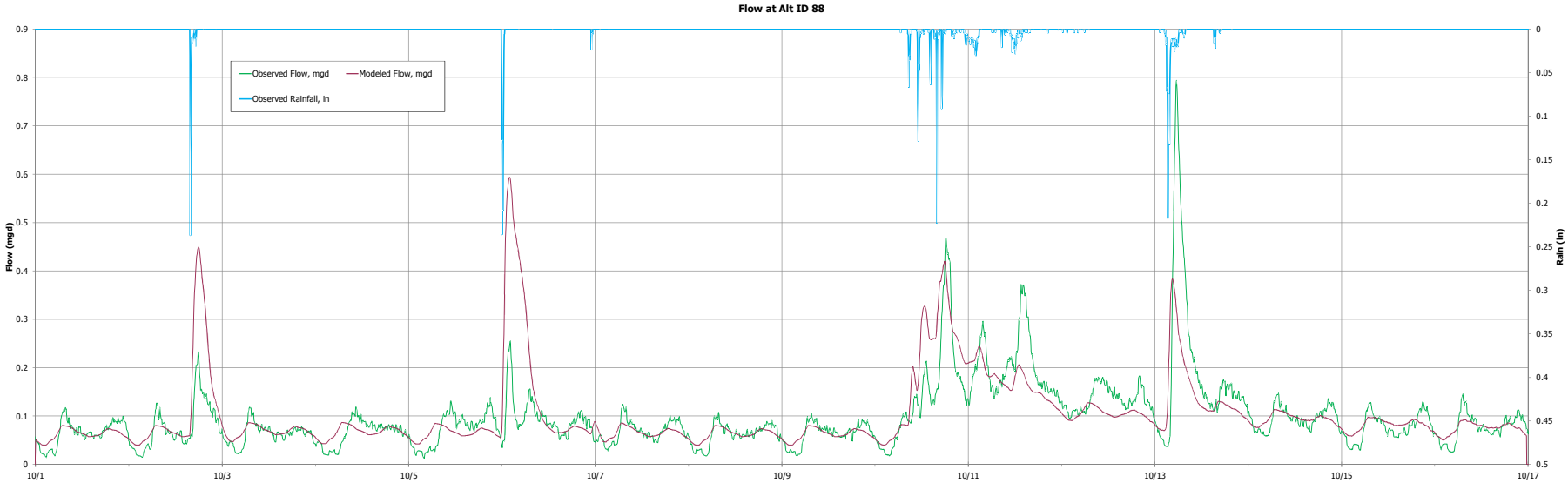
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Flow (mgd)
Rain (in)
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0.6
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0.4
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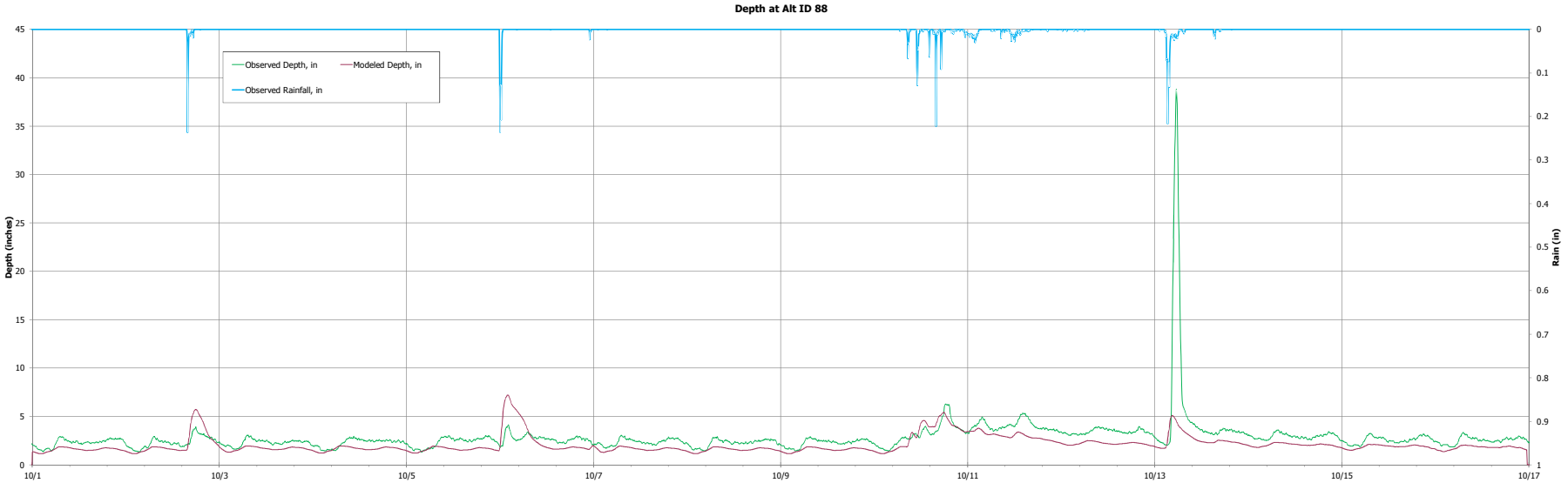
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Depth (inches)
Rain (in)
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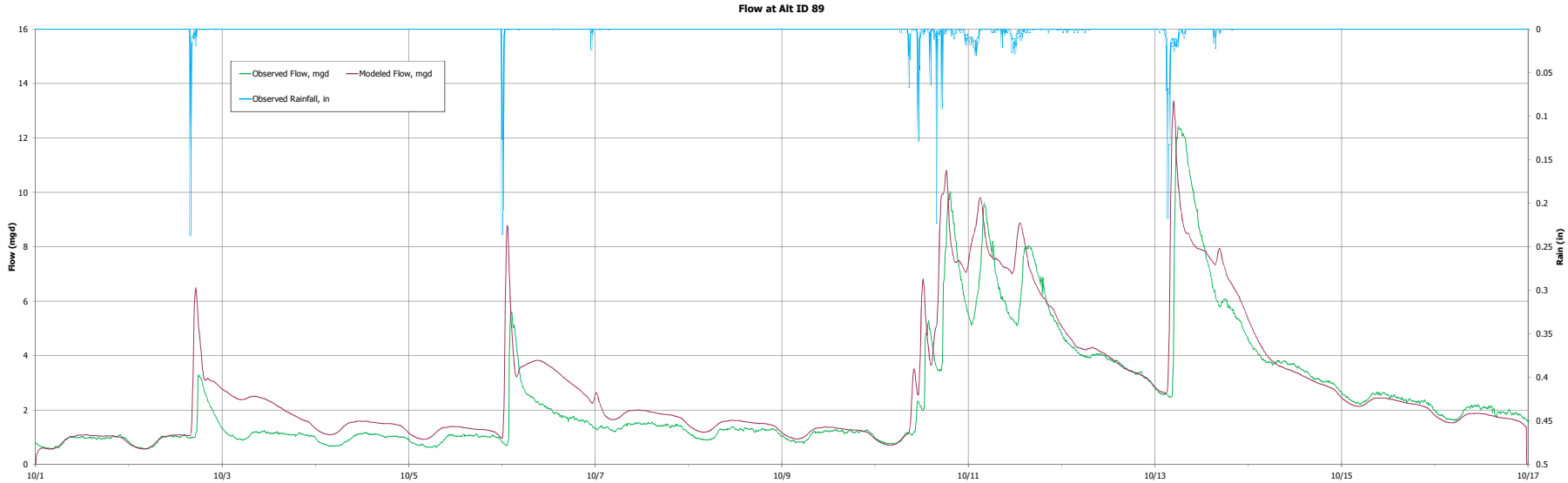
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Flow (mgd)
Rain (in)
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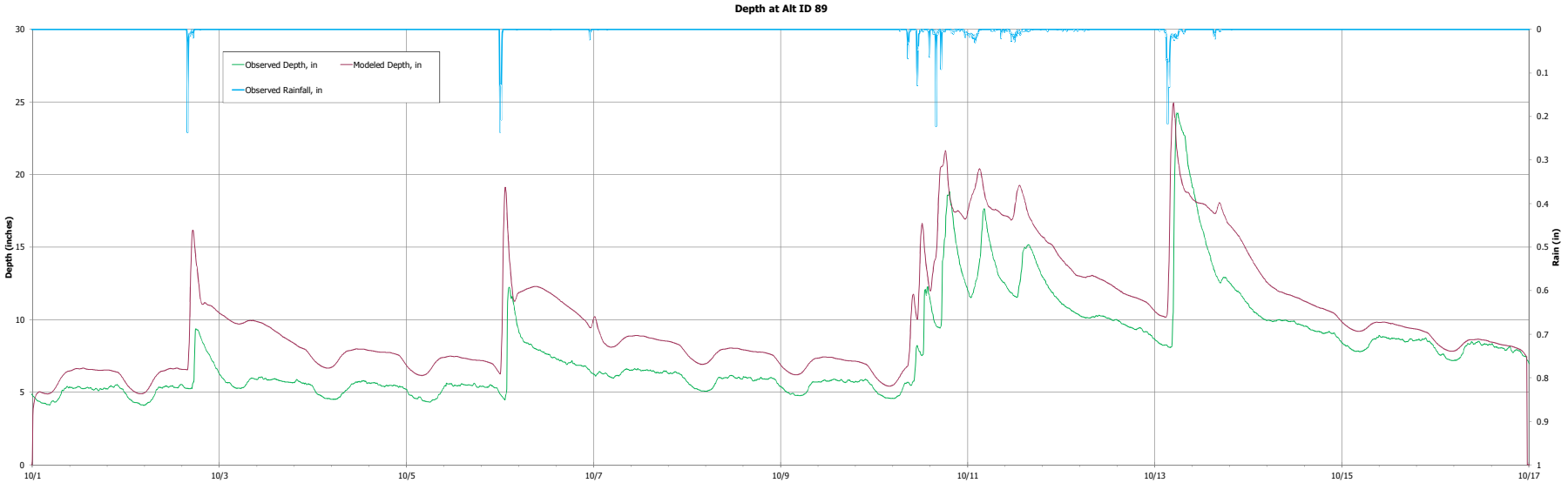
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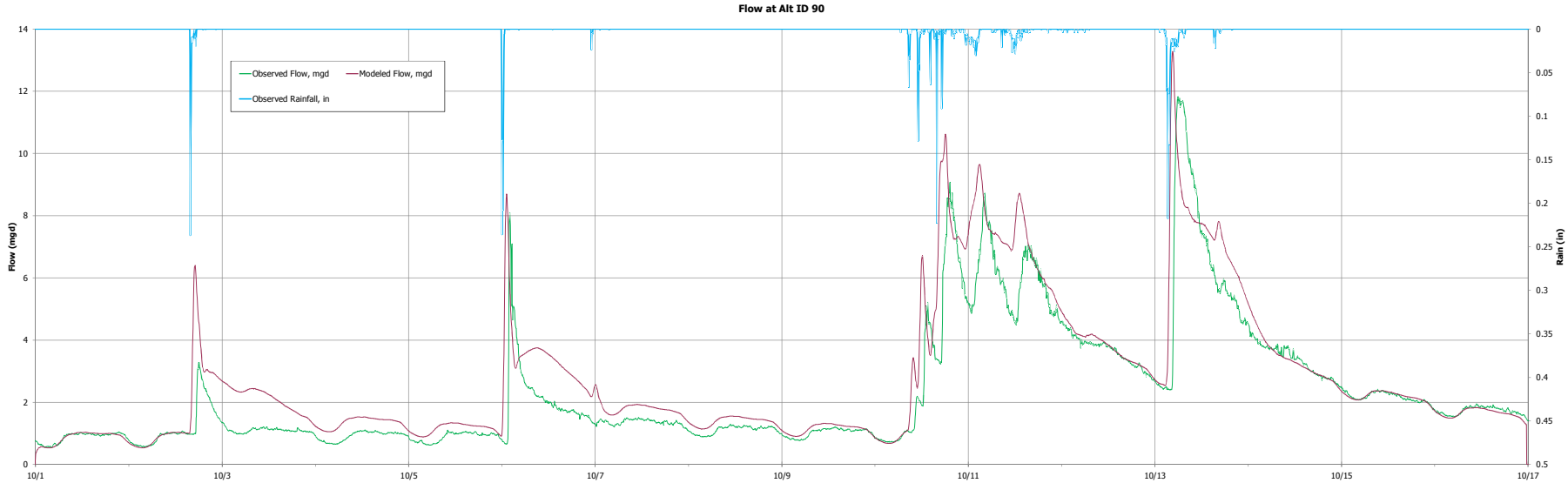
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Flow (mgd)
Rain (in)
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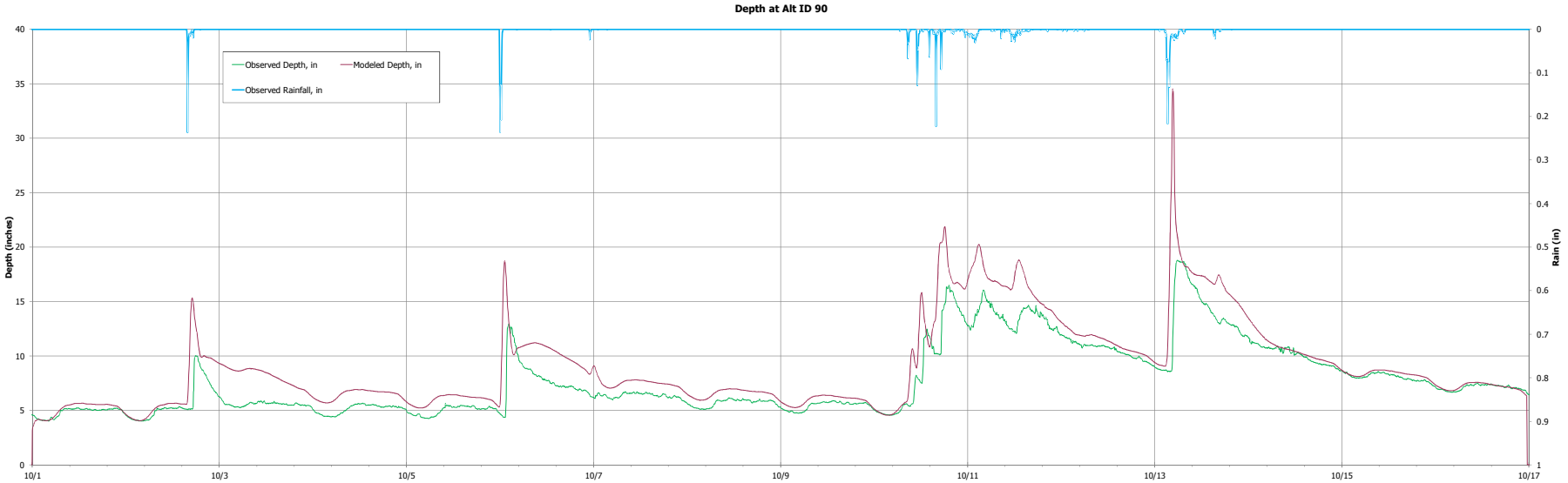
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Depth (inches)
Rain (in)
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Attachment 5
Fats, Oils and Grease Control Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM PLAN

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Fats, Oils, and Grease (FOG) Control Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, or expressly stated in the City of Fort Smith Ordinance No. 89–16 ("FOG Ordinance"), terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Control Authority shall mean the City Administrator or his or her designated agent.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day. **Deliverable** shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with Appendix D of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Fats, Oils, and Grease (FOG) Control Program Plan

The Fats, Oils, and Grease (FOG) Control Program described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraphs 37 and 38 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Following EPA's approval, the City will fully implement all elements of the FOG Control Program Plan. **Table 1-1** provides a list of the Consent Decree requirements for the FOG Control Program and the sections of this document that address each requirement.

Table 1-1 Summary of Consent Decree Requirements for the FOG Control Program

Consent Decree Paragraph	Consent Decree Requirement	FOG Control Program Plan Section
37.a	**Legal Authority** – A demonstration that the City possesses adequate legal authority, through ordinances or otherwise, to control the discharge of FOG into the WCTS from all FOG Generators, including the authority to implement a permit and enforcement program for these sources.	3.1
37.b	**FOG Generator List** – The City shall develop a list of current FOG Generators, including a description of their FOG –generating processes and estimated average daily discharge by weight/volume or allowable discharge concentration at the City's option; and annual updating of this list.	3.2
37.c	**FOG Control Device Installation Standards** – The City shall develop standards for the sizing and installation of FOG Control Devices.	3.3
37.d	**FOG Control Device Management, Operations, and Maintenance Standards** – The City shall develop FOG Control Device management, operations and maintenance standards (best management practices) that address FOG Control Device operation, onsite recordkeeping requirements, cleaning frequency, cleaning standards, use of additives, and ultimate disposal of captured FOG materials in accordance with applicable State law, if any.	3.3
37.e	**FOG Control Device installation inspection protocols** – The City shall develop FOG Control Device installation inspection protocols, including scheduling, inspection report forms, and inspection record keeping requirements.	3.3
37.f	**FOG Control Device sampling and Inspection Program** – The City shall develop a program requiring periodic unannounced sampling and inspections of all FOG Control Devices in operation. In conducting unannounced inspections of FOG Control Devices located inside buildings, the City may schedule such inspections so as to avoid unreasonable disruption to business operations. The Program shall include tiered sampling/inspection frequencies based upon FOG generation rates, FOG Control Device cleaning schedules, and history of FOG violations; however, sampling and inspection of each FOG Control Device shall be performed not less often than once every two (2) years. This program shall also include FOG compliance inspection protocols, including scheduling, inspection report forms, and inspection record-keeping requirements that encourage FOG Generators to manage, operate and maintain FOG Control Devices in accordance with nationally-recognized best management practices for limiting the adverse impacts of FOG discharges on wastewater collection and treatment facilities.	3.4

Consent Decree Paragraph	Consent Decree Requirement	FOG Control Program Plan Section
37.g	**FOG Generator Records** – The City shall require that the FOG Generators keep records regarding transportation, storage and ultimate disposal of collected FOG materials.	3.3
37.h	**Compliance Enforcement Program** – The City shall develop an enforcement program, including specific and tiered enforcement mechanisms, directed at achieving FOG Generators' compliance with the FOG Control Program.	3.4
37.i	**Compliance Assistance Program** – The City shall develop a compliance assistance program to facilitate training of FOG Generators in the proper operation of FOG Control Devices, use of the FOG disposal records system required under Subparagraph 37.g, and other activities required under the City's FOG Control Program.	3.5
37.j	**Public Education Program** – The City shall develop a public education program directed at reducing the amount of FOG entering the WCTS from FOG Generators and residences, including single-family homes, multi-family homes, and apartments, consisting at a minimum of the following elements: ▪ Distributing informational FOG door hangers to residents living immediately upstream of each grease sanitary sewer overflow (SSO) after such an event; ▪ Annually preparing and distributing FOG information or inserts with sewer bills so that it is visible to the reader; ▪ Preparing and maintaining a FOG education information page(s) on its website; and ▪ Evaluating and implementing the most appropriate methods of educating high density residential dwelling (i.e. apartment buildings and condominium and townhome complexes) occupants of the impacts of FOG on the sewer system.	3.6
37.k	**FOG Control Program Staffing** –The City shall provide staffing (technical, legal and administrative) and equipment for effective implementation and ongoing operation of the FOG Control Program.	3.1
37.l	**Industrial User Monitoring** – The City shall demonstrate that industrial users that generate FOG are adequately monitored and inspected to ensure that these industrial users comply with their pre-treatment permits.	3.1
37.m	**FOG Generator and Industrial User List Maintenance** – Coordination by the City to ensure that all FOG Generators, and all establishments covered by the industrial user program, are monitored.	3.2
37.n	**Performance Indicators** – The City shall develop a list of performance indicators that will be used by the City to measure the effectiveness of the FOG Control Program.	4.2
38	**FOG Program Reporting** – The City shall report the FOG Control Program activities performed in each Calendar Year in the Annual Report for that Calendar Year as described under Section X ("Reporting") of the Consent Decree.	4.2

Section 2
Purpose and Goals of the Fats, Oils, and Grease (FOG) Control Program

The FOG Control Program is a component of the City's comprehensive CMOM Program and is intended to control the discharge of fats, oils, and grease (FOG) into the WCTS by way of guidance, policies, and regulations governing FOG Generators, FOG haulers, and the public. The purpose of the FOG Control Program is to reduce the occurrence of blockages and sanitary sewer overflows (SSOs) due to FOG and to support compliance, in concert with other CMOM Program components, with the Consent Decree, the CWA, and the City's National Pollutant Discharge Elimination System (NPDES) permits.

The goals of the FOG Control Program are to:

- Provide for consistent FOG Ordinance enforcement;
- Develop and enforce FOG Control Device design and installation standards for FOG Generators;
- Establish FOG Control Device management, operations, and maintenance standards for FOG Generators;
- Perform periodic sampling and inspections of FOG Control Devices to confirm compliance with the FOG Ordinance;
- Develop a compliance enforcement program;
- Educate WCTS users, including FOG Generators and other customers, about FOG control; and
- Maintain necessary resources and proper training to enable FOG Program success.

Specific elements of the FOG Control Program necessary to meet the goals as outlined in the Consent Decree are detailed in **Section 3** of this plan.

Section 3
Elements of the Fats, Oils, and Grease (FOG) Control Program

The intent of the FOG Control Program is to improve the operations and maintenance of the WCTS in an effort to reduce the occurrence of SSOs due to preventable blockages resulting from accumulation of FOG. The FOG Control Program is a specific component within the CMOM Program required by the Consent Decree and is primarily proactive in approach. The FOG Control Program is composed of the following central elements as described in the following sections:

- Legal Authority and Staffing;
- Tracking of FOG Generators;
- FOG Control Devices;
- Compliance Enforcement;
- Compliance Assistance; and
- Public Education.

In addition to these central elements, training, reporting, performance indicators, and record-keeping are all critical to implementing an effective FOG Control Program.

3.1 Legal Authority and Staffing

The first elements necessary for successful implementation of a FOG Control Program are legal authority and program staffing; each of which are discussed in the following subsections.

3.1.1 FOG Ordinance

The City's FOG Ordinance affords the City the legal authority to develop, operate, and maintain a FOG Control Program, including the following governing practices:

- Identify and track FOG Generators;
- Require the proper sizing and installation of FOG Control Devices by FOG Generators;
- Issue permits to the FOG Generators;
- Require proper maintenance of FOG Control Devices and adherence to best management practices by FOG Generators;
- Require proper record keeping by FOG Generators;
- Sample and inspect the FOG handling practices used by FOG Generators; and

- Enforce compliance of the ordinance through penalties and fines, up to and including, termination of service.

As required by the FOG Ordinance, facilities generating fats, oils, or grease as a result of food manufacturing, processing, preparation, or food service shall be required to obtain a FOG Wastewater Discharge Permit and install, use, and maintain appropriate FOG Control Devices. These facilities may include, but are not limited to restaurants, food manufacturers, food processors, hospitals, hotels and motels, prisons, nursing homes, churches, school cafeterias, and any other facility preparing, serving, or otherwise making any foodstuff available for consumption. No new FOG Generator shall discharge wastewater into the WCTS without first obtaining a FOG Wastewater Discharge Permit. Existing FOG Generators will be required to obtain a FOG Wastewater Discharge Permit as specified in the FOG Ordinance.

The City's Pretreatment Program is described in the Sanitary Sewer System Pretreatment Regulation and Permits Ordinance Codified in Division 2, Article VI of Chapter 25 of the Fort Smith Municipal Code. Industrial users maintaining a Wastewater Contribution Permit under the City's Pretreatment Program are exempt from the FOG Ordinance permit process, as they are required to monitor for FOG under their permit. The City's Pretreatment Program demonstrates that industrial users that generate FOG are adequately monitored and inspected to ensure that these industrial users comply with their pretreatment permits.

3.1.2 Staffing

The FOG Control Program will be supported by adequate technical, legal, and administrative staff to fully implement the program. Regarding equipment to facilitate an effective FOG Control Program, a specific FOG data tracking system software will be implemented to store, maintain, and report on the FOG-related data as required by the Consent Decree. The system software is further detailed in the Information Management System Plan, and is also referenced in Section 4.1 of this Plan.

3.2 Tracking of FOG Generators

Identifying FOG Generators and maintaining accurate records of their FOG control practices is critical to successful management of the FOG Control Program. The City will maintain a list of FOG Generators, including descriptions of their FOG-generating processes and the allowable discharge concentration. The City will regularly evaluate the FOG Generators through surveys, field inspections, and review of records. Based on these evaluations, the FOG Generator list will be updated, at least annually, to maintain an accurate FOG Generator inventory for the City's use.

Although industrial users maintaining a Wastewater Contribution Permit under the City's Pretreatment Program are exempt from the FOG Ordinance permit process, coordination between the Pretreatment Program and the FOG Control Program confirms that each FOG Generator and industrial user is monitored, as appropriate.

3.3 FOG Control Devices

Installation and maintenance of FOG Control Devices are crucial in preventing FOG from entering the WCTS from FOG Generators. The City's FOG Ordinance requires that FOG Generators install, operate, and maintain an appropriately designed and adequately sized FOG Control Device.

3.3.1 Sizing and Installation

Standards for sizing and other requirements for the design and installation of the FOG Control Devices are referenced in the FOG Ordinance.

For new FOG Generators, FOG Control Devices will be installed, inspected, and permitted prior to the issuance of a certificate of occupancy. Existing FOG Generators that do not currently have FOG Control Devices or whose operations have changed as described in the ordinance must have an appropriately designed device installed, inspected, and permitted within the timeframes established in the FOG Control Program.

The City will develop FOG Control Device installation inspection protocols, including scheduling, inspection report forms, and inspection record keeping requirements as part of this Program.

3.3.2 Device Management, Operations, and Maintenance

Through the FOG Ordinance and supplementary information, the City will develop FOG Control Device management, operations, and maintenance standards that address FOG Control Device operation, onsite recordkeeping requirements, cleaning frequency, cleaning standards, use of additives, and ultimate disposal of captured FOG materials in accordance with applicable State laws.

Under the FOG Ordinance, the FOG Generator is responsible for the proper removal and disposal of the FOG Control Device waste by a FOG Hauler. FOG Generators and Haulers are required to keep records regarding the relevant transportation, storage, and disposal of collected FOG material. Waste removed from each FOG Control Device is required to be disposed of at an appropriate disposal facility designed to receive such waste. FOG shall not be disposed of in the WCTS or either of the City's wastewater treatment plants.

3.3.3 Records Requirements for FOG Generators

As described in the FOG Ordinance, FOG Generators are required to maintain records associated with the operation and maintenance of FOG Control Devices. These include, but are not limited to, records of visual inspections, sampling and sludge height monitoring, and cleaning activities. The FOG Generator is also required to retain copies of manifests of the transportation and disposal of FOG Control Device contents by FOG Haulers.

3.4 Compliance Enforcement

As part of the FOG Control Program, periodic, unannounced sampling and inspections of all FOG Control Devices in operation will be conducted by the City. In conducting unannounced inspections of FOG Control Devices located inside buildings, the City may schedule such inspections so as to avoid unreasonable disruption to business operations.

FOG Generators shall be inspected by City personnel with a frequency based upon FOG generation rates, FOG Control Device cleaning schedules, and history of FOG violations. Sampling and inspection of each FOG Control Device will occur at least once every two (2) years. Depending on the FOG Generator's compliance history, additional inspections may be warranted.

The FOG Control Program will include FOG compliance inspection protocols, including scheduling, inspection report forms, and inspection record-keeping requirements. These protocols will encourage FOG Generators to manage, operate, and maintain FOG Control Devices in accordance with nationally-recognized best management practices for limiting the adverse impacts of FOG discharges on wastewater collection and treatment facilities.

3.4.1 Compliance Enforcement Measures

The FOG Ordinance establishes enforcement remedies in the event a FOG Generator does not comply with the ordinance.

The City's enforcement program includes specific and tiered enforcement mechanisms, directed at achieving FOG Generators' compliance with the FOG Control Program. These mechanisms range from a notice of violation, to administrative penalties, to criminal and civil actions.

3.5 Compliance Assistance Program

As part of the FOG Control Program, the compliance assistance program facilitates training of FOG Generators in the proper operation of FOG Control Devices, FOG disposal record-keeping requirements, and other activities required under the FOG Control Program. The compliance assistance program may include training sessions with permittees or the distribution of educational materials.

3.6 Public Education

Educating the public on the proper disposal of FOG is another important component of the FOG Control Program. Residences, including single-family homes, multi-family homes, and apartments, and other customers that are not permitted FOG Generators, can play an important role at keeping FOG out of the sewer system.

The public education component of the FOG Control Program consists of the following elements:

- Distributing informational FOG door hangers to residents living immediately upstream of each FOG-related SSO after such an event;
- Annually preparing and distributing FOG-related information to customers through direct mailing or inserts within sewer bills;
- Preparing and maintaining a FOG education information page(s) on its website; and
- Evaluating and implementing appropriate methods of educating high density residential dwelling (i.e. apartment buildings and condominium and townhome complexes) occupants of the impacts of FOG on the sewer system.

Section 4
Record Keeping and Reporting

This section of the Plan describes procedures for record keeping and reporting for the FOG Control Program, as well as procedures for the periodic review, evaluation, and revision of this Plan.

4.1 Record Keeping

As required by the Consent Decree, records associated with the FOG Control Program will be saved in the Utility Department's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its Information Management System (IMS), as described in Article Seven, Paragraph 50 of the Consent Decree, is being submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 38 of the Consent Decree, the City must report all FOG Control Program activities performed in each calendar year in the Annual Report for that calendar year, as described in Section X of the Consent Decree.

The Annual Report will include the following items related to the FOG Program, as outlined in Paragraph 94.a. of the Consent Decree:

- Changes made in the Annual Report Year, if any, to City ordinances to implement the FOG Control Program in the approved CMOM Program;
- List of FOG Generators operating in the Annual Report Year;
- Tabulation of FOG Control Device inspections performed in the Annual Report Year including the dates of inspections;
- Tabulation of FOG Control Program violations that occurred in the Annual Report Year, enforcement actions taken to resolve those violations, and correlations, if any, between those violations and WCTS blockages that occurred in the Annual Report Year due primarily to FOG build-ups; and
- Status report on the performance indicators selected by the City to track the effectiveness of the FOG Control Program.

Performance indicators are critical management tools that will allow for continuous measurement and evaluation of the effectiveness of the FOG Control Program activities. These indicators will generate numeric criteria that will aid the City in evaluating whether the intent of

the Program is being met and, if necessary, what adjustments might be made to improve the overall effectiveness of the Program.

As the Program is fully implemented, the City will monitor the above-listed performance indicators to determine if additional performance indicators should be developed and reported.

4.3 Periodic Review, Evaluation, and Revision

As part of the Utility's annual reporting process, the Program shall be reviewed and evaluated by Utility personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of the Plan is identified as being ineffectual or impracticable, then the Utility will propose the necessary amendments, or submit a revised plan, as part of the Annual Report.

Section 5
Training and Standard Operating Procedures

5.1 Training

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the Utility's employees. The CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (submitted June 28, 2016). The CTP is directly related to the operation and maintenance of the sanitary sewer collection system for the purpose of responding to and preventing SSOs, including those practices and protocols related to the FOG Control Program.

5.2 Standard Operating Procedures (SOPs)

The plan and schedule for developing SOPs for general operation and maintenance of all components of the WCTS was detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (submitted June 28, 2016) per the Consent Decree.

Attachment 6
Continuing Sewer System Assessment Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

Continuing Sewer System Assessment Program Plan

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Continuing Sewer System Assessment Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, and Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than 24 months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Continuing Sewer System Assessment Program Plan

The Continuing Sewer System Assessment (CSSA) Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 43 and 44 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Following EPA's approval of this plan and completion of all Sewer System Assessment (SSA) activities, the Utility Department will initiate the implementation of the CSSA Program. **Table 1-1** provides a list of the Consent Decree requirements for the CSSA Program and the section of this document that addresses each requirement.

Table 1-1 Summary of Consent Decree Requirements for the CSSA Program

Consent Decree Paragraph		Consent Decree Requirement	CSSA Program Plan Section
43		**Sub-basin Priority** –Sub-basins 10-4, 22-2, and 22-4 as identified in the Sewer System Assessment (SSA) reports listed by the City under Section V, Article One ("Sewer System Condition Assessments"), Paragraph 10 shall be the first priority for CSSA activities.	3.3
43		**Remedial Measures** – Any remedial measures identified as a result of this ongoing CMOM CSSA Program shall be developed in accordance with Appendix D ("Remediation Determination Process").	3.4
43		**Private Service Lines** – The City shall address the remediation of defects discovered in Private Service Lines through CSSA efforts or as otherwise become known to the City in accordance with Paragraph 54.	3.1.2
44		**CSSA Program** shall include, but not be limited to:	3.2
44	a	Closed circuit television (CCTV) inspection of non-plastic small-diameter (<24-inch) gravity sewer lines not less frequently than once every twelve (12) years;	
	b	CCTV inspection of plastic small-diameter (<24-inch) gravity sewer lines, fully cured-in-place pipe (CIPP)-lined non-plastic small-diameter gravity sewer lines, and all large-diameter (≥24-inch) gravity sewer lines not less frequently than once every twenty (20) years;	
	c	Visual manhole inspection not less frequently than once every eight (8) years; and	
	d	All other system investigations deemed necessary by the City to assure continued operation of the WCTS in accordance with the objectives of the Consent Decree.	

Section 2
Purpose and Goals of the Continuing Sewer System Assessment Program

The CSSA Program is a component of the City's comprehensive CMOM Program to establish the continuing assessment of the gravity portions of the City's WCTS. The CSSA Program will begin following completion of all Sewer System Assessment (SSA) activities as described in Section V, Article One of the Consent Decree. The SSA activities on the gravity sewer lines and manholes are set forth in Appendix C of the Consent Decree and will be completed no later than eight (8) years from the Date of Lodging. The CSSA Program is intended to build upon the SSA activities and assess sewer infrastructure conditions on an ongoing basis using a variety of inspection techniques. Furthermore, the condition information collected shall be used in support of the maintenance and remedial measures of the WCTS and the continued rehabilitation of the WCTS to reduce the occurrence of sanitary sewer overflows (SSOs). The purpose of the CSSA Program is to develop an ongoing sewer assessment and evaluation process by which the Utility can identify issues in the WCTS and address those issues for continued operation of the WCTS in accordance with the objectives of the Consent Decree.

Section 3
Elements of the Continuing Sewer System Assessment Program Plan

The CSSA Program will begin following the completion of all SSA Program activities described in Section V Article One of the Consent Decree. SSA Program activities are required to be completed eight (8) years from the Date of Lodging, i.e., by December 31, 2022. Therefore, the CSSA Program is anticipated to begin in January 2023. Any remedial measures identified as a result of the CSSA Program will be developed in accordance with the Remediation Determination Process outlined in Appendix D of the Consent Decree. The Utility will address the remediation of actionable defects discovered in private service lines through CSSA efforts, or as otherwise become known to the Utility in accordance with Paragraph 54 of the Consent Decree (i.e., under the Private Service Line Defect Remediation Program).

In addition to these central program elements, Standard Operating Procedures (SOPs), training, reporting, and incorporation of SSA data into the City's Information Management System (IMS) are all critical elements of the implementation of an effective CSSA Program. Once implemented, the CSSA Program will serve predominantly as a proactive continuing assessment component of the CMOM Program.

3.1 Related Consent Decree Programs

The CSSA Program is related to several other CMOM programs outlined in the Consent Decree by way of sharing data and establishing priorities. Each of these related programs is discussed briefly in the subsequent sections and will be considered during the implementation of the CSSA Program.

3.1.1 Sewer System Assessment

As a condition of the Consent Decree, the Utility must conduct SSA activities for the gravity sewer lines and manholes in the WCTS. The SSA activities involve evaluation activities to identify structural and non-structural defects in the WCTS that have caused or significantly contributed to previous SSOs and/or that are likely to cause or significantly contribute to the future occurrence of SSOs. The SSA activities outlined in the Consent Decree must be completed no later than eight (8) years from the Date of Lodging (i.e., no later than December 31, 2022). The CSSA Program will begin following the completion of all SSA activities (expected start date of January 2023). When the SSA activities are complete and the CSSA program is implemented, the Utility will have assessed and completed remedial measures in the majority of their system, and the CSSA program will be a continuation of that effort.

3.1.2 Private Service Line Defect Remediation Program

The purpose of the Private Service Line Defect Remediation Program, outlined in Paragraph 54 of the Consent Decree, is to encourage private service line owners to remediate defects in private service lines that contribute to SSOs. Potential defects are identified during SSA activities, CSSA

activities, and other WCTS operation/maintenance efforts; therefore, this CSSA Program will identify potential private service line defects which would then be addressed under the Private Service Line Defect Remediation Program.

3.2 CSSA Elements

The CSSA Program is comprised of the following central elements:

- Closed circuit television (CCTV) inspection of non-plastic small-diameter gravity sewer lines once every twelve (12) years;
- CCTV inspection of plastic small-diameter gravity sewer lines (<24-inch), fully cured-in-place pipe (CIPP)-lined non-plastic small-diameter gravity sewer lines, and all large-diameter (≥24-inch) gravity sewer lines once every twenty (20) years;
- Visual manhole inspection once every eight (8) years; and
- All other system investigations deemed necessary by the Utility to assure continued operation of the WCTS in accordance with the objectives of the Consent Decree.

3.3 Prioritization

As required in the Consent Decree, sub-basins 10-4, 22-2, and 22-4 will be the first priority for CSSA activities. Subsequent priorities will be established considering the results of SSA activities, remedial measures, reported sanitary sewer overflow (SSO) locations, and other CMOM Program data.

3.4 Remedial Measures

In the course of implementing the CSSA activities, Utility staff will conduct inspections of the sewer system to evaluate the operation of the WCTS and identify remedial measures to address defects that are likely to cause or significantly contribute to the future occurrence of SSOs. Remedial measures identified as a result of the CSSA Program will be developed in accordance with Appendix D of the Consent Decree (“Remediation Determination Process”).

Section 4
Record Keeping and Reporting

This section of the Plan describes procedures for record keeping and reporting for the CSSA Program, as well as procedures for the periodic review, evaluation, and revision of this Plan.

4.1 Record Keeping

As required by the Consent Decree, records associated with the CSSA Program will be saved in the Utility Department's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its IMS, as described in Article Seven, Paragraph 50 of the Consent Decree, is being submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 43 of the Consent Decree the Utility must report all CSSA activities performed, the respective WCTS Remedial Measure completed, and the status of the Private Service Line remediation efforts each calendar year in the Annual Report for that calendar year as described in Section X of the Consent Decree.

The Annual Report will include the following information related to the CSSA Program, as outlined in Paragraph 94.d of the Consent Decree:

- Footage of CCTV inspection conducted by diameter and pipe material;
- Number of manholes inspected;
- Number of Remedial Measures identified; and
- Number of SSOs resulting from structural defects.

4.3 Periodic Review, Evaluation, and Revision

As part of the Utility's annual reporting process, this Plan shall be reviewed and evaluated by Utility personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of this Plan is identified as being ineffectual or impracticable, then the Utility will propose the necessary amendments or submit a revised plan as part of the Annual Report.

Section 5
Training and Standard Operating Procedures

5.1 Training

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the Utility's employees. The CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (submitted June 28, 2016). The CTP is directly related to the operation and maintenance of the sanitary sewer collection system for the purpose of responding to and preventing SSOs.

5.2 Standard Operating Procedures (SOPs)

The plan and schedule for developing SOPs for general operation and maintenance of all components of the WCTS was detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (submitted June 28, 2016) per the Consent Decree.

Attachment 7
Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, and Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SCADA	Supervisory Control and Data Acquisition
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

The Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 45 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Beginning in calendar year 2023, the Utility Department will initiate the implementation of the Continuing Pump Station and Force Main Evaluation and Maintenance Program. **Table 1-1** provides a list of the Consent Decree requirements for the Continuing Pump Station and Force Main Evaluation and Maintenance Program and the sections of this document that address each requirement.

Table 1-1 Summary of Consent Decree Requirements for the Pump Station and Force Main Evaluation and Maintenance Program

Consent Decree Paragraph	Consent Decree Requirement	Pump Station and Force Main and Maintenance Program Plan Section
45.a	Continuing evaluation of pump station performance and capacity considering future growth of the City.	3.2
45.b	**Routine Pump Station Operations Program** – to ensure proper pump station operation to prevent pump station failures, which shall include, at a minimum: ▪ Procedures for reading and recording information appropriate to each pump station including, as applicable, pump run-time meter readings, start counters, amperage readings, checking and resting conditions, wet-well points, grease accumulations, and any other information that is necessary for the proper operation of a pump station; ▪ Standard inspection routes and schedules such that pump stations having firm capacities greater than five (5) MGD and those pump stations without SCADA shall be inspected daily, and all other pump stations shall be inspected no less often than two (2) times per week; and ▪ Standard forms, records and performance measures to be incorporated into the City's Information Management System (IMS).	3.3

Consent Decree Paragraph	Consent Decree Requirement	Pump Station and Force Main and Maintenance Program Plan Section
45.c	**Emergency Pump Station Operations Program** – Establish written emergency operating procedures in the event of pump station failure and shall include, at a minimum, the following: ▪ Applicable manufacturers' representation emergency contact information; ▪ Operational procedures for activating and deactivating auxiliary power systems at each pump station; ▪ Location(s) of portable pumping and power generating equipment; ▪ Guidance for installing portable pumps during high flow periods; ▪ Applicable contingency plans to prevent the occurrence of sanitary sewer overflows (SSOs) from the tributary WCTS; and ▪ Standard forms, records and performance measures to be incorporated into the City's IMS.	3.4
45.d	**Pump Station Preventative Maintenance Program** – establish all standard procedures for the monitoring of pump station performance and schedules for preventative maintenance and equipment replacement required to achieve the objectives of the Consent Decree. The program shall also include the following evaluations: ▪ Evaluation of dry-weather and wet-weather critical response time of each pump station; ▪ Evaluation of the general condition of each pump station based upon physical inspection and recent operating/mechanical failure history over not less than the previous three (3) Calendar Years; ▪ Evaluation of the adequacy of station design and equipment for peak wet-weather wastewater flow conditions anticipated within the next five (5) Years, including redundancy of the pumps, of the electrical power supply, and of the other equipment installed; and ▪ Evaluation of staffing and equipment required to take corrective action within the dry-weather and wet-weather critical response times calculated for each pump station to prevent the occurrence of SSOs from tributary gravity sewer lines and manholes.	3.5

Section 2
Purpose and Goals of the Continuing Pump Station and Force Main Evaluation and Maintenance Program

As a component of the City's comprehensive CMOM Program, the purpose of the Continuing Pump Station and Force Main Evaluation and Maintenance Program is to establish and document processes and procedures to operate and maintain pump station assets in a manner that ensures the pump stations operate as designed and minimize potential SSOs.

This program will outline procedures for the Utility personnel to identify potential maintenance and capacity constraints in pump station assets and to conduct preventative and emergency maintenance in a manner that minimizes the potential for structural, mechanical, electrical, instrumentation, hydraulic, or other failures that could result in, or contribute to, the occurrence of SSOs. Additionally, this program will outline a process for continuing evaluation of pump station performance and capacity considering future growth in the City. The Continuing Pump Station and Force Main Evaluation and Maintenance Program will be conducted at least once every five (5) years beginning in the year 2023.

Section 3
Elements of the Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

The Continuing Pump Station and Force Main Evaluation and Maintenance Program is comprised of the following central elements:

- Continuing evaluation of pump station performance and capacity considering the future growth of the City;
- A Routine Pump Station Operations Program to ensure proper pump station operation and minimize pump station failures;
- An Emergency Pump Station Operations Program that will establish written emergency operation procedures for use in the event of pump station failure; and
- A Pump Station Preventative Maintenance Program that will establish all standard procedures for the monitoring of pump station performance and schedules for preventative maintenance and equipment replacement as required.

In addition to these central program elements, Standard Operating Procedures (SOPs), training, reporting, and incorporation of pump station and force main evaluation data into the Utility Department's Information Management System (IMS) are all important to implementing an effective Program and are discussed in more detail in the following sections.

The Continuing Pump Station and Force Main Evaluation and Maintenance Program will be conducted at least once every five (5) years, beginning in 2023. Once implemented, the Program will serve predominantly as a proactive maintenance component of the CMOM Program.

3.1 Related Consent Decree Programs

The Continuing Pump Station and Force Main Evaluation and Maintenance Program is related to other CMOM programs outlined in the Consent Decree. Each of these related programs is discussed briefly below and will be considered in implementation of the Continuing Pump Station and Force Main Evaluation and Maintenance Program.

3.1.1 Continuing Capacity Assurance (CCA) Program

As a condition of the Consent Decree, the Utility must implement a CCA Program to provide for the periodic evaluation of the WCTS to confirm that adequate capacity exists to convey current and projected future wastewater flows in order to maintain compliance with the Consent Decree, the CWA, the regulations promulgated under the CWA, and the City's National Pollutant Discharge

Elimination System (NPDES) permits. The CCA Program must be conducted at least once every five (5) years, beginning in 2025.

The CCA Program outlines a procedure for the Utility to identify potential capacity constraints in the WCTS while providing assurance that flow additions or expansions to the WCTS will not cause or significantly contribute to SSOs resulting from inadequate capacity. The CCA Program will include gravity sewer lines ten (10) inches and larger; pump stations; force mains; equalization facilities and other flow control facilities; and other WCTS components included in previous capacity assessment efforts conducted by the Utility.

The CCA Program is therefore directly related to this Program in that it addresses Paragraph 45.a. of the Consent Decree, which requires a continuing evaluation of pump station performance and capacity, considering future growth of the City. The Utility will use evaluations conducted under the CCA Program to satisfy the requirement for the Continuing Pump Station and Force Main Evaluation and Maintenance Program as the frequency and timing of CCA evaluations correspond to the requirements of this Program (see **Section 3.2** for additional detail).

3.1.2 Pump Station/Force Main Evaluation Report

As required by Article Three of the Consent Decree, the Utility Department will complete evaluations of all pump stations and force mains in the WCTS, as described in Appendix B of the Consent Decree, and will provide to EPA and the Arkansas Department of Environmental Quality (ADEQ) a Pump Station and Force Main Evaluation report detailing their findings by March 31, 2018. The purpose of these evaluations is to determine the suitability, overall performance, and condition of each pump station and force main and to identify remedial measures required at each pump station or force main.

Pump station and force main improvements and remedial measures identified in the Pump Station and Force Main Evaluation report will be completed in accordance with the schedule outlined in Appendix B of the Consent Decree. These evaluations directly relate to this Continuing Pump Station and Force Main Evaluation and Maintenance Program in that the results will be used as a basis for the Pump Station Preventative Maintenance Program described in **Section 3.5**.

3.2 Continuing Evaluation of Pump Station Performance and Capacity

The Utility will continue to evaluate pump station performance and capacity based on the growth in future population and resulting sewer demand, as part of the CCA Program discussed in **Section 3.1.1**. If any pump station is not covered in the CCA Program, then capacity will be evaluated under this program, as necessary, based on operational data.

3.3 Routine Pump Station Operations Program

Until the Continuing Pump Station and Force Main Evaluation and Maintenance Program is implemented, beginning in 2023, the Utility will continue routine maintenance within the pump station system. The Routine Pump Station Operations Program will be developed by the Utility and will provide for proper pump station operation and maintenance to minimize pump station

failures. Although the specific requirements may vary by station, this Routine Pump Station Operations Program will generally consider the following elements:

- Procedures for reading and recording applicable operational information appropriate to each pump station;
- Standard forms, records, and performance measures to be incorporated into the IMS; and
- Standard inspection routes and schedules such that pump stations having firm capacities greater than five (5) MGD will be inspected daily through SCADA monitoring and supplemented as needed by physical inspection. All other pump stations will be inspected at least twice a week (either by physical inspection or review of SCADA data). Additionally, all pump stations in the WCTS have SCADA capabilities, thus providing the Utility the ability to monitor for station failures. If any of the stations within the system were to fail, the Utility will respond by sending personnel to address the issue in order to minimize potential SSOs at the pump stations.

3.4 Emergency Pump Station Operations Program

The Utility will continue to implement an Emergency Pump Station Operations Program in the event of pump station failures. The Standard Operating Procedures Program, required under the Consent Decree, establishes written emergency operations procedures in the event of pump station failure. This Program will include the following elements:

- Applicable and essential manufacturers' representative emergency contact information will be included in the Utility's Operations and Maintenance Manual, which will be kept in electronic and hard copy format;
- Operational procedures for activating and deactivating auxiliary power systems at each pump station;
- Location of portable pumping and power generating equipment;
- Guidance for installing portable pumps during emergency high flow periods;
- Applicable contingency plans to minimize the occurrence of SSOs from the tributary WCTS; and
- Standard forms, records, and performance measures to be incorporated into the IMS.

Elements of the Emergency Pump Station Operations Program will be implemented as appropriate for each station. For instance, pump stations equipped with a dual feed power supply would not require the capability for a portable generator to be installed.

3.5 Pump Station Preventative Maintenance Program

The Utility will develop a Pump Station Preventative Maintenance Program that will establish procedures for the monitoring of pump station performance and schedules for preventative maintenance and equipment replacement required to achieve the objectives of the Consent

Decree. The Pump Station Preventative Maintenance Program will include the following evaluations:

- Evaluation of dry-weather and wet-weather critical response time of each pump station;
- Evaluation of the general condition of each pump station based on physical inspection and recent operating/mechanical failure history over the previous three (3) calendar years;
- Evaluation of the adequacy of station design and equipment for peak wet-weather wastewater flow conditions anticipated within the next five (5) years, including redundancy of pumps, electrical power supply, and other equipment, either through installed equipment, or access to replacement pumps and power sources via a third-party supplier; and
- Evaluation of staffing and equipment required to take corrective action within the dry-weather and wet-weather critical response times calculated for each pump station to minimize the occurrence of SSOs from tributary gravity sewer lines and manholes.

Section 4
Record Keeping and Reporting

This section of the Plan describes procedures for record keeping and reporting for the Continuing Pump Station and Force Main Evaluation and Maintenance Program, as well as procedures for the periodic review, evaluation, and revision of this Plan.

4.1 Record Keeping

As required by the Consent Decree, records associated with the Continuing Pump Station and Force Main Evaluation and Maintenance Program will be saved in the Utility Department's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its IMS, as described in Article Seven, Paragraph 50 of the Consent Decree, is being submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 45 of the Consent Decree, the City will report the pump station and force main evaluations and preventative maintenance activities performed each calendar year in the Annual Report for that calendar year as described in Section X of the Consent Decree.

The Annual Reports will include the following information related to the Continuing Pump Station and Force Main Evaluation and Maintenance Program, as outlined in Paragraph 94.e of the Consent Decree:

- The findings of Pump Station and Force Main evaluations conducted in the Annual Report Year, including condition, configuration and capacity deficiencies discovered;
- Pump Station and Force Main Remedial Measures required to achieve the Objectives of Section II of the Consent Decree, and the schedule for completing those Remedial Measures; and
- A Tabulation of Pump Station and Force Main Remedial Measures identified through the Continuing Pump Station and Force Main evaluation effort that were initiated or completed in the Annual Report Year.

4.3 Periodic Review, Evaluation, and Revision

As part of the annual reporting process, this Plan shall be reviewed and evaluated by City personnel in order to determine whether the objectives set forth by the Consent Decree are being met in the most efficient means possible. If an element of this Plan is identified as being ineffectual or impracticable, then the City will propose the necessary amendments, which will be summarized in the Annual Report.

Section 5
Training and Standard Operating Procedures

5.1 Training

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the Utility's employees. The CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (submitted June 28, 2016). The CTP is directly related to the operation and maintenance of the sanitary sewer collection system for the purpose of responding to and minimizing SSOs.

5.2 Standard Operating Procedures

The plan and schedule for developing SOPs for general operation and maintenance of all components of the WCTS is detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (submitted June 28, 2016) per the Consent Decree.

Attachment 8
Continuing Capacity Assurance Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

Continuing Capacity Assurance Program Plan

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Continuing Capacity Assurance Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements of the Continuing Capacity Assurance Program Plan

The Continuing Capacity Assurance (CCA) Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 46 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Following EPA's approval, the Utility Department will initiate the implementation of the CCA Program ten (10) years after the Date of Lodging of the Consent Decree (i.e., by January 2, 2025). **Table 1-1** provides a list of the Consent Decree requirements for the CCA Program and the sections of this document that address each requirement.

Table 1-1 Summary of Consent Decree Requirements for the CCA Program

Consent Decree Paragraph	Consent Decree Requirement	CCA Program Plan Section
46.a	**CCA Program** –shall include at a minimum: ▪ All Gravity Sewer Lines ten (10) inches and larger; ▪ All pump stations; ▪ All force mains; ▪ All Equalization Facilities and other flow control facilities; and ▪ All other WCTS components included in previous capacity assessment efforts conducted by the City.	3
46.b	**Coordination with Capacity Assessment and Capacity Remedial Measures Activities** – The CCA Program shall be coordinated with the Capacity Assessment activities completed under Article Four (Capacity Assessment and Hydraulic Modeling) of the Consent Decree and capacity Remedial Measures activities conducted under Section V, Article Five (Capacity Remedial Measures Plan) of the Decree.	3
46.c	**Coordination with Capacity Assessment and Hydraulic Modeling Activities** – CCA activities shall be performed in accordance with Section V Article Four (Capacity Assessment and Hydraulic Modeling) of the Consent Decree considering: ▪ All WCTS Remedial Measures identified through the condition and capacity Remedial Measures projects that are required to achieve the Objectives of this Consent Decree as stated in Section II; ▪ Continuing Pump Station and Force Main Evaluations; ▪ Anticipated population growth in the WCTS service area not less than ten (10) calendar years after the date when each CCA cycle is initiated; ▪ Sanitary sewer overflow (SSO) reports and other WCTS operational complaints; ▪ Citizen complaints; and ▪ WCTS maintenance records.	3

Section 2
Purpose and Goals of the Continuing Capacity Assurance Program Plan

The CCA Program is a component of the comprehensive CMOM Program and is intended to provide for the periodic evaluation of the WCTS to confirm that adequate capacity exists to convey current and projected future wastewater flows in order to maintain compliance with the Consent Decree, the CWA, the regulations promulgated under the CWA, and the City's National Pollutant Discharge Elimination System (NPDES) permits.

Implementation of the CCA Program begins ten (10) years after the Date of Lodging of the Consent Decree (i.e., by January 2, 2025). At that point, the majority of the capacity-related and condition-related remedial measures identified through other Consent Decree programs will have been completed. The CCA Program, which will be conducted at least once every five (5) years, builds upon work associated with the Capacity Assessment and Hydraulic Modeling (Article Four) and Capacity Remedial Measures Plan (Article Five) of the Consent Decree, while also incorporating projected population growth and data associated with other WCTS programs.

Section 3
Elements of the Continuing Capacity Assurance Program

The CCA Program, which will be conducted at least once every five (5) years beginning in 2025, builds upon work associated with the Capacity Assessment and Hydraulic Modeling (Article Four) and Capacity Remedial Measures Plan (Article Five) of the Consent Decree, while also incorporating projected population growth and data associated with other WCTS programs.

The Utility Department utilizes a computerized hydraulic model of the WCTS in order to assess available capacity and capacity-related remedial measures required to address SSOs. As described in Article Four of the Consent Decree, the City is updating the hydraulic model and will submit a Hydraulic Model Update Report to EPA and the Arkansas Department of Environmental Quality (ADEQ) with or before the Annual Report due March 31, 2017, describing the update and confirming that all requirements related to the hydraulic model set forth in Article Four of the Consent Decree have been met. This updated hydraulic model will be utilized to identify capacity constraints in the WCTS that must be eliminated to achieve the objectives of the Consent Decree. These capacity constraints will be described in the Capacity Assessment Report, which will be submitted to EPA and ADEQ with or before the Annual Report due on March 31, 2018.

Once the hydraulic model is updated and the Capacity Assessment Report is submitted to EPA as required in Article Four, the Utility will prepare a Capacity Remedial Measures Plan, which will be submitted to EPA and ADEQ for review and approval no later than March 31, 2019. The Capacity Remedial Measures Plan will notify EPA which of the previously identified capacity-related projects listed in Appendix E2 of the Consent Decree and what additional projects, if any, will be constructed to achieve the objectives of the Consent Decree.

Since the implementation of the CCA Program begins ten (10) years after the Date of Lodging of the Consent Decree (i.e., by January 2, 2025), the majority of the capacity-related and condition-related remedial measures identified through Consent Decree programs will have been completed. Once implemented, the CCA Program will serve predominantly as a proactive capacity planning component of the CMOM Program.

The CCA Program must be conducted at least once every five (5) years, beginning in 2025; and will be coordinated with the capacity assessment activities completed under Article Four of the Consent Decree, and the capacity remedial measures activities conducted under Article Five of the Consent Decree. The CCA Program will continue to utilize the hydraulic model, which currently includes:

- Gravity sewer lines greater than ten (10) inches in diameter;
- Pump stations;
- Force mains; and

- Equalization facilities and other flow control devices.

Those elements, as well as any other WCTS components included in the previous capacity assessment efforts, will be retained in the hydraulic model as it is utilized as part of the CCA Program.

Additionally, the hydraulic model will be updated as part of the CCA Program to consider the following, as determined by the Utility to be applicable to capacity assurance analyses:

- All WCTS remedial measures identified through the condition and capacity remedial measures projects that are required to achieve the objectives of the Consent Decree;
- Continuing pump station and force main evaluations;
- Anticipated population growth in the WCTS service area not less than ten (10) calendar years after the date when each CCA cycle is initiated;
- SSO reports and other WCTS operational complaints;
- Citizen complaints; and
- WCTS maintenance records.

Section 4
Record Keeping and Reporting

This section of the Plan describes procedures for record keeping and reporting for the CCA Program as well as procedures for the periodic review, evaluation, and revision of this Plan.

4.1 Record Keeping

As required by the Consent Decree, records associated with the CCA Program will be saved in the Utility Department's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its Information Management System (IMS), as described in Article Seven, Paragraph 50 of the Consent Decree, is being submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 46 of the Consent Decree, the City must report the CCA Program activities performed in each Calendar Year in the Annual Report for that Calendar Year in accordance with Section X of the Consent Decree.

The Annual Report will include the following information related to the CCA Program, as outlined in Paragraph 94.f of the Consent Decree:

- The findings of CCA activities conducted in the Annual Report Year, if any, including modifications to the City's Hydraulic Model;
- The future WCTS service area population used for modeling, and the average and peak dry-weather flow rates associated with that population;
- Additional capacity Remedial Measures required to achieve the Objectives of Section II of the Consent Decree; and
- A Tabulation of capacity Remedial Measures identified through the CCA Program efforts that were initiated or completed in the Annual Report Year.

4.3 Periodic Review, Evaluation, and Revision

As part of the annual reporting process, this Plan shall be reviewed and evaluated by City personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of this Plan is identified as being ineffectual or impracticable, then the City will propose the necessary amendments, or submit a revised plan, as part of the Annual Report.

Section 5
Training and Standard Operating Procedures

5.1 Training

The City does not anticipate developing any technical or skills training associated with the CCA Program.

5.2 Standard Operating Procedures (SOPs)

The City does not anticipate developing any Standard Operating Procedures associated with the CCA Program.

Attachment 9
2016 Sanitary Sewer Overflow Events

Attachment 9

2016 Sanitary Sewer Overflow Events

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEA	EFK	Receiving Water
15-0600	12/28/2016	3:26 PM	12/28/2015	4:29 PM	212 N 49 St	S006-1390 to S006-1300	S006-1390	510	Manhole	Cleanout	Roots	Grease	Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0000	01/02/2016	1:10 PM	01/02/2016	1:10 PM	8900 Meandering Way	M002-0310 to M002-0230	M002-0230	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0002	01/04/2016	9:45 AM	01/04/2016	11:50 AM	2122 Carthage St	MC05-1820 to MC05-1810	MC05-1820	375	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0003	01/04/2016	1:20 PM	01/04/2016	4:30 PM	8305 Hermitage Dr	Z006-1210 to Z006-1200		570	Cleanout		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0004	01/04/2016	12:41 PM	01/04/2016	4:30 PM	8311 Hermitage Dr	Z006-1210 to Z006-1200		687	Cleanout		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0005	01/05/2016	12:00 PM	01/05/2016	1:25 PM	9209 Bryn Mawr Cir		Z004-0340	425	Manhole		Grease		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0006	01/09/2016	10:55 AM	01/09/2016	12:59 PM	9600 Apple Gate Dr	M001-0700 to M001-0680	M001-0700	625	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0009	01/11/2016	4:35 PM	01/11/2016	5:55 PM	8206 Colony Ln	Z006-1200 to Z006-1190	Z006-1200	160	Manhole		Debris		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0010	01/11/2016	7:30 PM	01/11/2016	8:45 PM	9430 Jenny Lind Rd	Z005-0580 to Z005-0570	Z005-0580	375	Manhole		Roots		Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0012	01/12/2016	12:00 PM	01/12/2016	8:00 PM	2316 N 28 St	P004-0330 to P004-0320		480	Main Line		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0013	01/12/2016	5:00 PM	01/13/2016	10:47 AM	1023 N 13 St	P005-1310 to P005-1290		1,080	Cleanout		Line Break		Repair	Disinfected & Deodorized	Basement Backup	No	No	Yes	No	Not Applicable
16-0014	01/13/2016	10:40 AM	01/13/2016	11:10 AM	1608 Burnham Rd	S004-0220 to S004-0210		30	Cleanout		Roots	Debris	Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0016	01/13/2016	12:01 PM	01/13/2016	1:44 PM	432 N 35 St	P006-1470 to P006-1460	P006-1470	520	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0017	01/13/2016	5:00 PM	01/13/2016	6:00 PM	N 2 St & N B St	P002-0500 to P002-0490		60	Cleanout		Roots	Grease	Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0019	01/18/2016	9:00 AM	01/18/2016	11:00 AM	432 N 35 St	P008-1470 to P008-1460	P008-1470	600	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0021	01/19/2016	9:17 AM	01/19/2016	9:17 AM	4607 Irene St	FL01-0820 to FL01-0800		1	Cleanout		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0025	01/20/2016	1:50 PM	01/20/2016	1:55 PM	6015 Boys Club Ln	Z002-0850 to Z002-0400	Z002-0850	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0026	01/21/2016	10:05 AM	01/21/2016	10:05 AM	5800 Boys Club Ln		Z007-0770	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0027	01/21/2016	1:40 PM	01/21/2016	6:30 PM	3219 N J St	P005-0090 to P005-0070		100	Building		Line Break		Repair	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0028	01/21/2016	7:40 PM	01/21/2016	8:41 PM	4112 S 16 St	MC06-2100 to MC06-2090	MC06-2100	300	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0030	01/23/2016	2:29 PM	01/23/2016	3:45 PM	5812 Jenny Lind Rd	Z001-0680 to Z001-0670	Z001-0690	375	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0033	01/26/2016	11:00 AM	01/26/2016	11:40 PM	2717 S Waldron Rd	S004-0520 to S004-0510		260	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0035	01/28/2016	4:32 PM	01/28/2016	5:25 PM	5913 Chippewa Trl	S002-0880 to S002-0870	S002-0880	265	Manhole		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0036	01/29/2016	11:05 AM	01/29/2016	2:20 PM	4313 S 89 St	M002-0240 to M002-0230	M002-0240	975	Manhole		Roots	Grease	Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0038	01/29/2016	11:05 AM	01/29/2016	2:20 PM	4301 S 89 St	M002-0240 to M002-0230		195	Building		Roots	Grease	Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0040	01/30/2016	8:30 AM	01/30/2016	10:21 AM	1931 Churchill Rd	S007-0590 to S007-0570	S007-0590	555	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0041	01/30/2016	12:59 PM	01/30/2016	2:07 PM	Massard Rd & Adam Dr	M004-1050 to M004-0990	M004-1050	67	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0043	02/01/2016	8:55 AM	02/01/2016	10:10 AM	1314 Hwy 71 S	MC06-1630 to MC06-1620		150	Cleanout		Grease		Jet Clean	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0046	02/02/2016	9:14 AM	02/02/2016	10:44 AM	2825 Kendall Ave	Z003-1400 to Z003-1390		270	Building		Roots	Grease	Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0047	02/02/2016	12:14 PM	02/02/2016	4:15 PM	8925 S 30 St	Z005-0210 to Z005-0200		240	Cleanout		Roots		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0048	02/02/2016	2:25 PM	02/02/2016	3:10 PM	4313 S 89 St	M002-0240 to M002-0230	M002-0230	225	Manhole		Roots	Grease	Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0049	02/03/2016	9:00 AM	02/03/2016	9:08 AM	4422 S 29 St	MC07-1060 to MC07-1050		24	Cleanout		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0050	02/04/2016	10:20 AM	02/04/2016	1:15 PM	2400 S S St	P006-2544 to P006-2540		80	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0051	02/04/2016	2:42 PM	02/04/2016	3:25 PM	445 N 36 St	P008-1760 to P008-1750	P007-1760	43	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0053	02/05/2016	9:24 PM	02/05/2016	10:30 PM	4800 Towson Ave	MC04-0290 to MC04-0280		212	Cleanout		Grease	Debris	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0054	02/08/2016	3:20 PM	02/09/2016	3:00 PM	4803 S 32 St	Z001-3150 to Z001-3140		1,420	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0055	02/10/2016	5:25 PM	02/10/2016	7:15 PM	3015 Russell St	W001-1110 to W001-1100		550	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0058	02/12/2016	12:50 PM	02/12/2016	12:51 PM	N 66 St & Kinkead Ave	S002-0070 to S002-0066	S002-0070	1	Manhole		Unknown		None Indicated	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0060	02/15/2016	11:29 AM	02/15/2016	12:32 PM	1931 Churchill Rd	S007-0590 to S007-0570	S007-0590	620	Manhole		Grease	Roots	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	No	Yes	City of Fort Smith to Arkansas River
16-0061	02/15/2016	4:30 PM	02/15/2016	5:40 PM	3205 S 93 Cir	M001-1390 to M001-1380		350	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0062	02/15/2016	7:10 PM	02/15/2016	8:20 PM	3204 N 27 St	P001-0510 to P001-0500		700	Main Line		Grease	Roots	Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0063	02/15/2016	9:00 PM	02/15/2016	9:20 PM	3122 N 27 St	P001-0510 to P001-0500		5	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0064	02/16/2016	11:20 AM	02/16/2016	12:10 PM	3108 S 80 St	M004-1035 to M004-1030	M004-1035	50	Manhole		Grease		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0065	02/16/2016	12:45 PM	02/16/2016	1:30 PM	311 N 41 St	P007-0780 to P007-0770		225	Cleanout		Debris		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0069	02/18/2016	9:36 AM	02/18/2016	9:50 AM	2600 Dallas Cir	MC05-3340 to MC05-3330	MC05-3340	28	Manhole		Grease		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0073	02/19/2016	8:00 AM	02/19/2016	8:45 AM	3409 Houston St	P009-2290 to P009-2280	P009-2290	225	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0075	02/22/2016	9:30 AM	02/22/2016	9:50 AM	820 N 35 St	P008-0290 to P008-0280		40	Cleanout		Roots	Grease	Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0076	02/22/2016	10:55 AM	02/22/2016	12:10 PM	8801 Jenny Lind Rd	Z007-0110 to Z007-0100	Z007-0110	150	Manhole		Grease		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0078	02/23/2016	2:21 PM	02/23/2016	2:57 PM	8312 Meadow Dr	Z007-1790 to Z007-1780		35	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0080	02/24/2016	5:25 PM	02/24/2016	6:30 PM	1305 N 47 St	S007-1650 to S007-1640		65	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0082	02/25/2016	4:25 PM	02/25/2016	5:02 PM	4504 North St	FL02-1380 to FL02-1370		27	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River

Attachment 9

2016 Sanitary Sewer Overflow Events

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEA	EFK	Receiving Water
16-0083	02/26/2016	9:50 AM	02/26/2016	3:30 PM	1820 N 50 St	S007-2995 to S007-2993		200	Service Line A		Line Break		Schedule Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0085	02/27/2016	12:54 PM	02/27/2016	5:00 PM	1601 S V St	MC02-0760 to MC02-0750	MC02-0760	2,460	Manhole		Roots		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0086	02/28/2016	5:15 AM	02/28/2016	6:34 AM	2121 Towson Ave	MC02-0695 to MC02-0690	MC02-0695	375	Manhole		Roots	Debris	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0087	02/28/2016	9:46 AM	02/28/2016	11:50 AM	927 Adelaide Ave	P008-2310 to P008-2300	P008-2310	125	Building		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0088	02/28/2016	2:00 PM	02/28/2016	3:10 PM	4217 S 22 St	MC05-0710 to MC05-0690		70	Cleanout		Roots	Debris	Power Rod	No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0091	03/01/2016	6:00 PM	03/01/2016	7:15 PM	5321 Highland Dr	S006-1810 to S006-1800		375	Building		Roots		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0093	03/02/2016	2:17 PM	03/02/2016	3:10 PM	1916 Utica St	MC06-0910 to MC06-0900		530	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0094	03/02/2016	3:10 PM	03/02/2016	3:17 PM	5213 S 17 Ter	MC06-0900 to MC06-0890		150	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0095	03/03/2016	10:10 AM	03/03/2016	10:40 AM	4817 Kelley Hwy	S009-0160 to S009-0150	S009-0160	150	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0098	03/05/2016	7:50 AM	03/05/2016	9:45 AM	3701 S 32 Cir	MC05-3120 to MC05-3110		575	Cleanout		Debris		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0099	03/05/2016	5:50 PM	03/05/2016	6:30 PM	1208 N Greenwood Ave	P008-0450 to P008-0440		200	Building		Roots		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0100	03/05/2016	9:30 PM	03/05/2016	10:44 PM	4400 S 21 St	MC07-0200 to MC07-0190		375	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0101	03/06/2016	10:44 AM	03/06/2016	11:05 AM	8812 Houston St	M001-1130 to M001-1120		100	Main Line		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0102	03/06/2016	11:48 AM	03/06/2016	12:47 PM	1208 N Greenwood Ave	P008-0450 to P008-0440		300	Building		Debris		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0104	03/08/2016	1:12 PM	03/08/2016	2:41 PM	530 N 44 St	S006-1040 to S006-1020	S006-1040	1,000	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0105	03/08/2016	2:55 PM	03/09/2016	9:19 AM	3905 Towson Ave	MC06-0120 to MC06-0100		27,600	Service Line		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0106	03/08/2016	3:10 PM	03/08/2016	7:10 PM	S 56 St	S004-1140 to S004-1130	S004-1140	3,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0107	03/08/2016	5:01 PM	03/09/2016	9:05 AM	1319 S 17 Ter	P006-0380 to P006-0360		9,640	Cleanout		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0109	03/08/2016	6:30 PM	03/09/2016	9:44 AM	1801 S 74 St	RL01-1060 to RL01-0690	RL01-1060	22,850	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0110	03/08/2016	6:45 PM	03/09/2016	9:04 AM	3700 Kinkead Ave	P007-0482 to P007-0480	P007-0482	17,180	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0111	03/08/2016	6:50 PM	03/09/2016	6:22 PM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	35,225	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0112	03/08/2016	7:09 PM	03/09/2016	8:55 AM	3200 N M St	P005-3030 to P005-3020	P005-3030	41,300	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0113	03/08/2016	7:29 PM	03/09/2016	8:43 AM	N 50 St & Armour St	S009-0780 to S009-0712	S009-0780	11,910	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0114	03/09/2016	5:15 PM	03/09/2016	5:40 PM	3619 N 25 St	W001-0580 to W001-0560	W001-0580	125	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0115	03/10/2016	8:45 AM	03/10/2016	9:12 AM	3109 Willow St	FL01-2380 to FL01-0810		54	Cleanout		Debris		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0116	03/10/2016	10:18 AM	03/11/2016	8:14 AM	3200 N M St	P005-3030 to P005-3020	P005-3030	32,975	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0118	03/10/2016	12:10 PM	03/11/2016	11:45 AM	5800 Boys Club Ln	Z001-0770 to Z001-0760	Z001-0770	389,125	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0119	03/10/2016	12:10 PM	03/11/2016	11:45 PM	5800 Boys Club Ln	Z001-0460 to Z001-0770	Z001-0460	353,750	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0120	03/10/2016	12:10 PM	03/11/2016	9:00 AM	5800 Boys Club Ln	Z001-0760 to Z001-0758	Z001-0760	187,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0121	03/10/2016	12:10 PM	03/11/2016	11:45 AM	5800 Boys Club Ln	Z001-0754 to Z001-0752	Z001-0754	389,125	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0122	03/10/2016	1:44 PM	03/11/2016	9:30 AM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	118,500	Manhole		Rainfall		None Indicated	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0123	03/11/2016	11:00 AM	03/11/2016	1:44 PM	4515 Free Ferry Rd	P007-2910 to P007-2900		260	Main Line		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0125	03/14/2016	10:44 AM	03/14/2016	1:38 PM	4515 Free Ferry Rd	P007-2910 to P007-2900	P007-2910	519	Manhole		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0126	03/14/2016	12:00 PM	03/14/2016	12:30 PM	7801 Holly Ave	Z006-1280 to Z006-1270		450	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0128	03/14/2016	3:05 PM	03/14/2016	3:35 PM	906 S 19 St	P011-2680 to P011-2670		150	Building		Grease		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0129	03/15/2016	9:45 AM	03/15/2016	10:48 AM	109 N 3 St	P002-0500 to P002-0490	P002-0510	300	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0132	03/15/2016	8:45 AM	03/15/2016	5:15 PM	1918 N 7 St	P003-1180 to P003-1170		510	Building		Line Break		Repair	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0135	03/15/2016	3:30 PM	03/15/2016	3:45 PM	1504 N Greenwood Ave	P005-0170 to P005-0160		15	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0139	03/19/2016	11:46 AM	03/19/2016	2:50 PM	515 N 34 St	P008-1640 to P008-1630		368	Cleanout		Grease		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0140	03/20/2016	3:33 PM	03/20/2016	5:29 PM	2201 N 47 Ter	S008-0480 to S008-0470		234	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0146	03/23/2016	2:00 PM	03/23/2016	2:40 PM	1015 N 60 Ter	S002-1000 to S002-0980		200	Cleanout	Building	Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0147	03/23/2016	1:30 PM	03/23/2016	2:05 PM	1703 Osage St	MC06-0390 to MC06-0380		35	Service Line		Construction		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0148	03/25/2016	8:26 AM	03/25/2016	9:58 AM	3128 Glen Flora Way	Z004-1100 to Z004-1090	Z004-1100	460	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0150	03/28/2016	6:40 PM	03/29/2016	3:14 PM	3124 Glen Flora Way	Z004-1420 to Z004-1400	Z004-1420	12,350	Manhole		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0151	03/29/2016	10:30 AM	03/29/2016	1:30 PM	620 N 44 St	S006-1140 to S006-1130		20	Cleanout		Line Break	Grease	Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0153	04/01/2016	9:00 AM	04/01/2016	2:45 PM	2015 N Short 15 St	P004-0420 to P004-0410		345	Cleanout		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0155	04/01/2016	6:00 PM	04/01/2016	9:59 PM	3117 Royal Scots Way	Z004-1140 to Z004-1130	Z004-1140	1,200	Manhole		Roots	Grease	Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0157	04/03/2016	4:05 PM	04/03/2016	5:15 PM	4808 S 32 St	Z001-3140 to Z001-3130	Z001-3140	350	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0158	04/03/2016	6:45 PM	04/03/2016	7:44 PM	3132 Ionia St	MC06-3180 to MC06-3160		150	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0162	04/07/2016	4:39 PM	04/07/2016	6:17 PM	10600 Castleton St	Z008-4650 to Z008-4640		98	Cleanout	Building	Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0163	04/08/2016	4:50 PM	04/08/2016	11:50 PM	1409 Downing St	RL01-1700 to RL01-1670		2,100	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable

Attachment 9

2016 Sanitary Sewer Overflow Events

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEA	EFK	Receiving Water
16-0164	04/09/2016	8:41 AM	04/09/2016	10:44 AM	Jenny Lind Rd & Glen Flora \	Z005-0560 to Z005-0550		248	Main Line		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0166	04/10/2016	8:03 PM	04/10/2016	9:26 PM	7410 Westminister Pl	RL01-1660 to RL01-1650		1	Building		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0168	04/14/2016	12:30 PM	04/14/2016	12:50 PM	2825 Kendall Ave	Z003-1400 to Z003-1390		40	Building		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0170	04/15/2016	8:30 AM	04/15/2016	8:45 AM	5316 S 10 St	MC04-0380 to MC04-0370	MC04-0380	75	Manhole		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0174	04/16/2016	4:30 PM	04/16/2016	6:14 PM	1415 N Waldron Rd	S006-0220 to S006-0210	S006-0220	510	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0175	04/18/2016	9:59 AM	04/18/2016	3:30 PM	3200 N M St	P005-3030 to P005-3020	P005-3030	1,955	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0176	04/18/2016	10:30 AM	04/18/2016	11:10 AM	1020 S 18 St	P011-2570 to P011-2560		200	Building		Grease		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	No	Yes	Not Applicable
16-0177	04/18/2016	1:14 PM	04/18/2016	1:50 PM	6003 Chippewa Trl	S002-0860 to S002-0850	S002-0860	184	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0179	04/21/2016	2:00 PM	04/21/2016	2:10 PM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	10	Manhole		Contractor		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0183	04/25/2016	1:20 PM	04/26/2016	11:00 AM	1718 S 29 St	P009-2901 to P009-2900		6,500	Main Line		Line Break		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0184	04/26/2016	12:57 PM	04/27/2016	2:00 PM	1619 Boston St	MC05-1220 to MC05-1210		1,395	Cleanout		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0186	04/28/2016	12:50 PM	04/28/2016	12:55 PM	614 N 41 St	P007-1740 to P007-1730		100	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0188	04/28/2016	5:29 PM	04/28/2016	8:20 PM	10800 Hunters Point Rd	HP01-0050 to HP01-0020	HP01-0050	1,690	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0189	04/29/2016	3:25 PM	04/29/2016	3:50 PM	4131 Kinkead Ave	P007-1740 to P007-1730	P007-1730	1	Building		Line Break	Roots	None Indicated	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0190	04/30/2016	12:46 AM	04/30/2016	6:46 AM	S 56 St & Rogers Ave		S004-1140	40,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0191	05/02/2016	8:40 AM	05/03/2016	11:29 AM	2500 Glen Flora Way	Z005-0560 to Z005-0550		11,650	Main Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0192	05/02/2016	3:00 PM	05/02/2016	5:40 PM	9300 Jenny Lind Rd	Z005-0500 to Z005-0490	Z005-0760	1,600	Manhole		Debris		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0194	05/03/2016	1:52 PM	05/03/2016	1:44 PM	601 Lecta Ave	P008-1180 to P008-1170			Cleanout		Roots		Repair	Disinfected & Deodorized		No	No	Yes	No	Not Applicable
16-0195	05/04/2016	11:29 AM	05/04/2016	11:32 AM	5601 Jenny Lind Rd			1,000	Manhole		Pump Station Failure		None Indicated	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0198	05/06/2016	2:07 PM	05/06/2016	6:21 PM	1718 S 29 St	P009-2901 to P009-2900		1,535	Main Line		Roots	Line Break	Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0201	05/13/2016	9:43 AM	05/13/2016	2:55 PM	5917 S 26 Cir	Z001-1090 to Z001-1040		15,600	Main Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	No	Yes	Mill Creek to Poteau River
16-0202	05/13/2016	11:32 AM	05/13/2016	2:15 PM	12001 Ward Ave	FC02-0720 to FC02-0710	FC02-0720	1,630	Manhole		Roots	Debris	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Upper Little Vache Grasse Creek
16-0203	05/13/2016	8:40 PM	05/13/2016	9:30 PM	5424 Speaker St	S005-1520 to S005-1510		250	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0204	05/15/2016	6:45 PM	05/15/2016	8:29 PM	2520 S 22 St	P006-1315 to P006-1310	P006-1315	525	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0205	05/18/2016	8:15 AM	05/18/2016	4:40 PM	2513 N 41 St	S009-1340 to S009-1330		50	Cleanout		Roots	Line Break	Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0209	05/26/2016	8:40 PM	05/26/2016	10:25 PM	3220 Village Rd	HP01-0500 to HP01-0490		525	Building		Grease		Power Jet	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0210	05/27/2016	1:15 PM	05/27/2016	1:44 PM	5917 S 26 Cir	Z001-1040 to Z001-1030		1,500	Main Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0213	05/31/2016	10:50 AM	05/31/2016	11:36 AM	1325 N 57 Ter	S002-1480 to S002-1470	S002-1480	5	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0216	06/03/2016	9:14 AM	06/03/2016	9:45 AM	2216 N 53 St	S005-0920 to S005-0910		10	Building		Line Break		Power Jet	Disinfected & Deodorized	Basement Backup	No	No	Yes	No	Not Applicable
16-0218	06/07/2016	2:20 PM	06/07/2016	3:14 PM	2100 Brooken Hill Dr	Z007-0200 to Z007-0190	Z007-0200	1,100	Manhole		Grease		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0219	06/09/2016	3:59 PM	06/09/2016	4:01 PM	4515 Free Ferry Rd	P007-2910 to P007-2900		5	Cleanout		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0220	06/14/2016	10:24 AM	06/14/2016	10:50 AM	8204 Adam Dr	M004-1060 to M004-1050	M004-1060	260	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0222	06/15/2016	1:55 PM	06/15/2016	3:00 PM	1816 Bramble Brae St	Z005-1220 to Z005-1210	Z005-1220	975	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0223	06/16/2016	4:35 PM	06/16/2016	5:40 PM	3309 N 25 St	W001-0623 to W001-0620		130	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0224	06/17/2016	11:05 AM	06/17/2016	11:50 AM	5221 Johnson St	S005-0620 to S005-0610		225	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0225	06/20/2016	3:14 PM	06/21/2016	4:15 PM	5017 S 33 St	Z001-2970 to Z001-2960		200	Cleanout		Roots		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0228	06/22/2016	12:30 PM	06/22/2016	2:20 PM	2124 Valley Ln	P009-0440 to P009-0430	P009-0440	2,500	Manhole		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0229	06/23/2016	12:47 PM	06/23/2016	1:25 PM	7500 Cypress Ave	Z002-0290 to Z002-0280	Z002-0290	740	Manhole		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0233	06/28/2016	11:00 AM	06/28/2016	6:05 PM	4019 Towson Ave	MC06-0100 to MC06-0090		305	Main Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0234	06/30/2016	10:20 AM	06/30/2016	10:50 AM	9413 Fresno St	M001-0760 to M001-0750		150	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0235	07/04/2016	7:00 AM	07/04/2016	9:14 AM	3200 N M St		P005-3030	1,350	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0237	07/04/2016	4:30 PM	07/04/2016	5:40 PM	4224 S 17 St	MC06-0480 to MC06-0420	MC06-0480	350	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0239	07/05/2016	2:55 PM	07/05/2016	5:50 PM	5311 Birnie Ave	S005-1450 to S005-1440		350	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0240	07/05/2016	4:15 PM	07/05/2016	6:30 PM	2914 Houston St	MC05-2690 to MC05-2680		675	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0242	07/08/2016	6:14 PM	07/08/2016	6:59 PM	5219 Birnie Ave	S005-1450 to S005-1440		225	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0244	07/12/2016	1:40 PM	07/12/2016	2:29 PM	4110 S 34 St	MC07-1450 to MC07-1440	MC07-1450	250	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0248	07/26/2016	6:30 PM	07/26/2016	8:10 PM	2700 Houston St	MC05-2580 to MC05-2570	MC05-2580	200	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0249	07/26/2016	2:43 PM	07/26/2016	6:20 PM	3100 Jackson St	MC07-1590 to MC07-1580	MC07-1590	5,000	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0250	07/30/2016	7:39 AM	07/30/2016	12:45 PM	3535 S 35 St	P009-2230 to P009-2220	P009-2230	1,470	Manhole		Line Break		Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0251	08/01/2016	12:04 PM	08/01/2016	1:10 PM	3821 Mary St	FL02-0705 to FL02-0690		640	Main Line		Roots	Line Break	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0254	08/11/2016	5:59 PM	08/11/2016	9:00 PM	4224 S 17 St	MC06-0490 to MC06-0480	MC06-0480	4,525	Manhole		Grease	Debris	Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable

Attachment 9

2016 Sanitary Sewer Overflow Events

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEA	EFK	Receiving Water
16-0257	08/15/2016	9:59 AM	08/15/2016	9:59 AM	Kinkead Ave & North 66th	S001-0015 to S001-0014	S001-0015	1	Manhole		Rainfall		None Indicated	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0258	08/15/2016	9:59 AM	08/15/2016	9:59 AM	1618 Osage St	MC06-0410 to MC06-0370	MC06-0370	1	Manhole		Rainfall		None Indicated	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0259	08/15/2016	10:05 AM	08/15/2016	10:05 AM	1619 Osage St	MC06-0412 to MC06-0410	MC06-0410	1	Manhole		Rainfall		None Indicated	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0260	08/15/2016	10:10 AM	08/15/2016	10:10 AM	1617 Osage St	MC06-0414 to MC06-0412	MC06-0412	1	Manhole		Rainfall		None Indicated	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0262	08/16/2016	8:43 PM	08/16/2016	9:59 PM	4112 S 16 St	MC06-2100 to MC06-2090	MC06-2100	78	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0264	08/17/2016	5:31 PM	08/17/2016	7:03 PM	3409 Houston St	P009-2290 to P009-2280	P009-2290	93	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0267	08/22/2016	4:15 PM	08/22/2016	8:10 PM	2700 Houston St	MC05-2580 to MC05-2570	MC05-2580	2,350	Manhole		Line Break		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0269	08/24/2016	2:29 PM	08/24/2016	3:45 PM	1104 Autumn Oaks Ln	S003-3690 to S003-0965	S003-3690	350	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0274	09/01/2016	8:25 AM	09/01/2016	9:20 AM	4601 Arlington Ave	FL02-0640 to FL02-0630		275	Cleanout		Grease		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0277	09/06/2016	9:35 AM	09/06/2016	10:08 AM	1608 Louisville St	MC06-0490 to MC06-0480		115	Main Line		Grease		Power Jet	Disinfected & Deodorized	Basement Backup	No	No	Yes	No	Not Applicable
16-0278	09/06/2016	9:35 AM	09/06/2016	10:30 AM	1610 Louisville St	MC06-0490 to MC06-0480		300	Building		Grease		Power Jet	Disinfected & Deodorized	Basement Backup	No	No	Yes	No	Mill Creek to Poteau River
16-0280	09/16/2016	6:05 PM	09/16/2016	7:30 PM	4709 S 32 St	Z001-2550 to z001-2540	Z001-2550	425	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0282	09/23/2016	9:50 AM	09/23/2016	12:45 PM	4 Raleigh Cir	MC04-0320 to MC04-0310		175	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0284	09/27/2016	4:20 PM	09/27/2016	5:40 PM	3200 Russell St	W001-1380 to W001-1350		80	Main Line		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0285	09/27/2016	6:05 PM	09/27/2016	7:10 PM	2123 N 57 Ln	S005-1060 to S005-1050		65	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0290	10/09/2016	4:59 PM	10/09/2016	6:45 PM	9000 Urbanview Dr	SK01-0350 to SK01-0340		106	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0291	10/10/2016	11:15 AM	10/10/2016	1:44 PM	1700 N I St	P005-1535 to P005-1530		750	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0607	05/11/2016	7:30 PM	05/11/2016	9:00 PM	1609 9 - Barling St				Main Line		Line Break			No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	Little Vache Grasse Creek Outlet - AR River
16-0293	10/14/2016	12:35 PM	10/14/2016	12:40 PM	3210 Wirsing Ave	S008-2040 to S008-2030		25	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0294	10/17/2016	10:50 AM	10/17/2016	12:14 PM	2616 Ionia St	MC05-2870 to MC05-2890	MC05-2890	425	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0296	10/19/2016	8:30 AM	10/19/2016	8:55 AM	2906 Memphis St	MC07-1070 to MC07-1060		125	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0297	10/19/2016	8:29 AM	10/19/2016	10:20 AM	100 Georgetown Ln	Z006-0930 to Z006-0920	Z006-0930	505	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0300	10/21/2016	8:44 PM	10/21/2016	11:33 PM	223 Garrison Ave	P002-0720 to P002-0710		1	Building		Debris	Line Break	None Indicated	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0302	10/25/2016	8:28 PM	10/25/2016	11:00 PM	9409 Houston St	M001-0740 to M001-0590		15,200	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0303	10/26/2016	8:10 AM	10/26/2016	8:50 AM	8220 Hwy 271	Z006-1890 to Z006-1880		200	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0304	10/28/2016	8:00 AM	10/28/2016	8:01 AM	1710 N 6 St	P003-1150 to P003-0130		1	Building		Debris		None Indicated	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0306	11/01/2016	11:00 AM	11/01/2016	1:30 PM	5704 Free Ferry Ln	P007-1860 to P007-1850		750	Main Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0308	11/02/2016	2:05 PM	11/02/2016	3:05 PM	1218 N 58 Ter	S002-1175 to S002-1170		300	Main Line		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0309	11/02/2016	3:00 PM	11/02/2016	4:35 PM	5505 Cross Ln	S002-1510 to S002-1500		475	Cleanout		Debris		Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0310	11/03/2016	9:06 AM	11/03/2016	11:29 AM	711 N A St	P002-2100 to P002-2080		710	Building		Debris		Power Jet	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0313	11/06/2016	10:47 AM	11/06/2016	12:28 PM	9600 Apple Gate Dr	M001-0700 to M001-0680	M001-0700	600	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0316	11/09/2016	11:50 AM	11/10/2016	9:59 AM	3210 Wirsing Ave	S008-2040 to S008-2030		6,650	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0317	11/10/2016	3:59 PM	11/10/2016	7:30 PM	3917 Jenny Lind Rd	MC05-0620 to MC05-0600		210	Cleanout		Line Break		Repair	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0319	11/13/2016	5:40 PM	11/13/2016	6:45 PM	8510 Meadow Dr	Z006-0700 to Z006-0690	Z006-0700	325	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0320	11/14/2016	11:15 AM	11/14/2016	12:00 PM	4200 Howell Ave	FL02-1320 to FL02-1310		225	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0324	11/17/2016	4:46 PM	11/17/2016	6:14 PM	200 N 40 St	P007-0920 to P007-0870		178	Main Line		Debris		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0326	11/19/2016	1:15 PM	11/19/2016	4:23 PM	3804 Mussett Rd	FL01-1680 to FL01-1660		190	Service Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0327	11/19/2016	4:07 PM	11/19/2016	5:20 PM	923 S 68 St	S001-0110 to S001-0090		150	Main Line		Roots		Power Jet	No Cleanup Performed	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0329	11/21/2016	7:30 AM	11/21/2016	8:10 AM	2810 Enid St	MC05-3640 to MC05-3580	MC05-3580	150	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0330	11/21/2016	11:20 AM	11/21/2016	12:30 PM	10019 Meandering Way	D000-0080 to D000-0050		300	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0335	11/26/2016	1:28 PM	11/26/2016	4:44 PM	11023 Hunters Point Rd	HP01-0100 to HP01-0090	HP01-0090	10,100	Lift Station		Pump Station Failure			Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0336	11/27/2016	4:15 PM	11/28/2016	1:53 AM	4703 Arlington Ave	FL02-0640 to FL02-0630		6,380	Cleanout		Line Break		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0337	11/27/2016	6:26 PM	11/28/2016	1:53 AM	4611 Arlington Ave	FL02-0640 to FL02-0630		4,470	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0339	11/30/2016	8:21 AM	11/30/2016	9:25 PM	3005 Chelsea Mead	Z008-4480 to Z008-0795	Z008-4500	170	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0340	11/30/2016	9:24 AM	11/30/2016	11:29 AM	3113 Canongate Way	Z004-1630 to Z004-1620	Z004-1630	3,150	Manhole		Grease		Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0344	12/03/2016	11:23 AM	12/03/2016	12:50 PM	Spradling Ave & N 31st St	W001-1210 to W001-1200	W001-1210	465	Manhole		Rainfall	Roots	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0345	12/06/2016	8:30 AM	12/06/2016	8:31 AM	2801 Midland Blvd	P004-1120 to P004-1110		1	Building		Other		Jet Clean	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0346	12/06/2016	9:45 AM	12/06/2016	10:25 AM	3500 Johnson St	S008-2130 to S008-2120		200	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0350	12/06/2016	1:55 PM	12/06/2016	2:25 PM	3911 Towson Ave	MC06-0120 to MC06-0100		150	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0353	12/09/2016	8:45 AM	12/09/2016	9:59 AM	2100 N 29 St	P004-0540 to P004-0530		375	Building		Debris		Jet Clean	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0354	12/10/2016	11:12 AM	12/10/2016	12:50 PM	3000 S 21 St		MC05-1840	490	Manhole		Debris		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River

Attachment 9

2016 Sanitary Sewer Overflow Events

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEA	EFK	Receiving Water
16-0356	12/12/2016	9:58 AM	12/12/2016	10:15 AM	2824 Midland Blvd	S008-2100 to S008-2090		15	Cleanout		Debris		Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0357	12/12/2016	12:35 PM	12/12/2016	1:15 PM	2501 N Albert Pike Ave	S009-1320 to S009-1310		200	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0358	12/13/2016	10:22 AM	12/13/2016	11:00 AM	4516 Virginia Ave	FL02-1380 to FL02-1370	FL02-1380	190	Manhole		Grease		Jet Clean	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0359	12/13/2016	11:45 AM	12/13/2016	1:38 PM	4616 S P St	S003-1666 to S003-1665		113	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	No	Yes	Not Applicable
16-0360	12/14/2016	2:08 PM	12/14/2016	3:00 PM	102 Dartmouth Ln	Z006-1040 to Z006-1030		260	Cleanout		Debris		Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0361	12/14/2016	8:12 PM	09/14/2016	9:26 PM	2717 Oakview Rd	Z005-0130 to Z005-0120		74	Cleanout		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0362	12/15/2016	3:36 PM	12/15/2016	6:02 PM	3223 S 41 St	P009-2526 to P009-2523		146	Main Line		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0363	12/15/2016	3:59 PM	12/15/2016	5:15 PM	6323 Ellsworth Rd	S001-0740 to S001-0730		75	Building		Roots		Power Rod	No Cleanup Performed	Basement Backup	No	No	Yes	No	Not Applicable
16-0367	12/22/2016	10:09 AM	12/22/2016	11:00 AM	2916 Kells Abbey	Z004-1440 to Z004-1430		255	Cleanout		Roots		Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0369	12/22/2016	9:10 AM	12/22/2016	10:44 AM	3400 Gary St	P009-2255 to P009-2250		475	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0372	12/28/2016	5:00 PM	12/28/2016	8:25 PM	4101 S 89 St	M002-0260 to M002-0250		1,025	Cleanout		Grease		Jet Clean	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0375	12/30/2016	10:50 AM	12/30/2016	2:00 PM	5908 Apache Trl	S007-1060 to S007-1090		180	Cleanout		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0376	12/31/2016	1:20 PM	12/31/2016	2:35 PM	2400 Fordham Ave	Z003-1830 to Z003-1820	Z003-1820	375	Manhole		Grease		Jet Clean	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
217	**Overflows**							**1,856,195**	**Estimated Gallons Spilled**											

Attachment 10
2015 and 2016 Reoccurring Sanitary Sewer Overflow Events

Attachment 10
2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
CS01-0270																				
15-0045	01/27/2015	9:30 AM	01/27/2015	10:01 PM	7320 Cheryl Ln	CS01-0270 to CS01-0268	CS01-0270	200	Manhole		Roots	Grease	Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0049	01/28/2015	8:42 AM	01/28/2015	9:00 AM	7320 Cheryl Ln	CS01-0270 to CS01-0268	CS01-0270	175	Manhole		Roots		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
FC02-0860																				
15-0150	03/13/2015	11:50 PM	03/15/2015	11:40 AM	12920 Brittany Dr	FC02-0870 to fc02-0860	FC02-0860	507,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Upper Little Vache Grasse Creek
15-0244	05/09/2015	12:00 AM	05/11/2015	3:14 PM	12920 Brittany Dr		FC02-0860	117,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Upper Little Vache Grasse Creek
15-0295	05/20/2015	10:57 AM	05/20/2015	1:43 PM	12920 Brittany Dr	FC02-0860 to FC02-0850	FC02-0860	37,350	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0322	05/24/2015	9:40 PM	05/25/2015	7:55 PM	12920 Brittany Dr		FC02-0860	133,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Upper Little Vache Grasse Creek
FL02-0670																				
15-0107	03/02/2015	10:03 AM	02/02/2015	1:15 PM	3830 Crystal Ln	FL02-0670 to FL02-0527	FL02-0670	975	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	No	No	Not Applicable
15-0175	03/23/2015	2:20 PM	03/23/2015	2:29 PM	3830 Crystal Ln	FL02-0670 to FL02-0527	FL02-0670	100	Manhole		Unknown		None Indicated	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
M001-0700																				
16-0006	01/09/2016	10:55 AM	01/09/2016	12:59 PM	9600 Apple Gate Dr	M001-0700 to M001-0680	M001-0700	625	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0313	11/06/2016	10:47 AM	11/06/2016	12:28 PM	9600 Apple Gate Dr	M001-0700 to M001-0680	M001-0700	600	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
M002-0230																				
15-0337	05/28/2015	9:30 AM	05/28/2015	10:25 AM	8900 Meandering Way	M002-0230 to M002-0220	M002-0230	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0000	01/02/2016	1:10 PM	01/02/2016	1:10 PM	8900 Meandering Way	M002-0310 to M002-0230	M002-0230	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
16-0048	02/02/2016	2:25 PM	02/02/2016	3:10 PM	4313 S 89 St	M002-0240 to M002-0230	M002-0230	225	Manhole		Roots	Grease	Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Massard Creek
M002-1400																				
15-0115	03/04/2015	3:00 PM	03/05/2015	10:40 AM	3200 Vicksburg St	M002-1400 to M002-1390	M002-1400	41,300	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0145	03/13/2015	12:38 PM	03/14/2015	3:50 PM	3200 Vicksburg St	M002-1400 to M002-1390	M002-1400	16,320	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
MC03-0582																				
15-0261	05/11/2015	3:35 PM	05/11/2015	2:40 PM	901 Fresno St	MC03-0585 to MC03-0582	MC03-0582	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0581	12/27/2015	4:22 PM	12/28/2016	3:09 PM	1000 Carthage St	MC03-0585 to MC03-0582	MC03-0582	683,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
MC05-2580																				
16-0248	07/26/2016	6:30 PM	07/26/2016	8:10 PM	2700 Houston St	MC05-2580 to MC05-2570	MC05-2580	200	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0267	08/22/2016	4:15 PM	08/22/2016	8:10 PM	2700 Houston St	MC05-2580 to MC05-2570	MC05-2580	2,350	Manhole		Line Break		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
MC06-0305																				
15-0005	01/03/2015	9:26 AM	01/03/2015	3:13 PM	1412 Phoenix Ave	MC06-0452 to MC06-0305	MC06-0305	3,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0144	03/13/2015	11:29 AM	03/14/2015	10:35 AM	1412 Phoenix Ave	MC06-0542 to MC06-0305	MC06-0305	138,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0202	04/13/2015	7:50 PM	04/14/2015	10:50 AM	1412 Phoenix Ave	MC06-0542 to MC06-0305	MC06-0305	18,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
MC06-0480																				
16-0237	07/04/2016	4:30 PM	07/04/2016	5:40 PM	4224 S 17 St	MC06-0480 to MC06-0420	MC06-0480	350	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0254	08/11/2016	5:59 PM	08/11/2016	9:00 PM	4224 S 17 St	MC06-0490 to MC06-0480	MC06-0480	4,525	Manhole		Grease	Debris	Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
MC06-1120																				
15-0158	03/13/2015	5:58 PM	03/14/2015	10:35 AM	1413 Phoenix Ave	MC06-1120 to MC06-0280	MC06-1120	99,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0454	11/17/2015	8:50 AM	11/17/2015	4:30 PM	1413 Phoenix Ave	MC06-1128 to MC06-1120	MC06-1120	46,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
MC06-2100																				
16-0028	01/21/2016	7:40 PM	01/21/2016	8:41 PM	4112 S 16 St	MC06-2100 to MC06-2090	MC06-2100	300	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0262	08/16/2016	8:43 PM	08/16/2016	9:59 PM	4112 S 16 St	MC06-2100 to MC06-2090	MC06-2100	78	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River

2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
MC07-1450																				
15-0089	02/16/2015	4:28 PM	02/16/2015	5:56 PM	4110 S 34 St	MC07-1460 to MC07-1450	MC07-1450	440	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0244	07/12/2016	1:40 PM	07/12/2016	2:29 PM	4110 S 34 St	MC07-1450 to MC07-1440	MC07-1450	250	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P004-1015																				
15-0308	05/24/2015	12:30 PM	05/25/2015	11:29 AM	3100 Kelley Hwy	P004-2170 to P004-1015	P004-1015	66,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0366	07/05/2015	7:10 PM	07/06/2015	8:35 AM	3100 Kelley Hwy	P004-2170 to P004-1015	P004-1015	120,750	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P004-2190																				
15-0284	05/20/2015	7:40 AM	05/20/2015	8:45 AM	3100 Kelley Hwy		P004-2190		Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0561	12/27/2015	2:16 PM	12/28/2015	9:14 AM	Kelley Hwy	P004-2200 to P004-2190	P004-2190	230,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P005-1520																				
15-0292	05/20/2015	7:15 AM	05/20/2015	7:55 PM	1013 N 18 St	P005-1520 to P005-1510	P005-1520	64,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0570	12/27/2015	3:08 PM	12/29/2015	10:35 AM	1013 N 18 St	P005-1520 to P005-1510	P005-1520	391,050	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P005-1750																				
15-0245	05/09/2015	12:29 PM	05/11/2015	10:26 AM	N 20 St		P005-1750	99,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0576	12/27/2015	3:25 PM	12/28/2015	3:05 PM	722 N 20 St	P005-1750 to P005-1630	P005-1750	14,200	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P005-1860																				
15-0241	05/09/2015	9:05 PM	05/11/2015	10:24 AM	N 20 St	P005-1920 to P005-1860	P005-1860	223,900	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0279	05/20/2015	3:10 AM	05/20/2015	2:16 PM	420 N 20 St		P005-1860	50,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0474	11/17/2015	11:55 AM	11/18/2015	9:25 AM	N 20 St	P005-1860 to P005-1850	P005-1860	129,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P005-1920																				
15-0240	05/09/2015	9:50 PM	05/11/2015	10:22 AM	400 N 20 St	P005-1920 to P005-1860	P005-1920	328,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0278	05/20/2015	3:00 AM	05/20/2015	2:15 PM	400 N 20 St		P005-1920	101,100	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0311	05/24/2015	3:14 PM	05/25/2015	2:05 PM	400 N 20 St		P005-1920	342,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0476	11/17/2015	12:10 PM	11/18/2018	9:20 AM	N 20 St	P005-1920 to P005-1860	P005-1920	63,450	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P005-3030																				
15-0236	05/09/2015	2:17 AM	05/09/2016	8:30 AM	3200 N M St	P005-3030 to P005-3020	P005-3030	7,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0242	05/09/2015	2:17 AM	05/12/2015	8:00 AM	3200 N M St		P005-3030	492,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0280	05/20/2015	3:30 AM	05/20/2015	9:28 PM	3200 N M St		P005-3030	270,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0312	05/24/2015	3:30 PM	05/25/2015	2:10 PM	3200 N M St		P005-3030	340,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0489	11/27/2015	5:40 PM	11/28/2015	8:20 AM	3200 N M St		P005-3030	16,200	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0498	11/29/2015	4:40 PM	11/30/2015	8:57 AM	3200 N M St		P005-3030	19,540	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0525	12/14/2015	1:33 AM	12/14/2015	9:13 AM	3200 S M St	P005-3030 to P005-3020	P005-3030	31,150	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0562	12/27/2015	2:54 PM	12/29/2015	10:49 AM	3200 N M St		P005-3030	732,325	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0112	03/08/2016	7:09 PM	03/09/2016	8:55 AM	3200 N M St	P005-3030 to P005-3020	P005-3030	41,300	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0116	03/10/2016	10:18 AM	03/11/2016	8:14 AM	3200 N M St	P005-3030 to P005-3020	P005-3030	32,975	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0175	04/18/2016	9:59 AM	04/18/2016	3:30 PM	3200 N M St	P005-3030 to P005-3020	P005-3030	1,955	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P007-0050																				
15-0527	12/13/2015	1:47 PM	12/14/2015	9:17 AM	1425 N 34 St	P007-0060 to P007-0050	P007-0050	6,145	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0563	12/27/2015	2:23 PM	12/29/2015	10:50 AM	1425 N 34 St	P007-0060 to P007-0050	P007-0050	533,400	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable

2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
P007-0060																				
15-0473	11/17/2015	11:37 AM	11/18/2015	9:32 AM	1400 N 34 St	P007-0065 to P007-0060	P007-0060	52,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0526	12/13/2015	11:41 PM	12/14/2015	9:14 AM	1412 N 34 St		P007-0060	30,850	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0564	12/27/2015	2:25 PM	12/29/2015	10:54 AM	1412 N 34 St	P007-0065 to P007-0060	P007-0060	400,200	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P007-0065																				
15-0472	11/17/2015	11:38 AM	11/18/2015	9:33 AM	1425 N 34 St	P007-0065 to P007-0060	P007-0065	78,900		Manhole	Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0565	12/27/2015	2:27 PM	12/29/2015	10:58 AM	1410 N 34 St	P007-0070 to P007-0065	P007-0065	734,525	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P007-0482																				
15-0243	05/09/2015	10:44 PM	05/11/2015	10:58 AM	3700 Kinkead Ave	P007-0482 to P007-0480	P007-0482	217,300	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0293	05/20/2015	10:39 AM	05/20/2015	7:30 PM	3700 Kinkead Ave	P007-0482 to P007-0480	P007-0482	29,205	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0314	05/24/2015	3:45 PM	05/25/2003	2:20 PM	3700 Kinkead Ave		P007-0482	271,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0492	11/27/2015	8:10 PM	11/28/2015	8:30 AM	3700 Kinkead Ave		P007-0482	7,350	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0530	12/13/2015	3:55 PM	12/14/2015	9:17 AM	3700 Kinkead Ave	P007-0482 to P007-0480	P007-0482	27,550	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0575	12/27/2015	3:37 PM	12/28/2015	12:55 PM	3700 Kinkead Ave	P007-0484 to P007-0482	P007-0482	345,400	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0110	03/08/2016	6:45 PM	03/09/2016	9:04 AM	3700 Kinkead Ave	P007-0482 to P007-0480	P007-0482	17,180	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P007-1140																				
15-0223	04/27/2015	5:17 PM	04/27/2015	6:20 PM	4000 Free Ferry Rd	P007-1140 to P007-1000	P007-1140	3,000	Manhole		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0270	05/12/2015	3:05 PM	12/19/2015	4:15 PM	4000 Free Ferry Rd	P007-1140 to P007-1000	P007-1140	1,875	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P007-1180																				
15-0103	02/25/2015	1:49 PM	02/25/2015	2:20 PM	3820 Free Ferry Rd	P007-1180 to P007-1170	P007-1180	750	Manhole		Debris		Removed Debris	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0604	12/30/2015	6:55 PM	12/30/2015	8:59 PM	3804 Free Ferry Rd	P007-1180 to P007-1170	P007-1180	1,100	Manhole		Roots		None Indicated	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P007-1760																				
15-0288	05/20/2015	9:25 AM	05/20/2015	8:50 PM	614 N 41 St	P007-1760 to P007-1750	P007-1760	68,500	Manhole		Rainfall		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0051	02/04/2016	2:42 PM	02/04/2016	3:25 PM	445 N 36 St	P008-1760 to P008-1750	P007-1760	43	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P009-0200																				
15-0157	03/13/2015	11:55 AM	03/14/2015	5:40 PM	1823 S 31 St	P009-0200 to P009-0165	P009-0200	26,625	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0291	05/20/2015	10:16 AM	05/20/2015	2:10 PM	S P St	P009-0202 to P009-0200	P009-0200	11,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0323	05/24/2015	10:15 PM	05/25/2015	2:40 PM	1801 S Greenwood Ave		P009-0200	98,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0467	11/17/2015	10:58 AM	11/17/2015	1:39 PM	1823 S 31 St		P009-0200	1,770	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0594	12/27/2015	5:40 PM	12/28/2015	2:53 PM	Old Greenwood Rd	P009-0235 to P009-0200	P009-0200	127,300	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P009-2290																				
15-0436	10/26/2015	10:22 AM	10/26/2015	10:25 AM	3529 S 34 St	P009-2290 to P009-2280	P009-2290	1	Manhole		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0073	02/19/2016	8:00 AM	02/19/2016	8:45 AM	3409 Houston St	P009-2290 to P009-2280	P009-2290	225	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0264	08/17/2016	5:31 PM	08/17/2016	7:03 PM	3409 Houston St	P009-2290 to P009-2280	P009-2290	93	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
RL01-0140																				
15-0004	01/03/2015	7:22 AM	01/03/2015	4:10 PM	9 Riverlyn Ter	RL01-0150 to RL01-0140	RL01-0140	5,280	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0430	10/14/2015	9:58 AM	10/14/2015	10:25 PM	9 Riverlyn Ter		RL01-0140		Manhole		Pump Station Failure		Removed Debris	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0462	11/17/2015	9:59 AM	11/18/2015	8:30 AM	9 Riverlyn Ter	RL01-0140 to RL01-0130	RL01-0140	270,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	No	No	Not Applicable
15-0593	12/27/2015	5:29 PM	12/28/2015	3:00 PM	9 Riverlyn Ter	RL01-0150 to RL01-0140	RL01-0140	18,300	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable

2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
RL01-0670																				
15-0160	03/13/2015	5:00 PM	03/14/2015	11:40 AM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	2,240	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0388	07/21/2015	9:16 AM	07/21/2015	12:20 PM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	69,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0445	11/05/2015	8:20 PM	11/06/2015	2:45 AM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	9,625	Manhole		Rainfall		None Required	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0460	11/17/2015	9:51 AM	11/18/2015	8:35 AM	1601 S 74 St	RL01-0670 to RL01-0660	RL01-0670	272,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0493	11/27/2015	8:35 PM	11/28/2015	5:29 PM	Carol Ann Cross Park	RL01-0680 to RL01-0670	RL01-0670	25,200	Manhole		Rainfall		None Required	No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0533	12/13/2015	5:20 PM	12/14/2015	9:55 AM	Carol Ann Cross Park		RL01-0670	19,920	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0591	12/27/2015	5:14 PM	12/28/2015	12:10 PM	1601 S 74 St	RL01-0670 to RL01-0660	RL01-0670	13,760	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0111	03/08/2016	6:50 PM	03/09/2016	6:22 PM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	35,225	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0179	04/21/2016	2:00 PM	04/21/2016	2:10 PM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0670	10	Manhole		Contractor		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
RL01-0680																				
15-0155	03/13/2015	5:00 PM	03/14/2015	11:45 AM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0680	106,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0206	04/13/2015	8:40 PM	04/14/2015	11:10 AM	1601 S 74 St	RL01-0690 to RL01-0680	RL01-0680	8,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0247	05/10/2015	2:05 AM	05/10/2015	3:37 PM	1601 S 74 St		RL01-0680	225,200	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0283	05/20/2015	5:45 AM	05/20/2015	5:55 PM	S 74 St		RL01-0680	73,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0315	05/24/2015	5:15 PM	05/25/2015	4:30 PM	S 74 St		RL01-0680	139,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0496	11/29/2015	3:30 PM	11/30/2015	9:20 AM	Carol Ann Cross Park	RL01-0680 to RL01-0670	RL01-0680	26,750	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0590	12/27/2015	5:11 PM	12/28/2015	8:29 AM	1601 S 74 St	RL01-0680 to RL01-0670	RL01-0680	23,580	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
RL01-0682																				
15-0451	11/13/2015	10:30 AM	11/13/2015	10:55 AM	1601 S 74 St	RL01-0682 to RL01-0680	RL01-0682	250	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0511	12/04/2015	9:25 AM	12/04/2015	10:15 AM	1601 S 74 St	RL01-0682 to RL01-0680	RL01-0682	250	Manhole		Roots	Grease	Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
RL01-0690																				
15-0154	03/13/2015	5:00 PM	03/14/2015	11:45 AM	1801 S 74 St	RL01-0690 to RL01-0680	RL01-0690	106,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0246	05/10/2015	2:00 AM	05/11/2015	3:35 PM	1601 S 74 St		RL01-0690	338,250	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
RL01-1060																				
15-0204	04/13/2015	8:15 PM	04/14/2015	11:05 AM	1801 S 74 St	RL01-1060 to RL01-0690	RL01-1060	13,275	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0282	05/20/2015	5:00 AM	05/20/2015	3:14 PM	1801 S 74 St		RL01-1060	92,250	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0313	05/24/2015	5:05 PM	05/25/2015	4:30 PM	1801 S 74 St		RL01-1060	278,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0384	07/21/2015	6:40 AM	07/21/2015	9:24 AM	1801 S 74 St	RL01-1070 to RL01-1060	RL01-1060	24,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0459	11/17/2015	9:44 AM	11/17/2015	4:44 PM	1801 S 74 St	RL01-1060 to RL01-0690	RL01-1060	63,150	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0494	11/27/2015	8:40 PM	11/28/2015	4:30 PM	1801 S 74 St	RL01-1060 to RL01-0690	RL01-1060	24,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0532	12/13/2015	5:10 PM	12/14/2015	9:58 AM	1801 S 74 St	RL01-1060 to RL01-0690	RL01-1060	20,160	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0589	12/27/2015	5:09 PM	12/28/2015	11:55 AM	1801 S 74 St	RL01-1070 to RL01-1060	RL01-1060	11,260	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0109	03/08/2016	6:30 PM	03/09/2016	9:44 AM	1801 S 74 St	RL01-1060 to RL01-0690	RL01-1060	22,850	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
RL01-1070																				
15-0387	07/21/2015	6:40 AM	07/21/2015	9:24 AM	7400 Euper Ln		RL01-1070	4,100	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0457	11/17/2015	9:30 AM	11/17/2015	4:50 PM	S 74 St	RL01-1070 to RL01-1060	RL01-1070	44,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0588	12/27/2015	5:00 PM	12/28/2015	11:46 AM	7400 Euper Ln	RL01-1072 to RL01-1070	RL01-1070	14,260	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River

2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
RL01-1072																				
15-0385	07/21/2015	6:40 AM	07/21/2015	9:24 AM	7400 Euper Ln		RL01-1072	8,200	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0458	11/17/2015	9:36 AM	11/17/2015	4:55 PM	7400 Euper Ln	RL01-1072 to RL01-1070	RL01-1072	43,900	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0587	12/27/2015	5:00 PM	12/28/2015	11:48 AM	7400 Euper Ln	RL01-1740 to RL01-1072	RL01-1072	5,640	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
RL01-1080																				
15-0205	04/13/2015	7:50 PM	04/14/2015	10:50 PM	7400 Euper Ln	RL01-1080 to RL01-1070	RL01-1080	4,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0316	05/24/2015	5:29 PM	05/25/2015	4:30 PM	7400 Euper Ln		RL01-1080	138,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0386	07/21/2015	6:40 AM	07/21/2015	9:24 AM	2000 S 74 St	RL01-1080 to RL01-1070	RL01-1080	16,400	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	No	Yes	Not Applicable
15-0456	11/17/2015	9:24 AM	11/17/2015	4:40 PM	2000 S 74 St	RL01-1080 to RL01-1070	RL01-1080	21,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0586	12/27/2015	5:00 PM	12/28/2015	11:44 AM	2000 S 74 St	RL01-1090 to RL01-1080	RL01-1080	7,120	Manhole		Rainfall		None Required	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
RL01-1120																				
15-0267	05/12/2015	11:35 AM	05/12/2015	11:58 AM	2002 Hwy 71 S	RL01-1180 to RL01-1120	RL01-1120	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0297	05/20/2015	12:10 PM	05/20/2015	7:10 PM	2002 S 71 St	RL01-1180 to RL01-1120	RL01-1120	23,100	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0466	11/17/2015	10:55 AM	11/17/2015	5:05 PM	2002 S 71 St	RL01-1120 to RL01-1110	RL01-1120	18,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0585	12/27/2015	4:58 PM	12/29/2015	8:45 AM	S 71 St	RL01-1120 to RL01-1110	RL01-1120	23,870	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
RL01-1280																				
15-0286	05/20/2015	8:20 AM	05/20/2015	7:25 PM	2116 S 70 St	RL01-1280 to RL01-1260	RL01-1280	42,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0584	12/27/2015	4:55 PM	12/28/2015	12:20 PM	2116 S 70 St	RL01-1280 to RL01-1260	RL01-1280	11,650	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
S001-0015																				
15-0464	11/17/2015	10:20 AM	11/17/2015	4:20 PM	S 66 St		S001-0015	99,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0257	08/15/2016	9:59 AM	08/15/2016	9:59 AM	Kinkead Ave	S001-0015 to S001-0014	S001-0015	1	Manhole		Rainfall		None Indicated	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
S004-1140																				
15-0200	04/13/2015	5:23 PM	04/14/2015	10:20 AM	5600 Rogers Ave	S004-1140 to S004-1130	S004-1140	10,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0249	05/10/2015	6:00 AM	05/10/2015	8:00 PM	5600 Rogers Ave	S004-1140 to S004-1130	S004-1140	168,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0302	05/24/2015	11:29 AM	05/24/2015	11:29 PM	S 56 St		S004-1140	72,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0389	07/21/2015	8:20 AM	07/21/2015	10:30 AM	5600 Rogers Ave		S004-1140	1,200	Manhole		Rainfall		None Required	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0444	11/05/2015	8:00 PM	11/05/2015	9:14 PM	5600 Rogers Ave	S004-1140 to S004-1130	S004-1140	1,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0455	11/17/2015	9:20 AM	11/17/2015	5:20 PM	S 56 St	S004-1340 to S004-1140	S004-1140	120,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
15-0490	11/27/2015	6:59 PM	11/27/2015	9:05 PM	S 56 St	S004-1340 to S004-1140	S004-1140	600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0554	12/27/2015	10:01 AM	12/29/2015	8:09 AM	S 56 St		S004-1140	100,950	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0106	03/08/2016	3:10 PM	03/08/2016	7:10 PM	S 56 St	S004-1140 to S004-1130	S004-1140	3,600	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0190	04/30/2016	12:46 AM	04/30/2016	6:46 AM	S 56 St		S004-1140	40,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
S004-1420																				
15-0281	05/20/2015	4:00 AM	05/20/2015	12:00 PM	5600 Rogers Ave		S004-1420	4,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0522	12/13/2015	11:00 AM	12/13/2015	8:00 PM	5600 Rogers Ave	S004-1420 to S004-1350	S004-1420	108,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
S007-0590																				
15-0119	03/04/2015	8:25 PM	03/04/2015	9:45 PM	2001 Churchill Rd	S007-0570 to S007-0550	S007-0590	1,350	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0130	03/09/2015	3:12 PM	03/09/2015	4:30 PM	2001 Churchill Rd	S007-0590 to S007-0570	S007-0590	900	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0040	01/30/2016	8:30 AM	01/30/2016	10:21 AM	1931 Churchill Rd	S007-0590 to S007-0570	S007-0590	555	Manhole		Roots	Grease	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0060	02/15/2016	11:29 AM	02/15/2016	12:32 PM	1931 Churchill Rd	S007-0590 to S007-0570	S007-0590	620	Manhole		Grease	Roots	Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	No	Yes	City of Fort Smith to Arkansas River

2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
S007-1130																				
15-0367	07/05/2015	8:05 PM	07/06/2015	8:55 AM	4512 N O St	S007-1130 to S007-1120	S007-1130	21,400	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0579	12/27/2015	4:14 PM	12/28/2015	1:32 PM	4512 N O St	S007-1140 to S007-1130	S007-1130	243,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
S009-0712																				
15-0368	07/05/2015	8:15 PM	07/05/2015	8:50 PM	5000 Armour Ave	S009-0712 to S009-0710	S009-0712	75,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0559	12/27/2015	1:55 PM	12/28/2015	9:32 AM	4831 Armour Ave	S009-0760 to S009-0712	S009-0712	117,700	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
S009-0780																				
15-0523	12/13/2015	1:10 PM	12/14/2015	9:08 AM	N 50 St	S009-0780 to S009-0712	S009-0780	6,290	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0558	12/27/2016	1:52 PM	12/28/2015	9:43 AM	N 50 St	S009-0785 to S009-0780	S009-0780	59,550	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
16-0113	03/08/2016	7:29 PM	03/09/2016	8:43 AM	N 50 St	S009-0780 to S009-0712	S009-0780	11,910	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
W001-0580																				
15-0483	11/18/2015	12:29 PM	11/18/2015	4:10 PM	N 25 St	W001-0580 to W001-0560	W001-0580	75	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0114	03/09/2016	5:15 PM	03/09/2016	5:40 PM	3619 N 25 St	W001-0580 to W001-0560	W001-0580	125	Manhole		Roots		Power Rod	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
Z001-0460																				
15-0264	05/11/2015	4:20 PM	05/12/2015	10:30 AM	2000 Zero St	Z001-0470 to Z001-0460	Z001-0460	103,000	Manhole		Rainfall		None Required	No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0119	03/10/2016	12:10 PM	03/11/2016	11:45 PM	5800 Boys Club Ln	Z001-0460 to Z001-0770	Z001-0460	353,750	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z001-0754																				
15-0148	03/13/2015	12:51 PM	03/14/2015	11:00 AM	5800 Boys Club Ln	Z001-0756 to Z001-0754	Z001-0754	0	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0319	05/24/2015	8:29 PM	05/25/2015	7:35 PM	5800 Boys Club Ln		Z001-0754	380,875	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0328	05/26/2015	9:14 AM	05/26/2015	6:30 PM	2000 Zero St		Z001-0754	40,875	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0351	05/11/2015	4:20 PM	05/12/2015	8:25 AM	2000 Zero St	Z001-0756 to Z001-0754	Z001-0754	181,000	Manhole		Rainfall		None Required	No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0121	03/10/2016	12:10 PM	03/11/2016	11:45 AM	5800 Boys Club Ln	Z001-0754 to Z001-0752	Z001-0754	389,125	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z001-0760																				
15-0320	05/24/2015	8:45 PM	05/25/2015	7:35 PM	5800 Boys Club Ln		Z001-0760	137,000	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0120	03/10/2016	12:10 PM	03/11/2016	9:00 AM	5800 Boys Club Ln	Z001-0760 to Z001-0758	Z001-0760	187,500	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z001-0770																				
15-0318	05/24/2015	8:50 PM	05/25/2015	7:35 PM	5800 Boys Club Ln		Z001-0770	375,375	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0350	05/11/2015	4:30 PM	05/12/2015	8:25 PM	2000 Zero St	Z001-0780 to Z001-0776	Z001-0770	135,750	Manhole		Rainfall		None Required	No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0118	03/10/2016	12:10 PM	03/11/2016	11:45 AM	5800 Boys Club Ln	Z001-0770 to Z001-0760	Z001-0770	389,125	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z001-2550																				
15-0409	09/02/2015	9:05 AM	09/02/2015	9:50 AM	4709 S 32 St		Z001-2550	45	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
16-0280	09/16/2016	6:05 PM	09/16/2016	7:30 PM	4709 S 32 St	Z001-2550 to z001-2540	Z001-2550	425	Manhole		Grease		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z002-0290																				
15-0061	02/01/2015	2:27 PM	02/01/2015	5:15 PM	7500 Cypress Ave	Z002-0290 to Z002-0280	Z002-0290	525	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0229	06/23/2016	12:47 PM	06/23/2016	1:25 PM	7500 Cypress Ave	Z002-0290 to Z002-0280	Z002-0290	740	Manhole		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
Z004-1420																				
15-0542	12/15/2015	8:21 AM	12/15/2015	9:10 AM	3124 Glen Flora Way	Z004-1420 to Z004-1400	Z004-1420	900	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0150	03/28/2016	6:40 PM	03/29/2016	3:14 PM	3124 Glen Flora Way	Z004-1420 to Z004-1400	Z004-1420	12,350	Manhole		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z005-0450																				
15-0263	05/11/2015	3:29 PM	05/11/2015	3:30 PM	2809 Brooken Hill Dr	Z005-0450 to Z005-0230	Z005-0450	1	Manhole		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0287	05/20/2015	8:46 AM	05/20/2015	1:58 AM	2900 Brooken Hill Dr	Z005-0450 to Z005-0230	Z005-0450	7,800	Manhole		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River

2015-2016 Reocurring Sanitary Sewer Overflows Report

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Source 2	Cause 1	Cause 2	Initial Action	Initial Action 2	SSO Impact	OEHC	OEEI	NEAH	EFK	Receiving Water
Z006-0930																				
15-0110	03/04/2015	7:19 AM	03/04/2015	8:30 AM	100 Georgetown Ln	Z006-0930 to Z006-0920	Z006-0930	350	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0297	10/19/2016	8:29 AM	10/19/2016	10:20 AM	100 Georgetown Ln	Z006-0930 to Z006-0920	Z006-0930	505	Manhole		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
Z006-1250																				
15-0333	05/28/2015	4:44 PM	05/28/2015	6:30 PM	8006 Hermitage Dr		Z006-1250	105	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0338	05/28/2015	4:44 PM	05/28/2015	6:30 PM	8006 Hermitage Dr	Z006-1250 to Z006-1240	Z006-1250	105	Manhole		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
MC05-2315 to MC05-2310																				
15-0111	03/04/2015	11:03 AM	06/04/2015	12:14 PM	2414 Independence St	MC05-2315 to MC05-2310		375	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0360	06/25/2015	2:10 PM	06/25/2015	12:50 PM	2414 Independence St	MC05-2315 to MC05-2310		350	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P006-0380 to P006-0360																				
15-0123	03/06/2015	10:17 AM	03/06/2015	11:56 AM	1319 S 17 St	P006-0380 to P006-0360		1,065	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0131	03/10/2015	7:32 AM	03/10/2015	8:50 AM	1319 S 17 St	P006-0380 to P006-0360		500	Cleanout		Grease		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0290	05/20/2015	9:32 AM	05/20/2015	9:00 PM	1319 S 17 St	P006-0380 to P006-0360		65,000	Cleanout		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0569	12/27/2016	2:29 PM	12/29/2015	10:04 AM	1319 S 17 St	P006-0380 to P006-0360		33,340	Cleanout		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0107	03/08/2016	5:01 PM	03/09/2016	9:05 AM	1319 S 17 Ter	P006-0380 to P006-0360		9,640	Cleanout		Rainfall		None Required	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
P008-0450 to P008-0440																				
16-0099	03/05/2016	5:50 PM	03/05/2016	6:30 PM	1208 N Greenwood Ave	P008-0450 to P008-0440		200	Building		Roots		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0102	03/06/2016	11:48 AM	03/06/2016	12:47 PM	1208 N Greenwood Ave	P008-0450 to P008-0440		300	Building		Debris		Power Jet	No Cleanup Performed	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P009-2250 to P009-2210																				
15-0156	03/13/2015	5:04 PM	03/14/2015	12:00 PM	3409 Gary St	P009-2250 to P009-2210		28,400	Cleanout		Rainfall		None Required	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
15-0257	05/10/2015	5:53 PM	05/10/2015	6:30 PM	3409 Gary St	P009-2250 to P009-2210		1	Cleanout		Line Break		Repair	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
P009-2901 to P009-2900																				
16-0183	04/25/2016	1:20 PM	04/26/2016	11:00 AM	1718 S 29 St	P009-2901 to P009-2900		6,500	Main Line		Line Break		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0198	05/06/2016	2:07 PM	05/06/2016	6:21 PM	1718 S 29 St	P009-2901 to P009-2900		1,535	Main Line		Roots	Line Break	Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
S003-1660 to S003-1650																				
15-0041	01/24/2015	10:50 AM	01/24/2015	1:17 PM	4619 S Q St	S003-1660 to S003-1650		326	Cleanout		Debris		Power Jet	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	City of Fort Smith to Arkansas River
15-0099	02/22/2015	5:17 PM	02/22/2015	8:29 PM	4619 S Q St	S003-1660 to S003-1650		192	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
S005-1450 to S005-1440																				
15-0072	02/05/2015	8:08 PM	02/05/2015	9:26 PM	5311 Birnie Ave	S005-1450 to S005-1440		78	Cleanout		Roots		Power Jet	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0239	07/05/2016	2:55 PM	07/05/2016	5:50 PM	5311 Birnie Ave	S005-1450 to S005-1440		350	Cleanout		Grease		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
S008-2040 to S008-2030																				
16-0293	10/14/2016	12:35 PM	10/14/2016	12:40 PM	3210 Wirsing Ave	S008-2040 to S008-2030		25	Cleanout		Roots		Power Rod	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
16-0316	11/09/2016	11:50 AM	11/10/2016	9:59 AM	3210 Wirsing Ave	S008-2040 to S008-2030		6,650	Cleanout		Line Break		Power Jet	Disinfected & Deodorized	Public Land (Ground)	No	No	Yes	No	Not Applicable
Z002-0860 to Z002-0850																				
15-0294	05/20/2015	10:40 AM	05/20/2015	2:15 PM	2312 Ingersol Cir	Z002-0860 to Z002-0850		11,100	Main Line		Line Break		Repair	No Cleanup Performed	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
15-0405	08/26/2015	12:37 PM	08/26/2015	2:00 PM	2312 Ingersol Cir	Z002-0860 to Z002-0850		415	Main Line		Line Break		Repair	Disinfected & Deodorized	Receving Water (Riv, Str)	No	No	Yes	No	Mill Creek to Poteau River
Z003-1400 to Z003-1390																				
16-0046	02/02/2016	9:14 AM	02/02/2016	10:44 AM	2825 Kendall Ave	Z003-1400 to Z003-1390		270	Building		Roots	Grease	Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable
16-0168	04/14/2016	12:30 PM	04/14/2016	12:50 PM	2825 Kendall Ave	Z003-1400 to Z003-1390		40	Building		Roots		Power Rod	Disinfected & Deodorized	Private PPTY (Ground)	No	No	Yes	No	Not Applicable

Attachment 11
2015 and 2016 Reoccurring PSLR Events

Attachment 11
2015-2016 Reoccuring Private Service Line Releases

SSO ID	Start Date	Start Time	End Date	End Time	Address	Pipe Description	Structure ID	Gallons Spilled	Source 1	Cause 1	Initial Action
10504 Ramsgate Ct											
15-0187	04/03/2015	6:59 PM	04/03/2015	8:15 PM	10504 Ramsgate Ct	Z008-4520 to Z008-4480			Cleanout	Unknown	Power Jet
15-0191	04/07/2015	9:21 PM	04/07/2015	11:29 PM	10504 Ramsgate Ct	Z008-4520 to Z008-4480		190	Cleanout	Unknown	Power Jet
108 N 53 St											
15-0541	12/15/2015	7:25 AM	12/15/2015	8:12 AM	108 N 53 St	S003-0420 to S003-0410			Cleanout	Unknown	Power Rod
15-0549	12/17/2015	12:14 PM	12/17/2015	12:58 PM	108 N 53 St	S003-0420 to S003-0410		1	Cleanout	Unknown	None Indicated
2200 N 33 St											
15-0212	04/15/2015	4:28 PM	04/15/2015	5:10 PM	2200 N 33 St		P004-0670 P004-0672		Cleanout	Unknown	None Indicated
15-0230	05/01/2015	12:35 PM	05/01/2015	1:13 PM	2200 N 33 St	P004-0672 to P004-0670			Cleanout	Unknown	Power Rod
3226 Iola Ave											
15-0109	03/03/2015	11:00 AM	03/03/2015	11:45 AM	3226 Iola Ave				Cleanout	Grease	None Indicated
15-0231	05/04/2015	1:20 PM	05/04/2015	1:44 PM	3226 Iola Ave				Cleanout	Unknown	None Indicated
3434 Fischer St											
15-0413	09/05/2015	10:24 AM	09/05/2015	12:10 PM	3434 Fischer St	FL01-1280 to FL01-1270		1	Cleanout	Unknown	Power Rod
15-0414	09/08/2015	8:31 AM	09/08/2015	8:50 AM	3434 Fischer St	FL01-1280 to FL01-1270		1	Cleanout	Unknown	Power Rod
3500 S 35 St											
15-0224	04/29/2015	9:00 AM	04/29/2015	9:20 AM	3500 S 35 St			1	Cleanout	Unknown	None Indicated
15-0421	09/15/2015	6:29 PM	09/15/2015	7:40 PM	3500 S 35 St	P009-2250 to P009-2210			Cleanout	Unknown	Power Rod
3904 Park Ave											
15-0341	06/02/2015	7:27 PM	06/02/2015	8:15 PM	3904 Park Ave	P007-0740 to P007-0730 P007-0760 to P007-0740			Cleanout	Unknown	Power Jet
15-0424	09/22/2015	8:29 PM	09/06/2015	6:32 PM	3904 Park Ave	P007-0760 to P007-0740			Cleanout	Unknown	Power Rod
16-0279	09/06/2016	2:46 PM	09/06/2016	2:50 PM	3904 Park Ave	P007-0760 to P007-0740			Cleanout	Unknown	Power Rod
4309 S 31 St											
15-0017	01/12/2015	1:56 PM	01/12/2015	2:29 PM	4309 S 31 St				Cleanout	Unknown	Power Rod
15-0082	02/11/2015	8:45 AM	02/11/2015	9:14 AM	4309 S 31 St				Cleanout	Unknown	None Indicated
4422 S 29 St											
15-0485	11/21/2015	2:11 PM	11/21/2015	4:20 PM	4422 S 29 St	MC07-1050 to MC07-0910			Cleanout	Unknown	None Indicated
15-0516	12/08/2015	4:04 PM	12/08/2015	4:50 PM	4422 S 29 St				Cleanout	Unknown	Power Jet
16-0024	01/20/2016	10:54 AM	01/20/2016	10:54 AM	4422 S 29 St	MC07-1060 to MC07-1050			Cleanout	Unknown	Power Rod
16-0045	02/01/2016	1:05 PM	02/01/2016	1:08 PM	4422 S 29 St	MC07-1060 to MC07-1050			Cleanout	Line Break	
600 Lecta Ave											
15-0094	02/20/2015	11:33 AM	02/20/2015	12:05 PM	600 Lecta Ave	P008-1155 to P008-1150			Cleanout	Unknown	Power Rod
15-0124	03/06/2015	12:41 PM	03/06/2015	3:00 PM	600 Lecta Ave	P008-1155 to P008-1150			Cleanout	Unknown	Power Rod
1216 N D St											
16-0165	04/09/2016	5:37 PM	04/09/2016	5:37 PM	1216 N D St				Cleanout	Unknown	None Indicated
16-0273	08/29/2016	11:09 PM	08/29/2016	12:00 PM	1216 N D St	P010-0670 to P010-0660			Cleanout	Unknown	Power Rod
1914 S N St											
15-0012	01/06/2015	2:21 PM	01/06/2015	3:05 PM	1914 S N St	P006-0570 to P006-0560			Service Line	Unknown	Power Rod
16-0247	07/25/2016	12:47 PM	07/25/2016	12:50 PM	1914 S N St	P006-0570 to P006-0560			Cleanout	Unknown	Power Jet
4512 S 21 St											
15-0484	11/19/2015	10:38 AM	11/19/2015	10:50 AM	4512 S 21 St	MC07-0180 to MC07-0170			Cleanout	Unknown	Power Rod
16-0023	01/19/2016	3:17 PM	01/19/2016	3:18 PM	4512 S 21 St	MC07-0180 to MC07-0170			Cleanout	Unknown	Power Rod
4712 Wirsing Ave											
16-0138	03/18/2016	8:40 AM	03/18/2016	8:40 AM	4712 Wirsing Ave	S009-0240 to S009-0230			Cleanout	Unknown	Power Rod
16-0332	11/23/2016	7:48 PM	11/23/2016	7:48 PM	4712 Wirsing Ave	S009-0240 to S009-0230			Cleanout	Unknown	Power Rod
5505 Cross Ln											
16-0312	11/03/2016	11:29 AM	11/03/2016	11:29 AM	5505 Cross Ln	S002-1510 to S002-1500			Cleanout	Debris	Jet Clean
16-0370	12/23/2016	12:14 PM	12/23/2016	12:14 PM	5505 Cross Ln	S002-1510 to S002-1500			Cleanout	Unknown	Power Jet
9026 S 28 St											
16-0322	11/16/2016	2:29 PM	11/16/2016	2:29 PM	9026 S 28 St	Z005-1250 to Z005-0120			Cleanout	Unknown	Jet Clean
16-0331	11/21/2016	1:05 PM	11/21/2016	1:05 PM	9026 S 28 St	Z005-1250 to Z005-0120		0	Cleanout	Unknown	Power Jet
16-0352	12/07/2016	4:39 PM	12/07/2016	4:39 PM	9026 S 28 St		Z005-0120 Z005-1250		Cleanout	Debris	None Indicated

Attachment 12
Information Management System Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

INFORMATION MANAGEMENT SYSTEM PLAN

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Information Management System Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, terms used within the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b) (20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A "Recurring SSO" shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance Program (CMOM) Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA). This includes the development of a plan for modifying the City's Information Management System (IMS) as described within this document.

Section 1
Consent Decree Requirements for the Information Management System Plan

The Information Management System (IMS) Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraphs 50, 51, and 52 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Following EPA's approval, the City will initiate the implementation of the IMS Plan upgrades. **Table 1-1** provides a list of the Consent Decree requirements for the IMS Plan and the section of this document that addresses each requirement.

Table 1-1 Summary of Consent Decree Requirements for the IMS

Consent Decree Paragraph	Consent Decree Requirement	Program Plan Section
50	Tracking of operation/maintenance efforts in response to Sanitary Sewer Overflows (SSOs), stopping SSOs, and integration of Geographic Information System (GIS) with the work order system within five (5) years from the Date of Lodging.	3.1 & 3.3
51	Reporting of SSO occurrences to regulatory agencies and the public.	3.2
51	Tracking of the implementation of corrective actions to prevent future SSOs.	3.2
51	To produce lists and descriptions of service requests and/or complaints from customers, or others regarding SSOs that occur and the actions taken by the City to stop those SSOs during each Calendar Year until expiration of the Consent Decree.	3.6
51	To allow the City to maintain in its records (electronically or otherwise), information on all CMOM-related wastewater collection and transmission system (WCTS) investigations, assessments, construction of Remedial Measures, and other WCTS maintenance activities for a minimum of ten (10) years after those activities are completed.	3.4 & 3.5
52	The City must report a narrative of the IMS improvement activities performed each calendar year in the Annual Report for that calendar year as described in Section X of the Decree.	4

Section 2
Purpose and Goals of the Information Management System Plan

The IMS is a component of the City's CMOM Program and is intended to provide a set of electronic information management tools by which Utility Department (Utility) personnel can store, analyze, and have access to information regarding WCTS operations, assets, and the results of other CMOM Program activities.

The primary goal of the IMS Plan is to enhance the electronic and computerized systems at the City in accordance with the objectives of the Consent Decree. Enhancements to these systems will facilitate better support for Utility staff in the operation and management of the City's WCTS.

In meeting with the Consent Decree requirements, the objectives of the IMS Plan shall be as follows:

- Collect, store and distribute information regarding the WCTS assets and their current condition;
- Support the collection and storage of information from each of the other CMOM Program plans;
- Provide reporting capabilities to facilitate the efficient development of reports documenting CMOM activities and results throughout all aspects of the CMOM Program;
- Provide Utility staff efficient access to CMOM Program and WCTS information to support operations, maintenance and management activities; and
- Maintain records of the CMOM Program work performed per the requirements of the EPA Consent Decree.

Section 3
Elements of the Information Management System

This section describes the existing IMS components and conditions as well as the planned activities to enhance the information management, storage, and reporting functions of the CMOM Program to satisfy the Consent Decree requirements for the following areas:

- Maintenance tracking and reporting;
- SSO tracking and reporting;
- GIS (asset inventory);
- Inspection and investigation tracking;
- Remedial measures tracking;
- Complaint tracking and service request management;
- Fats, Oils and Grease (FOG) Control Program data management;
- Private Service Line Defect Remediation Program data management; and
- Comprehensive Training Program record keeping.

3.1 Maintenance Tracking and Reporting

3.1.1 Existing Conditions

The Utility Department at Fort Smith, as well as other City departments, utilizes a computerized maintenance management software system (CMMS). The CMMS is a computer software system and database designed to track work performed within the WCTS over time. The work performed by the Utility is tracked using work orders or service requests that are generated within the software. The software then generates work order requests that are then routed to the correct staff to perform the work based on previously defined work flow procedures setup as part of the implementation of the software. Once the work has been performed, staff will enter it into the electronic work order located within the CMMS. The CMMS utilizes an enterprise database stored on City computer servers. Each work order is typically tied to assets or addresses within the system where the work was performed.

The CMMS software is a powerful tool in that it simplifies the reporting of previous work on assets through the utilization of a centralized database. Furthermore, the software allows for the status of work to be queried by managers as necessary. The software can also automatically generate work order requests based on preventative maintenance schedules setup for specific assets. These preventive maintenance schedules are established on industry standards or other scheduling drivers, thereby prompting staff to perform work on a pre-arranged/designated basis. In addition, CMMS software packages include modules to track inventory as the fulfilment of work order

activities generally will include the use of materials that are in inventory, and the two activities are interconnected.

The City owns licensing for, and is currently utilizing, the CMMS Lucity 16 to track work performed by Utility staff. Lucity is currently managed within the System Control Section which also handles incoming Utility service requests.

The City maintains licenses for a number of Lucity CMMS modules including:

- Water;
- Sewer;
- Work Management;
- Inventory Control;
- Plant and Equipment;
- Facility;
- GIS Integration Application program interface (API); and
- Environmental Compliance/FOG.

3.1.2 Planned Enhancement Activities

The current CMMS, which is used to track work performed on the WCTS, will be enhanced as part of the implementation of the IMS Plan.

To improve the effectiveness of the system's capacity for tracking and reporting WTCS activities conducted by Utility staff over the course of normal operations, the following actions will be performed:

- A thorough review of the existing and required preventative maintenance activities will be conducted to identify modifications required by the CMMS software in order to effectively support the required preventative maintenance workflows;
- Development of a training and redeployment plan to modify, configure, and redeploy the CMMS software with the appropriate training for each level of user, including both the use of the software as well as the updated procedural workflows; and
- Development of a CMMS plan and processes to better define and gain internal efficiencies for data collection and reporting thereby leveraging the CMMS. The developed plan and processes will include integration of automated functions for the creation of regularly scheduled work orders for each user-group's activities as defined in the updated workflows.

In addition to enhancing the CMMS work-tracking functionality, the updated application will be integrated directly to the updated GIS (see **Section 3.3**). The integration will include the following:

- The City's enhanced WCTS GIS will be used to provide a map interface within the CMMS to allow users to search for specific assets by unique identifier, street address, or geographic location;
- The integrated applications will allow users to select WCTS assets in a map view within the CMMS software and generate work order requests tied to those assets directly from the map view; and
- Existing WCTS asset information within the CMMS will be compared to the enhanced GIS database to address any discrepancies that may currently exist.

The CMMS software will provide WCTS managers and supervisors access to metrics and reports, outlining the amount, type, and frequency of work performed on the WCTS. The reports will be developed in both digital and paper format and utilize both standard and customized reports within the CMMS software. Additionally, the work order events will also be available for viewing on-screen, directly within the GIS map through the CMMS GIS interface. This particular GIS-viewpoint will allow O&M managers and supervisors to identify and analyze trends in work frequency and/or location. The following are the examples of the reports that will be available for use by managers to track and analyze the work performed in the system:

Service Requests

- Service calls received monthly, quarterly, and annually (including response time data).

Inspection of Assets

- Linear feet of lines cleaned;
- Linear feet of lines inspected;
- Manholes inspected; and
- Linear feet of lines smoke tested.

Repairs/Installations

- Mainlines repaired or installed;
- Service lines/taps repaired or replaced;
- New taps installed; and
- Linear feet of new lines installed.

Rehabilitation and Replacement of WCTS Network

- Linear feet of pipe installed or rehabilitated;
- Manholes replaced, or rehabilitated;
- Linear feet of root control applied; and

- Linear feet of lines replaced.

Maintenance Activities by Type

- Corrective;
- Preventive; and
- Emergency.

3.2 Sewer System Overflow Tracking and Reporting

3.2.1 Existing Conditions

As part of the CMOM Program, both an SSO Documentation and Reporting Program and an SSO Emergency Response Program were developed. The plans for these programs were documented in the twelve (12) month from Date of Lodging submittals, submitted to and approved by EPA. Currently SSOs are reported through the Utility's System Control Section, whereby Sewer Line Maintenance crews are dispatched in response to the event. Work orders associated with SSOs are completed by hand and are then separately entered into Lucity software for long-term tracking and record keeping.

3.2.2 Planned Enhancement Activities

The current use of spreadsheets to track SSOs will be discontinued and SSO information will be tracked within the CMMS software. CMOM Program staff will implement SSO response workflows to include the consistent collection of detailed information regarding the specific causes and WCTS assets involved where SSOs occurred. Standardizing the data captured for each SSO event will allow the Utility to create SSO maps in conjunction with the tabular reports of SSOs during specific timeframes. These SSO maps will include locations of the SSOs as well as the specific causes of SSOs.

Functions within the CMMS will be implemented to track and analyze SSOs to aid in the development of preventative measures. Standardizing the data collection and reporting of SSOs will not only help to eliminate data collection and reporting errors, but also support better tracking of work orders associated with cleanup and remedial measures for SSO events. The CMMS will support the reporting of SSOs as required for the annual reports.

3.3 Geographic Information System (GIS)

3.3.1 Existing Conditions

The Utility utilizes AutoCAD Map 3D (2013) from Autodesk as its GIS platform. The system uses an AutoCAD-based drawing (CAD) to map the spatial locations of WCTS assets and a Microsoft Access® database to maintain the assets' attributes. The non-spatial attribute table is linked to the CAD spatial data by unique asset identifiers. Edits are performed utilizing record drawings of work performed and all edits are accomplished using the "heads-up digitization" method.

Currently, all manholes being assessed as part of the Sanitary Sewer Assessment (SSA) Program will be assigned survey-grade elevation and horizontal coordinate values, which are being collected via GPS technology for integration into the GIS database.

3.3.2 Planned Enhancement Activities

The Utility will migrate the existing CAD-based GIS into an Esri software-based GIS platform that conforms to industry standard GIS practices and database design. This process will involve the following activities:

- The use of industry-standard GIS database design practices, as outlined within the Esri Local Government standard GIS database model;
- Conversion of the existing CAD-based wastewater system GIS to an Esri GIS platform, including the conversion of each WCTS asset contained within existing CAD drawing layers from CAD features to Esri GIS formatted features;
- Conversion of the WCTS attribute data stored in the Microsoft Access® database format to attributes within the Esri GIS database. These will be directly linked to the physical representation of the WCTS asset per industry-standard GIS practices;
- Perform quality control review of the resulting data and correct existing anomalies between the CAD and GIS data layers as the conversion is performed;
- Development of customized GIS map documents that utilize the new GIS layers as well as all existing GIS data layers already available in an Esri format;
- The implementation of a web-map of the WCTS assets on the City's existing GIS map website;
- Train Utility staff on the use and maintenance of the Esri GIS; and
- Addition of data management staff within the Utility. The staff will assume the primary responsibility of implementing additional IMS data management functions and be charged with maintaining the new Esri GIS and supporting its integration with the CMMS software.

3.4 Inspection and Investigation Tracking

3.4.1 Existing Conditions

The majority of the WCTS pipelines and manholes are being inspected by outside contractors as part of the SSA activities. Internally, the closed-circuit television (CCTV) inspections are performed by Utility staff using Ques' Granite XP software.

3.4.2 Planned Enhancement Activities

As part of the CMOM and SSA activities over the next five years, systematic inspections within the WCTS will increase as the individual programs are implemented. In order to support the streamlined collection, review, use, and storage of this asset-related information, the Utility will implement enhanced use of the CCTV and CMMS software packages, as well as develop a data warehouse to store the information collected. Comprehensive inspection specifications will be implemented to facilitate the review and integration of the inspections into the data warehouse.

Individual specifications will be developed for each type of inspection and the inspection data to be collected will include the following:

- Sanitary sewer pipe inspection;
- Gravity sewer system manhole inspection;
- Gravity sewer smoke testing;
- Dye testing;
- Sewer pipeline cleaning; and
- GIS database updates (new features or required changes to existing features).

The data warehouse will include databases to store and maintain sanitary sewer and manhole inspections (in NASSCO Pipeline Assessment Certification Program standard format), sewer smoke, and dye testing results for a minimum of ten (10) years. Information related to sewer line cleaning required during the inspections will be stored as attributes within either the CMMS, or linked to the GIS, as noted in **Section 3.1**.

These enhancements will serve to satisfy the storage and record keeping requirements of the Root Control Program, the Gravity Sewer Line Cleaning Program, and the Continuing Sewer System Assessment (CSSA) Program.

3.5 Remedial Measures Tracking

3.5.1 Existing Conditions

The City is using Microsoft Excel® to track project costs and status related to the improvement of the WCTS in spreadsheet format. At the macro-level, the Deputy Director of Business Administration analyzes projects for financial projections and planning, bond issuance, and rate settings.

Utilizing a separate spreadsheet, an Administrative Coordinator within the Utility performs funding analysis to determine how funds are spent over time and to make revisions to allocation of bond proceeds. This analysis includes payments to vendors and lump sum payments.

The Engineering and Engineering Technology Deputy Director, or project engineers under their direction, perform tracking of capital improvement projects by utilizing separate, more detailed, spreadsheets which contain information regarding the on-going system renewal projects. New assets or modifications, resulting from projects on the water or sewer systems, are provided at the completion of the project, and the assets are added to the GIS by the CAD maintenance technician.

3.5.2 Planned Enhancement Activities

The CMOM activities will result in a significant increase in both the number and the complexity of individual WCTS improvements based on the remedial measures throughout the service area and the life of the CMOM Program. Therefore, in order to better support all aspects of project tracking and management, the Utility will implement a Program Management Information System (PMIS). The PMIS will be a cloud-based software system accessed by staff through web-browsers on multiple platforms (personal computers, field computers, tablets, etc.). The PMIS will utilize

software to plan, schedule, budget and track all aspects of the improvement projects. Implementation of the PMIS will include the following activities:

- Develop the plan and processes required for data collection and reporting of the improvement project information required by the Consent Decree;
- Continue to gather, store, and report on Consent Decree-related design and construction phase projects as they are implemented;
- Implementation of the PMIS will include the development of quality assurance/quality control checks to validate the data as they are migrated into the system from the current spreadsheet-based data set; and
- Train Utility and CMOM Program staff and projects managers in the use of the software, and provide training and support to outside construction contractors (those who are included as users of the system).

The PMIS will include reporting functions to be used to generate standard reports on individual and overall project status, budgets, and extents. The PMIS will also include a module to integrate the City's updated GIS web-map into the software interface to allow users to locate projects on a map or highlight selected project locations and verify project extents and potential project interactions.

3.6 Complaint Tracking and Service Request Management

3.6.1 Existing Conditions

The Utility Department operates a customer call center, referred to as System Control Center, that receives and logs all citizen requests and complaints as service requests within the Lucity software. Citizens call the System Control Center directly to create a service request regarding the WCTS assets.

3.6.2 Planned Enhancement Activities

The existing service request workflow is anticipated to continue to be utilized. However, during the enhancement of the CMMS software, the service request management functions within that software will be reviewed. The purpose of this review will be to determine if further efficiencies can be found through more direct access to server request functions with the CMMS by additional staff other than the Service Control group.

During the enhancement of the CMMS described in **Section 3.1** the reporting functions and standard reports within the CMMS related to service requests will be reviewed and modified, or enhanced, as appropriate.

3.7 Fats, Oils, and Grease (FOG) Control Program

3.7.1 Existing Conditions

The Utility currently does not have a Fats Oils and Grease (FOG) Control Program in place.

3.7.2 Planned Enhancement Activities

The future FOG Control Program will improve the operations and maintenance of the WCTS in an effort to reduce the occurrence of SSOs due to preventable blockages resulting from accumulation of FOG. The FOG Control Program is a specific component within the CMOM Program required by the Consent Decree and is primarily proactive in approach. A specific FOG data tracking system software will be implemented to store, maintain, and report on the FOG-related data as required by the Consent Decree.

3.8 Private Service Line Defect Remediation Program

3.8.1 Existing Conditions

The Utility currently does not have a Private Service Line Defect Program in place.

3.8.2 Planned Activities

As part of the CMOM Program, the Utility will be implementing a new Private Service Line Defect Remediation Program. As required by the Consent Decree, records associated with the Private Service Line Defect Remediation Program will be incorporated into the IMS and maintained as required under the records retention policy. These records include:

- Locations of private service line defects (street address or GPS coordinates);
- Smoke testing reports or other documentation of the potential defect (generated by Private Service Line Defect Program staff separate from the SSA contract work);
- Notification letters;
- Records of penalties assessed; and
- Records confirming defects have been addressed.

A work order documenting the evaluation and remediation activities will be maintained for record-keeping purposes for all private service lines that are evaluated and/or remediated.

3.9 Comprehensive Training Program

3.9.1 Existing Conditions

The Utility currently does not have a Comprehensive Training Program in place. The Utility has submitted to EPA a Comprehensive Training Program Plan.

3.9.2 Planned Enhancement Activities

As part of the CMOM Program, the Utility will be implementing a new Comprehensive Training Program. As required by the Consent Decree, records associated with the Training Program will be incorporated into the IMS and maintained as required under the records retention policy. The information will be tracked within the IMS either within a newly developed database, the existing Document Management system, or as part of the City's CMMS or Human Resources department databases. This information to be collected will include records of skills and technical training taken by all Utility employees separately or by on-the-job means. This information will enable an employee's formal and on-the-job training to be catalogued and reviewed.

Section 4
Reporting

4.1 Annual Reporting

Per Article Seven, Paragraph 52 of the Consent Decree, the City must report a narrative of the IMS improvement activities performed each calendar year in the Annual Report for that calendar year as described in Section X of the Decree. In addition, the information stored within the IMS and the systems and software put in place as part of the IMS will support the generation of the Annual Report content for items such as maps, quantities of activities, and the results of those activities.

4.2 Periodic Review, Evaluation, and Revision

As part of the Utility's annual reporting process, this Plan shall be reviewed and evaluated by Utility personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of this Plan is identified as being ineffectual or impracticable, then the Utility will propose the necessary amendments or submit a revised plan as part of the Annual Report.

Section 5
Training

Per Article Seven, Paragraph 55 of the Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the City's employees. The City's CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (June 28, 2016). The CTP will be directly related to the operation and maintenance of the WCTS and include the details of staff training regarding aspects of the IMS as appropriate. Training on the use of the IMS components will include the following:

- Implementation of training courses for Utility staff, including regular training updates over the course of the Program, on the use and operating procedures surrounding the CMMS software for work order management;
- Training of Utility staff in the use and maintenance of the GIS software and database; and
- Training of Utility staff, CMOM Program staff, and project managers in the use of the PMIS software. Training and support will be provided to outside construction contractors if they are included as users of the system.

Attachment 13
Standard Operating Procedures Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

Standard Operating Procedures Program Plan

June 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

6/22/16

Date

Standard Operating Procedures Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SCADA	Supervisory Control and Data Acquisition
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, or expressly stated in the City of Fort Smith Sewer Use Ordinance, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Line or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building line

(i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than 24 months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of 13 separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the long-term requirements of EPA and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Standard Operating Procedures (SOPs) Program Plan

The SOPs Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 53 of the Consent Decree and must be submitted to EPA for review no later than 18 months from the Date of Lodging of the Consent Decree (i.e., by July 1, 2016). Following EPA's approval, the Utility Department will initiate the implementation of the SOPs Program. **Table 1-1** provides a list of the Consent Decree requirements for the SOPs Program and the sections of this document that address each requirement.

Table 1-1. Summary of Consent Decree Requirements for the SOPs Program

Consent Decree Paragraph	Consent Decree Requirement	SOPs Program Plan Section
53	A plan and schedule for developing Standard Operating Procedures ("SOPs") for general operation and maintenance of all components of the WCTS, including Gravity Sewers, manholes, Pump Stations, Force Mains, and all other major ancillary facilities.	
53	SOPs shall include all major work tasks required for the successful operation and maintenance of WCTS components including, but not limited to:	
53.a	Gravity Sewer Line and manhole cleaning and routine maintenance	3.1
53.b	Gravity Sewer Line CCTV and other internal inspections, including application of a nationally-recognized infrastructure condition scoring system that objectively rates the relative severities of the defects discovered	3.1
53.c	Manhole inspections, including application of a nationally-recognized infrastructure condition scoring system that objectively rates the relative severities of the defects discovered	3.1
53.d	Gravity Sewer Line and manhole construction, renewal, rehabilitation and repair performed by City crews	3.1
53.e	Pump Station general inspection, specific component inspection and testing, routine maintenance, and long-term maintenance to prevent Pump Station failures. Pump Station components include, but are not limited to: pumps, motors, engines, flow control valves, check valves, operating controls, electrical systems, SCADA systems and emergency power systems	3.1
53.f	Pump Station operational procedures, including adjustment/calibration of pump controls and operation of the alternate power system	3.1
53.g	Force Main and ancillary component inspection, routine maintenance and long-term preventive maintenance. Force Main ancillary components include, but are not limited to: check valves, flow control valves, air release valves, and vacuum breakers	3.1
53.h	WCTS ancillary component inspection, routine maintenance, and long-term preventive maintenance. WCTS ancillary components include, but are not limited to: flow splitting/combining structures and equipment, flow control devices, flow measurement devices, and EQ Facilities	3.1
53.i	All major work tasks required under the OERP for responding to and resolving SSOs and blockages in Gravity Sewer Lines, SSOs as a result of Pump Station malfunctions and/or hydraulic overloading, and SSOs resulting from Force Main failures	3.1

Section 2
Purpose and Goals of the SOPs Program Plan

The purpose of the SOPs Program is to provide a standardized set of instructions to be utilized by the Utility Department so as to promote the safe, effective, and successful work processes related to the operation and maintenance of the WCTS.

EPA's 2007 guidance document for SOPs, *Guidance for Preparing Standard Operating Procedures (SOPs) (QA/G-6)*, defines SOPs and their purpose in the following two passages:

> "A Standard Operating Procedure (SOP) is a set of written instructions that document a routine or repetitive activity. The development and use of SOPs are an integral part of a successful quality system as it provides individuals with the information to perform a job properly, and facilitates consistency in the quality and integrity of a product or end-result."
>
> "SOPs detail the regularly recurring work processes that are to be conducted or followed within an organization. They document the way activities are to be performed to facilitate consistent conformance to technical and quality system requirements and to support data quality. They may describe, for example, fundamental programmatic actions and technical actions such as analytical processes, and processes for maintaining, calibrating, and using equipment. SOPs are intended to be specific to the organization or facility whose activities are described and assist that organization to maintain their quality control and quality assurance processes and ensure compliance with governmental regulations."

Expanding on the EPA's G-6 definition, SOPs are also a formalized mechanism to capture and preserve institutional knowledge from experienced employees to avoid potential knowledge gaps resulting from staff retirements and attrition. Therefore, SOPs are also an important component of an organization's personnel training program, including, but not limited to, the formalized orientation process for new hires.

The purpose of the SOPs Program Plan is to provide a plan and schedule for developing SOPs for general operation and maintenance of the WCTS. It also includes the procedures for developing SOPs including a standardized format.

Section 3
Elements of the SOPs Program Plan

As part of the CMOM program, the SOPs Program, which is based on processes established by the *EPA QA/G-6 Guidance for Preparing Standard Operating Procedures*, is intended to provide the framework for the phased development of SOPs for the general operation and maintenance of the WCTS and includes the following elements:

- List of proposed SOPs for each of the WCTS components;
- Proposed schedule for development of SOPs;
- Procedures for developing or modifying SOPs; and
- Standard composition and outline of SOPs.

In addition to these central program plan elements, training, reporting, and incorporation of SOPs into the Information Management System (IMS) are all critical to the implementation of an effective SOP Program and are discussed in more detail in subsequent sections of this plan.

3.1 Proposed SOPs for Development

As outlined in the Consent Decree, SOPs shall be developed for general operation and maintenance of all components associated with the WCTS including:

- Gravity Sewers and Manholes;
- Pump Stations and Force Mains;
- Equalization (EQ) Storage Facilities;
- Overflow Emergency Response Procedures (OERP); and
- Safety.

The SOPs will function as discrete sets of concise instructions for executing routine activities related to specific work tasks associated with the respective WCTS operation and maintenance component.

Table 3-1 lists the SOPs that the Utility will develop for general operation and maintenance of all components of the WCTS, including gravity sewers, manholes, pump stations, force mains, and all other major ancillary facilities and for the OERP that will be implemented as part of the CMOM Program. The development and implementation schedule, also included in **Table 3-1**, takes into consideration the complexity of the SOPs to be created; the availability of resources; documents needed to establish the SOPs; the availability of key staff that will be interviewed and/or provide review of the SOP; and the scheduling of the subject work covered by each SOP. The schedule includes three phases of development to be completed in either 24 months, 48 months, or 72

months from approval by EPA. SOPs for "safety" and "OERP tasks" are highest priority and will be completed within 24 months.

The operation and maintenance tasks associated with a specific SOP shall be observed in the field, during both the development and implementation phases, so that adjustments can be made to the SOP document based on these observations. In some cases, the subject SOP activity may only be performed on an infrequent basis (such as annually); therefore, the field evaluation will be conducted during the subsequent scheduled activity date. In other cases, the subject activity may be one that occurs infrequently (such as an emergency response to a force main break), and thus, may require the activity to be simulated. Consequently, due to the time-contingent nature of these field evaluations, a minimum 24-month interval for the implementation of the first set of SOPs (**Table 3-1**) has been established to accommodate the field evaluation and subsequent edits to the draft SOP. The field evaluation of the execution of SOPs is discussed in further detail in Section 3.2.3.

Table 3-1. Proposed SOPs

Category	SOP Code	SOP Title	Proposed Schedule* (Months)	Consent Decree Paragraph
Gravity Sewers & Manholes	**Gravity Sewer and Manhole Cleaning and Maintenance**			**53a**
	0100-001-SWR	Assessing Blockage Conditions	72	
	0100-002-SWR	Using a Rod Truck to Clear a Blockage	48	
	0100-003-SWR	Using a Wash or Jet Truck to Clear a Blockage	48	
	0100-004-SWR	Normal Cleaning	48	
	0100-005-SWR	Determining the Results	72	
	0100-006-SWR	Work Site Cleanup	48	
	0100-007-SWR	Disposal of Removed Materials	48	
	Gravity Sewer CCTV and Other Inspections			**53b**
	0200-001-SWR	Setting up for Camera Insertion	48	
	0200-002-SWR	CCTV of Main Lines under 12 inches	24	
	0200-003-SWR	CCTV of Main Lines 12 inches or Greater	24	
	0200-004-SWR	Pipeline Assessment & Condition Coding, Records, and Reports	24	
	0200-005-SWR	Logging Inspection Observations	48	
	0200-006-SWR	Encountering Obstructions and Freeing the Camera	48	
	0200-007-SWR	Removal, Cleaning and Storage of the Camera and Cable	48	
	0200-008-SWR	Documenting the Work	48	
	0200-009-SWR	Inspecting City Cleanouts	72	
	0200-010-SWR	Inspecting Owner Cleanouts	72	
	0200-011-SWR	Inspecting a Main Line for Line Stoppage	72	
	0200-012-SWR	Tracing Service Lines	72	
	0200-013-SWR	Dye Testing	48	
	0200-014-SWR	Smoke Testing	48	
	0200-015-SWR	Inspection of Flow Measurement Devices	72	
	Manhole Inspection			**53c**
	0300-001-SWR	Manhole Cover Removal and Replacement	48	
	0300-002-SWR	Manhole Inspection Procedures and Forms	48	
	0300-003-SWR	Manhole Assessment & Condition Coding	48	

Category	SOP Code	SOP Title	Proposed Schedule* (Months)	Consent Decree Paragraph
	Gravity Sewer and Manhole Construction, Renewal, Rehabilitation, and Repair			**53d**
	0400-001-SWR	Manhole (MH) Repair - Point Repair	24	
	0400-002-SWR	Using Rim Inserts to Raise Elevation of MH Frame/Rim	72	
	0400-003-SWR	Patching MH Barrels and Cones Using Cement	72	
	0400-004-SWR	Patching MH Barrels and Cones Using Hand Troweled Grout	72	
	0400-005-SWR	Documenting Site Conditions, Pre-installation	48	
	0400-006-SWR	Main Line Excavation	24	
	0400-007-SWR	Installation of Pneumatic Plugs	24	
	0400-008-SWR	Main Line Point Repair Under 12 inches	24	
	0400-009-SWR	Main Line Point Repair 12 inches or Greater	24	
	0400-010-SWR	Making a Tap into the Main Line	24	
	0400-011-SWR	Connecting the Line and Testing the Connection	24	
	0400-012-SWR	Backfilling, Tamping and Covering Work	48	
Pump Stations & Force Mains	**Pump Station Inspection and Maintenance**			**53e**
	0500-001-SPS	Routine Inspection and Testing of Station Facilities (Daily Activities)	24	
	0500-002-SPS	Routine Inspection and Testing of Station Facilities (Weekly Activities)	24	
	0500-003-SPS	Routine Inspection and Testing of Station Facilities (Monthly Activities)	24	
	0500-004-SPS	Routine Inspection and Testing of Station Facilities (Quarterly Activities)	24	
	0500-005-SPS	Routine Inspection and Testing of Station Facilities (Annual Activities)	24	
	0500-006-SPS	Alarm System Functional Testing	48	
	0500-007-SPS	Alternate Power System Inspection	48	
	Pump Station Operational Procedures			**53f**
	0600-001-SPS	Pump Removal and Installation	48	
	0600-002-SPS	Wetwell Cleaning Procedure	48	
	0600-003-SPS	Troubleshooting Pumping Problems	48	
	0600-004-SPS	Adjustment/Calibration of Pump Controls	48	
	0600-005-SPS	Odor Control Measures	72	
	0600-006-SPS	Flow Splitting Device Operation	48	
	Force Main and Ancillary Component Inspection and Maintenance			**53g**
	0700-001-SPS	Force Main Locate	48	
	0700-002-SPS	Evaluation of Force Mains for Inspection	48	
	0700-003-SPS	Inspection, Cleaning, and Replacement of Force Main Ancillary Equipment**	48	
	0700-004-SPS	Annual Review of Discharge Head to Determine Cleaning Needs	72	
Equalization (EQ) Storage Facility	**Ancillary Component (EQ Basin) Inspection*** **			**53h**
	0800-001-SEF	Monitoring for Solids and Cleaning Procedure	72	
	0800-002-SEF	Routine Inspection	48	
OERP Program	**Overflow Emergency Response Program Major Tasks**			**53i**
	0900-001-SWR	SSO Operations - Notification Procedure	24	
	0900-002-SWR	SSO Operations - First Response Procedure	24	
	0900-003-SWR	SSO Operations - Bypass Pumping Operation	24	
	0900-004-SWR	SSO Operations - Treatment of Overflow	24	
	0900-005-SWR	Sewer Blockage or Surcharging	24	
	0900-006-SWR	Response to Sewer Backup into Building	24	
	0900-007-SWR	Sewer Main Break/Collapse	24	
	0900-008-SWR	Wastewater Pump Station Alarms—General Response Actions	24	

Category	SOP Code	SOP Title	Proposed Schedule* (Months)	Consent Decree Paragraph
	0900-009-SWR	Secondary Power Failure During Power Outage	24	
	0900-010-SWR	Sewage Force-Main Break (residential neighborhood and cross country easement non-residential area)	24	
Safety	**Safety**			
	1000-001-GEN	Work Zone Traffic Control	24	
	1000-002-GEN	Confined Space Entry	24	
	1000-003-GEN	Trenching and Shoring	24	

* Proposed schedule lists number of months, following EPA's approval of the plan, for implementation of each specific SOP.

** Force Main ancillary components include, but are not limited to, check valves, flow control valves, air release valves, vacuum breakers, and all other appurtenance equipment.

*** The WCTS does not currently include any other ancillary components apart from the EQ basins. However, if any future ancillary components are added to system, such as flow control devices, flow measurement devices, SOPs shall be developed accordingly.

3.2 Procedures for Developing or Modifying an SOP

The staple of a successful SOP development program is that it be conducted as a collaborative effort. Therefore, the process of developing effective SOPs will entail leveraging the Utility's institutional knowledge by engaging knowledgeable Utility personnel in order to capture and preserve that expertise as part of the documents.

In developing SOPs, the Utility will follow the process outlined in the following subsections.

3.2.1 Collaboration on the First Draft of the SOP

The process will begin by identifying the key personnel within the Utility who are associated with the subject matter being addressed in each SOP. Once the appropriate personnel are identified, one or more workshops will be conducted with these select staff members to provide a forum where they can share knowledge on operations and related equipment, which they deem as necessary for safe and effective practices relating to the SOP's subject matter. The workshop(s) will also be an opportunity for personnel to provide feedback on potential pitfalls/hazards associated with specific operations and the procedures necessary to minimize/avoid likelihood of encountering such issues in the future.

Once complete, the pertinent information compiled from the workshop(s) will be incorporated into a first draft of the SOP.

3.2.2 Review of the First Draft of the SOP

Following the completion of the draft SOP, the SOP will be reviewed to identify any incorrect information or potential hazards associated with the procedures provided in the SOP. Once reviewed and comments are provided, modifications will be made to the document, as necessary.

3.2.3 Field Evaluation

The next step will involve scheduling a meeting with the appointed representatives to perform a field evaluation (field-proofing). The field evaluation will consist of observing Utility field personnel using the draft SOP to perform operational and maintenance tasks, and checking that crews are able to execute the SOP directives as written. Deficiencies observed during the field

evaluation will be documented, and the draft SOP will be modified, as needed. Additionally, the field evaluation can be used to perform the following tasks:

- Identify any tools and/or personal protective equipment (PPE) required to perform the procedure safely and efficiently to include in the final SOP.
- Take photographs of the process/equipment and or create simple schematics. These photographs and/or schematics can be included in the final SOP.
- Identify or create checklists or other attachments that will enhance the ability to perform the procedure.

In some cases, the subject SOP activity may only be performed on an infrequent basis (such as annually); therefore, the field evaluation will be conducted during the subsequent scheduled activity date. In other cases, the subject activity may be one that occurs infrequently (such as an emergency response to a force main break), and thus, require the activity to be simulated. Consequently, due to the time-contingent nature of these activities, a minimum 24-month interval for the implementation of the first set of SOPs (**Table 3-1**) has been established to accommodate the field evaluation and subsequent edits to the draft SOP.

3.2.4 Incorporation of Changes

Following the field evaluation, the document will be modified to reflect any remaining changes identified during the walk-through and integrate photographs and/or schematics into the text. The final draft of the SOP will be distributed for review to the individuals identified for review. Some review comments may require further clarification, either with the individual and/or at the site.

To assist in cataloging the SOP documents, Utility-appointed personnel will use a SOP Code based upon process/activity location, process/activity type, or equipment/location ID numbers corresponding to an index of the SOPs applicable to that particular equipment or location (see code examples in **Table 3-1**). The final SOP should incorporate a revision date and a coding to account for revised versions.

3.3 Standardized Composition of SOPs

SOPs should be written in a concise, step-by-step, easy-to-read format with sufficient detail, so that a person with limited experience or knowledge of the procedure, can successfully reproduce the procedure unsupervised. The information presented should be unambiguous and not overly complicated. Typical format and composition for development of an SOP are provided in the following subsections, 3.3.1 and 3.3.2.

3.3.1 SOP Page Setup

A critical element of a suitable SOP is consistency in the formatting. A consistent SOP format would begin with the document's headers. A typical header will contain the minimum information as provided in **Figure 3-1**.

STANDARD OPERATING PROCEDURE CATEGORY: SOP CODE: SOP TITLE:	REVISION NUMBER: XXX REVISION DATE: XX/XX/XXXX PAGE 1 of n

Figure 3-1. Typical SOP Header

3.3.2 Typical Outline for SOPs

Table 3-2 describes a typical outline for the SOPs. Adhering to this sectional outline will facilitate a level of consistency/uniformity throughout the SOPs pertaining to the WCTS.

Table 3-2. Typical SOP Outline

Subsection Number	Subsection Title
1.0	Objective
2.0	Background
3.0	Safety Procedures
4.0	Potential Hazards
5.0	Associated Procedures
6.0	Responsibilities
7.0	Required Equipment
8.0	Restrictions or Limitations
9.0	Procedure
10.0	References
11.0	Review and Updating

Once the SOP Program has been implemented, abbreviated file names, such as the SOP code, may be used for identification purposes. As such, when a new SOP is created, or an existing SOP is amended, the abbreviated file names will serve in identifying the SOPs. Furthermore, when a new SOP is developed, the outline in **Table 3-2** will provide the standardized list of information for inclusion in the document.

Section 4
Record Keeping and Reporting

4.1 Record Keeping

As required by the Consent Decree, records associated with the SOPs Program will be saved in the Utility Department document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its Information Management System (IMS), as described in Article Seven, Paragraph 50 of the Consent Decree, will be submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 42 of the Consent Decree, the City must report progress on the SOP Program activities performed in each calendar year in the Annual Report for that calendar year as described in Section X of the Consent Decree.

4.3 Periodic Review, Evaluation, and Revision

As part of the Utility's annual reporting process, the Program shall be reviewed and evaluated by Utility personnel in order to determine whether the objectives set forth by the Consent Decree are being met, or if improvements to the plan are needed. If an element of the Program is identified as being ineffectual or impracticable, then the Utility will propose the necessary amendments, or submit a revised plan, as part of the Annual Report.

Section 5
Training

Training on SOPs will involve managers reviewing relevant SOPs with staff and confirming their understanding.

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must also include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the Utility's employees. The CTP plan will be submitted to EPA for approval within 18 months of the Date of Lodging (i.e., by July 1, 2016). The CTP will be directly related to the operation and maintenance of the WCTS and include the details of staff training on SOPs as appropriate.

Attachment 14
Private Service Line Defect Remediation Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

PRIVATE SERVICE LINE DEFECT REMEDIATION PROGRAM PLAN

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Private Service Line Defect Remediation Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, or expressly stated in the City of Fort Smith sewer use ordinances and regulations, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Private Service Line Defect Remediation Program Plan

The Private Service Line Defect Remediation Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 54 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Following EPA's approval, the City will initiate the implementation of the Private Service Line Defect Remediation Program. **Table 1-1** provides a list of the Consent Decree requirements for the Private Service Line Defect Remediation Program and the section of this document that addresses each requirement.

Table 1-1 Summary of Consent Decree Requirements for the Private Service Line Defect Remediation Program

Consent Decree Paragraph	Consent Decree Requirement	Program Plan Section
54.a.	**Legal Authority** –Demonstration that the City already possesses adequate legal authority, through ordinances or otherwise, to require owner(s) to repair, rehabilitate, replace or take other appropriate action to prevent Private Service Lines from contributing infiltration and inflow to the WCTS that could cause or contribute to sanitary sewer overflow (SSOs).	3.2
54.b.	**Escalating Notification Process** – An escalating notification process in which the City shall notify owner(s) of defective Private Service Lines of their obligation to prevent the Private Service Line from contributing infiltration and inflow to the WCTS that could cause or contribute to SSOs.	3.4.1
54.c	**Escalating Penalty System** – An escalating penalty system to encourage owner(s) to expeditiously remediate defective Private Service Lines, including the right to discontinue sewer/water service for failure to comply with remediation orders within the time limits specified in those orders subject to the property owner's due process rights under local, State and Federal law.	3.4.2
54.d.	**Remediation Schedule** – A requirement that remediation of defects identified after the Date of Lodging shall be completed as rapidly as technically feasible, but no later than thirty (30) months after the discovery of the defective Private Service Lines contributing infiltration and inflow to the WCTS that could cause or contribute to SSOs, unless the owner of the Private Service Line in question qualifies for the Supplemental Environmental Project (SEP) program described in Appendix F of the Decree, in which case the defect shall be remedied within the first six (6) years of implementation of the SEP.	3.5

Section 2
Purpose and Goals of the Private Service Line Defect Remediation Program

The Private Service Line Defect Remediation Program is a component of the City's comprehensive CMOM Program and is intended to remediate identified private service line defects, in a timely manner, to address infiltration and inflow (I&I) into the system that could cause or contribute to SSOs.

The purpose of the Private Service Line Defect Remediation Program is to encourage private service line owners to remediate defects in private service lines that are sources of I&I, and that could cause or otherwise contribute to the occurrence of SSOs. A primary goal of the Private Service Line Defect Remediation Program is to delineate a clear process for remediation of determined defects in residential or commercial private service lines. The Program outlines procedures for notification of property owners of apparent defective private service lines; the timeline by which repairs must be made; the penalty system to be utilized by the Utility for enforcement of remediation orders, and the due process rights of property owners and other users; all of which are detailed in the Fort Smith sewer use ordinances and regulations. This plan outlines the elements that comprise the Utility's Program to address sources of I&I from defective private service lines that could cause or contribute to SSOs.

For the purposes of the Private Service Line Defect Remediation Program, the term "private service line" corresponds with the definition provided in the Consent Decree as "a sewer line which is not owned or operated by the City, but which conveys wastewater from a building to a main line of the WCTS." The City owns and operates the portion of the line within their easement or right-of-way (i.e., from the main line to the property line), and the property owner is responsible for the service line from the building to the easement or right of way (i.e., to the property line). This program does not cover Private Service Line Releases, which are defined by the Consent Decree as "any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States".

Section 3
Elements of the Private Service Line Defect Remediation Program

The Private Service Line Defect Remediation Program is comprised of the following central elements:

- Legal authority, which is achieved through the Fort Smith sewer use ordinances and regulations, requiring owner(s) to repair, rehabilitate, replace or take other appropriate action to prevent private service lines from contributing I&I to the WCTS that could cause or contribute to SSOs;
- An escalating notification process in which the City will notify owner(s) of defective private service lines of their obligation to prevent the private service line from contributing I&I to the WCTS that could cause or contribute to SSOs;
- An escalating penalty system to encourage owner(s) to expeditiously remediate defective private service lines, including the right to discontinue sewer/water service for failure to comply with remediation orders within the specified time limits subject to the property owner's due process rights under local, State and Federal law; and
- A requirement that remediation of defects identified after the Date of Lodging will be completed as rapidly as technically feasible, but no later than thirty (30) months after the discovery of the defective private service lines contributing I&I to the WCTS that could cause or contribute to SSOs, unless the owner of the private service line in question qualifies for the SEP program described in Appendix F of the Decree, in which case the defect will be remedied within the first six (6) years of implementation of the SEP.

In addition to these central program elements, Standard Operating Procedures (SOPs), training, and incorporation of data regarding private service line defects into the City's Information Management System (IMS) are all important to implementing an effective Private Service Line Defect Remediation Program.

3.1 Definition of a Private Service Line

The Consent Decree defines a private service line as a "sewer line which is not owned or operated by the City, but which conveys wastewater from a building to a main line of the WCTS". The City owns and operates the portion of the service lines within the City's easement or right of way, i.e., extending from the mainline connection to the property line. The portion of the service line that extends from the easement or right of way (i.e., the property line) to the building is owned and operated by the private property owner(s) (see **Figure 3-1** for an illustration).

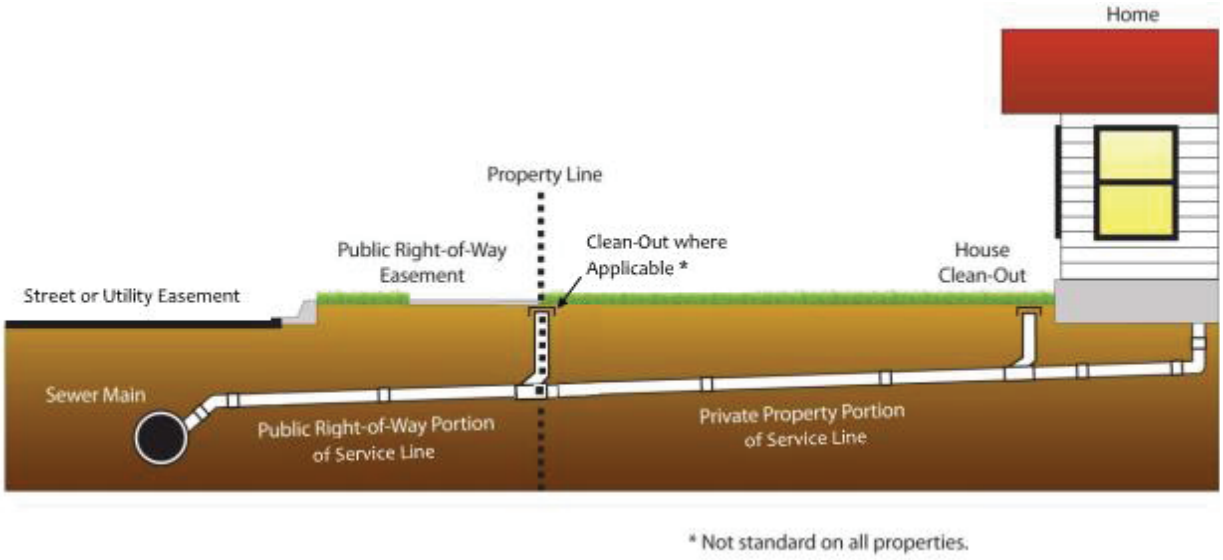

Figure 3-1
Typical Service Line Division of Responsibility

3.2 Legal Authority

The Fort Smith sewer use ordinances, codified in the Fort Smith Municipal Code, and the Fort Smith WCTS Private Service Line Rules and Regulations provide adequate legal authority to implement the Private Service Line Defect Remediation Program. The legal authority gives the City the ability to require owners of private service lines to repair, rehabilitate, replace, or take other appropriate action, within the specified time frame, to remediate lines identified as defective.

3.3 Identification and Discovery of Defective Private Service Lines

The City will identify defective private service lines as a result of work completed pursuant to Section V of the Consent Decree (i.e., through implementation of the SSA, CSSA, and other WCTS operation and maintenance programs). Once a possible defect is identified, the City Administrator or his designee will make a determination as to whether it is an actionable defect, i.e., if it is determined that it could cause or contribute to an SSO. The determination of an actionable defect that could cause or contribute to an SSO is considered the "discovery" of the defect, and it is at this point that the remediation timeline of thirty (30) months begins, unless the owner of the Private Service Line qualifies for the SEP program. The SEP is further described in **Section 3.5.1**.

3.4 Notification and Enforcement Response Guide

Enforcement of the Private Service Line Defect Remediation Program will include an escalating notification process to promote voluntary compliance by the property owner. In instances where voluntary compliance cannot be achieved, these procedures will include an escalating penalty system as a means for enforcement of repairs by the property owners. Each of these components are discussed in further detail in the following sections.

3.4.1 Escalating Notification Process

A central element of the Private Service Line Defect Remediation Program is a notification process that will provide the Utility Department with a means to communicate with property owners who have actionable private service line defects in need of remediation. The notification process will provide a timeframe in which repairs must be completed.

The Utility will develop an escalating notification process to inform the owner of the discovered actionable defects and advise the property owner of their responsibility for implementing the needed repairs. The escalating notification process is intended to promote timely compliance with the Program. Notification will be achieved via written notices delivered to property owners. Implementation of the notification process will be the driver for the escalating penalty system.

3.4.2 Escalating Penalty System

In the event that the escalating notification process is not sufficient to obtain compliance with the Private Service Line Defect Remediation Program, the Utility will impose escalating penalties to require owners to address actionable defects in their lines. The Fort Smith sewer use ordinances and regulations provide for the imposition of penalties for violations of the rules. Penalties may include fines assessed and/or the termination of water service.

3.5 Remediation Schedule

Actionable defects to private service lines will be repaired as soon as technically feasible, but no later than thirty (30) months after the actionable defect is discovered; unless the line in question is repaired under the SEP Program, in which case, separate time frames apply (see **Section 3.5.1** for a discussion of the SEP Program).

3.5.1 Private Service Line Supplemental Environmental Project (SEP)

As part of the Consent Decree, the City agreed to implement a SEP, which involves a grant program for the repair or replacement of private service lines for eligible residential property owners, in accordance with Appendix F of the Consent Decree. The purpose of the SEP is to reduce I&I that may cause or contribute to SSOs originating from defects in private service lines.

Section 4
Record Keeping and Reporting

This section of the Plan describes procedures for record keeping and reporting on the Private Service Line Defect Remediation Program, as well as procedures for the periodic review, evaluation, and revision of this Plan.

4.1 Record Keeping

As required by the Consent Decree, records associated with the Private Service Line Defect Remediation Program will be saved in the Utility Department's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing field and office information. The City's plan for modifying its IMS, as described in Article Seven, Paragraph 50 of the Decree, is being submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 54 of the Decree, the City must report the status of the Private Service Line Defect Remediation Program efforts each calendar year in the Annual Report for that calendar year as described in Section X of the Consent Decree.

The Annual Report will include the following information related to the Private Service Line Defect Remediation Program, as outlined in Paragraph 94.k of the Consent Decree:

- A tabulation, including the property address, of the locations where private service line actionable defects were identified through CSSA activities or otherwise became known to the City in the Annual Report Year;
- A tabulation of the locations, including the property address, where private service line actionable defect remediation was completed in the Calendar Year; and
- A tabulation, by property address, of the locations where actionable private service line defects were identified in prior years, but where defect remediation has not yet been completed.

4.3 Periodic Review, Evaluation, and Revision

As part of the Utility's annual reporting process, this Plan shall be reviewed and evaluated by Utility personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of this Plan is identified as being ineffectual or impracticable, then, the Utility will propose the necessary amendments or submit a revised plan as part of the Annual Report.

Section 5
Training and Standard Operating Procedures

5.1 Training

Per Article Seven, Paragraph 55 of the Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the Utility's employees. The CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (submitted June 28, 2016). The CTP is directly related to the operation and maintenance of the sanitary sewer collection system for the purpose of responding to and preventing SSOs.

5.2 Standard Operating Procedures (SOPs)

The plan and schedule for developing SOPs for general operation and maintenance of all components of the WCTS was detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (submitted June 28, 2016) per the Consent Decree.

Attachment 15
Comprehensive Training Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

Comprehensive Training Program Plan

June 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

6/22/16

Date

Comprehensive Training Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless defined otherwise herein, or expressly stated in the City of Fort Smith Sewer Use Ordinance, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Line or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building line

(i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than 24 months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of 13 separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the long-term requirements of EPA and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Comprehensive Training Program Plan

This Comprehensive Training Program (CTP) Plan has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 55 of the Consent Decree and must be submitted to EPA for review no later than eighteen (18) months from the Date of Lodging of the Consent Decree (i.e., by July 1, 2016). Following EPA's approval, the City will implement the Comprehensive Training Program. **Table 1-1** provides a list of the Consent Decree requirements for the Comprehensive Program and the sections of this document that addresses each requirement.

Table 1-1. Summary of Consent Decree Requirements for the Comprehensive Training Program

Consent Decree Paragraph	Consent Decree Requirement	Comprehensive Training Program Plan Section
55	Training shall be directly related to operation and maintenance of the sanitary sewer collection system for the purpose of responding to and preventing SSOs. Technical and skills training shall be devised to achieve the Objectives of the Consent Decree. The CTP shall include at a minimum:	
55.a	A list and description of the categories of employees who will be provided training in specific topics related to SSO prevention and response measures that can be addressed through operation and maintenance of the collection system, with specific training commensurate with the specific job responsibilities of each category of employee.	3.1, 3.2. 3.3
55.b	A list and description of the topics to be covered in technical and skills training for each relevant category of employee, including where appropriate: training on sewer cleaning, FOG inspection, collection system inspection, collection system repair, replacement and rehabilitation techniques, data collection, information management, reporting, and recordkeeping necessary to implement the City's CMOM Program.	3.1, 3.2. 3.3
55.c	A list of City employee training categories and description of the technical and skills training to be covered for each relevant category of employee.	3.1, 3.2. 3.3
55.d	A description of how the training relates to any applicable employee certification required by State or Federal law.	3.2
55.e	A description of the record keeping system of employee technical training, skills training, and safety training (whether on-the job, or otherwise).	4.1

Section 2
Purpose and Goals of the Comprehensive Training Program

The Comprehensive Training Program is a component of the City's CMOM Program and is intended to provide a program by which Utility Department (Utility) personnel receive proper training in the procedures related to operating and maintaining the sanitary sewer collection system. Once implemented, the training program shall promote the safe, efficient, and successful technical skills associated with operating and maintaining the City's WCTS to satisfy EPA Consent Decree objectives.

In meeting the EPA requirements, the objectives of the Comprehensive Training Program Plan as related to operations and maintenance of the WCTS shall be as follows:

- Identify the technical and skills training that employees will need to effectively and safely perform their duties:
- Target training to specific categories of labor and/or personnel based on job descriptions;
- Provide subject specific curriculum and associated training materials for each required CMOM program component, or a means to achieve this from an outside source;
- Identify and develop internal and external resources for training employees, whereby, appropriate personnel acquire and maintain certifications and licenses required for their positions; and
- Implementation of a system for maintaining employee training records.

Section 3
Elements of the Comprehensive Training Program

As further detailed below, the Comprehensive Training Program shall be established on three fundamental elements:

- Technical training;
- Skills training; and
- Safety training.

The technical training component shall include, at a minimum, the following:

- Employee technical training and refresher technical training requirements (curriculum) that require each employee has a level of knowledge, commensurate with duties, of the overall functions of the City's infrastructure;
- A list and description of technical training and networking opportunities, such as conferences and seminars, that are available to employees;
- List and description of voluntary certification opportunities, at both the State and the City level, to be encouraged by the Utility as a component of training programs for specific positions;
- Records of technical training, including "on the job" training, to be maintained as part of the Information Management System (IMS), through which an employee's technical training can be catalogued for use during annual appraisals; and
- A list and description of the technical training required for specific work assignments or tasks.

The skills training component shall contain, at a minimum, the following:

- Employee skills training and refresher skills training requirements (curriculum) that require each employee has a level of knowledge, commensurate with duties, of the specific equipment to be used and the procedures to be followed in carrying out duties;
- A list and description of skills training opportunities, such as third-party training, that are available to employees;
- Records of skills training, including "on the job" training, to be maintained as part of the IMS, through which an employee's skills training can be catalogued for use during annual appraisals; and
- A list and description of the skills and on-the-job training for specific work assignments or tasks.

Training related to safety is incorporated as part of the technical and skills training components.

3.1 Utility Department Organizational Structure

The City of Fort Smith's Utility Department is divided into various programs, with one being the Communications and Training Program. Under this program, there are dedicated safety and training staff in the Utility Department.

Specific responsibilities of these staff include, but are not limited, to the following:

- Implementing the Comprehensive Training Program;
- Providing required training as part of orientation for new employees of the Utility Department;
- Coordinating with managers and supervisors to establish training standards for staff;
- Developing and acquiring training materials;
- Developing contracts with outside training providers;
- Scheduling training sessions for Utility personnel;
- Maintaining a training calendar and communicating with managers and supervisors on training;
- Coordinating activities related to training database with appropriate IMS personnel;
- Maintaining copies of individual training records; and
- Conducting an annual review of the training program, including guidance documents and training materials, and making recommendations for improvement to the Utility Department administration.

The Utility Department has eight training categories of employees related to SSO prevention in the collection system. The categories and training required for each are discussed in **Section 3.2.1**.

3.2 Technical Training Program

The technical training program shall address the requirements, materials, and conditions for proper operation and maintenance of the WCTS.

To satisfy the requirements of the Consent Decree, a formal Technical Training Program shall be implemented as part of the Comprehensive Training Program. The Technical Training Program will provide training to employees, both through formal courses as well as "on the job" training, on performing their duties safely, effectively, and efficiently. This training may be taught by Utility personnel, while others may be provided by outside organizations or vendors. An employee must receive training before performing certain specified tasks such as closed circuit television (CCTV) inspection of a gravity sewer line or performing a FOG inspection. Records will be maintained

(within the IMS) to document required training for specific personnel, in addition to completed training, as discussed in Section 4.

Training and course work may include the following three phases (as applicable):

- Initial training (orientation);
- Refresher training; and
- Certification (and recertification), when required.

3.2.1 Technical Training Master Sheet

Technical training curriculums for employees of the Utility Department will be developed in order to satisfy the Consent Decree requirements for specific CMOM program components. Courses include, but are not necessarily limited to, the following:

- WCTS Configuration, Facilities, and Overview;
- Consent Decree Program Overview including CMOM Implications and Requirements;
- Sewer Overflow Response;
- Sewer Cleaning;
- Fats, Oils, and Grease (FOG) Inspection;
- WCTS Inspections;
- Pump Station Inspection;
- WCTS Repair, Replacement, and Rehabilitation Techniques;
- Pump Station Operations & Maintenance/Repair;
- Excavation Safety;
- Work Zone Safety (including Traffic Control);
- Information Management, Data Collection, Reporting and Recordkeeping;
- Safety – Confined Space Entry;
- Safety – Lockout/Tagout; and
- Safety – General Orientation.

A Technical Training Master Sheet, which will include categories of employees within the Utility Department and organized by work groups, will be utilized to outline the different training

courses, including technical, skills, and safety as they apply to each specific position. The eight (8) categories of employees are:

- Sewer Cleaning;
- SSO Response;
- Sewer Pump Station;
- FOG Inspection;
- WCTS Inspection;
- Sewer System Repair and Construction;
- Private Service Line; and
- Information Management System

The Technical Training Master Sheet is provided as **Table 3-1**. Each employee position will fall into one or more of the eight (8) employee categories, based on the responsibilities associated with that position. As such, the corresponding employee technical training, skills training, and safety training (whether on-the-job or otherwise) will be saved in the City's document management system and maintained, as required, under the records retention policy as described in **Section 4.1, Record Keeping**.

Table 3-1. Technical Training Master Sheet

Comprehensive Training Program Plan **Employee Category**	Technical and Skill Training Topics															
	WCTS Configuration, Facilities, Overview	Consent Decree Program Overview including CMOM Implications & Requirements	Sewer Overflow Response	Sewer Cleaning	FOG Inspection	WCTS Inspection	WCTS Repair, Replacement and Rehabilitation Techniques	Pump Station Inspection	Pump Station O&M/Repair	Excavation Safety	Work Zone Safety (including Traffic Control)	Information Management, Data Collection, Reporting & Recordkeeping	Safety, Confined Space Entry	Safety, Lockout/ Tagout	Safety, General Orientation
Sewer Cleaning Includes the Combination Jet/Vacuum Truck and Rod Truck personnel that support WCTS inspections.	✓	✓	✓	✓						✓	✓	✓	✓		✓
SSO Response Includes personnel that respond to sanitary sewer overflows.	✓	✓	✓	✓		✓				✓	✓	✓	✓		✓
Sewer Pump Station Includes personnel responsible for the operation and maintenance of the sewer pump stations.	✓	✓	✓					✓	✓	✓		✓	✓	✓	✓
FOG Inspection Includes personnel responsible for inspection of FOG control devices, permitting and enforcement.	✓	✓			✓					✓	✓	✓			✓
WCTS Inspection Includes personnel responsible for CCTV, dye and smoke testing, manhole, pipeline, and lateral inspections, and assignment of condition ratings	✓	✓		✓		✓				✓	✓	✓	✓		✓
Sewer System Repair and Construction Includes personnel responsible for repairs, construction, and air relief valve maintenance.	✓	✓	✓				✓			✓	✓	✓	✓		✓
Private Service Line Includes personnel that manage private service line issues.	✓	✓	✓							✓		✓			✓
Information Management System Includes information management personnel, work order management personnel, and GIS personnel.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

3.2.2 Outside Training Opportunities

Part of the implementation of this plan may include identification of outside resources for the course curriculum. Some outside resources provide the materials for use by the Utility staff, while others provide the actual training. These resources include professional organizations, educational institutions, and government agencies. Training material to be used may include videos, interactive online courses, correspondence courses, textbooks, and brochures. The following includes where this training material is available:

- Water Environment Federation (WEF), including the Arkansas Water Environment Association (AWEA);
- U.S. Environmental Protection Agency (EPA);
- Arkansas Department of Environmental Quality (ADEQ);
- Training from other organizations specializing in technical education. Specific examples include:
  - University of Arkansas Department of Industrial Technology;
  - Arkansas Environmental Training Academy;
  - Arkansas Rural Water Association;
  - California State University, Sacramento, Office of Water Programs;
  - Arkansas Department of Labor; and
  - Arkansas Highway and Transportation Department's Technology Transfer Program.
- Training from other vendors with expertise in specific topics. Training topics may include the following:
  - Materials of Construction and Design Considerations for Sewer Pipe;
  - Sewer Trench Backfill Materials and Compaction Requirements;
  - Trenching and Shoring;
  - Collection System Operation and Maintenance;
  - Biological Activity and Pathogens in Wastewater;
  - Hazardous Materials Safety;
  - Confined Space Entry; and
  - Electrical Safety.

Training opportunities also exist from the private sector such as equipment vendors, labs, and consultants on an ad hoc basis. Frequent use of these resources should be encouraged and woven into the educational approach for the Department.

3.3 Skills Training Program

Skills training addresses the methods, procedures, and techniques required for proper operation and maintenance of the collection system.

Currently, skills training is developed "on the job" to improve the skills of the employees within the Utility Department. As part of the Comprehensive Training Program, the Utility shall evaluate the requirements for each employee category and allocate the corresponding required training.

Before an employee assumes responsibility of a task requiring a high degree of technical skill to properly perform (or ones that are specialized in nature), he or she shall be assigned to complete the appropriate training. It is anticipated that the majority of skills training is conducted on the job by supervisors or seasoned employees. Several different opportunities also exist for an employee to participate in specialized course training, such as equipment vendors or outside organizations comprising the wastewater industry. Tracking completed O&M activity training will be catalogued and maintained as part of the IMS.

The industry recognized core competencies are clustered into the following job duties:

- Operation of Equipment;
- Evaluation and Maintenance of Equipment;
- Maintenance and Restoration of Collection System;
- Maintenance of Lift Stations;
- Monitoring, Evaluation, and Adjustment of WCTS; and
- Performance of Security, Safety, and Administrative Procedures.

In conjunction with the formal and classroom-based training, one of the most essential means of successful staff development is administered through "on-the-job"/mentorship training. Employee supervisors/seasoned employees experienced in a particular area of operation may be utilized for training less experienced personnel while in the field. The trainee participating in this type of hands-on training may be periodically assessed/evaluated by the supervisor until the trainee can demonstrate their proficiency in that particular area of WCTS operations. Examples of this type of "in-house" skills training may include the following:

- Cleaning out main lines;
- Smoke testing;
- Installing services; and
- Repairing main lines.

Training relevant to performance of collections systems operations and maintenance, safety, and relevant SOPs may include training on the following equipment:

- Rod Trucks;
- Combination Jet/Vacuum Trucks;
- CCTV Trucks; and
- Pump Station Equipment (pumps, valves, motors, controls, alarms, screens, etc.)

As part of the skills training program, Utility personnel may utilize skills training opportunities provided by the same professional organizations, educational institutions, government agencies, and equipment vendors as listed in **Section 3.2.2**.

Safety training is a necessary component of skills training, and serves to reduce injuries, minimize and avoid property damage, legal liability, illnesses, workers' compensation claims, and missed time from work. Safety training courses helps employees to perform their duties safely and effectively.

Examples of safety topics include:

- Confined Space Entry;
- Lockout/Tagout;
- Personal Protective Equipment; and
- Personal Sanitation.

Other training relevant to safety includes, but is not limited to:

- General safety training - Backhoe/loader use, basic electrical safety, fall protection, traffic control, flagger safety, trenching safety, ladder safety;
- First aid and CPR;
- Blood-borne Pathogens Control - Established to adopt universal precautions in order to prevent contact with blood or other potentially infectious materials; and
- Hazard Communication – Chemical Right to Know Act was established to insure that the hazards of all chemicals utilized for collection system maintenance are evaluated and that pertinent information is transmitted to potentially exposed employees.

Section 4
Record Keeping and Reporting

4.1 Record Keeping

As required by the Consent Decree, records associated with the Comprehensive Training Program for employee technical training, skills training, and safety training (whether on-the-job or otherwise) will be saved in the City's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its Information Management System (IMS), as described in Article Seven, Paragraph 50 of the Consent Decree, will be submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article X, Paragraph 94.l of the Consent Decree, the City must provide a tabulation of the employee training activities, required under Article Seven, Paragraph 55, conducted in the Annual Report Year including, but not limited to:

- Category of Utility Department employees directly or indirectly involved in the operation and maintenance of the WCTS;
- Specific training received by each category of Utility Department employee in prior Calendar Years and received in the Annual Report Year.

4.3 Periodic Review, Evaluation, and Revision

As part of the Utility's annual reporting process, this Plan shall be reviewed and evaluated by Utility personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of this Plan is identified as being ineffectual or impracticable, then the Utility will propose the necessary amendments, or submit a revised plan, as part of the Annual Report.

Attachment 16
Inventory Management System Demonstration

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

INVENTORY MANAGEMENT SYSTEM DEMONSTRATION

December 2016

CITY OF FORT SMITH, ARKANSAS

Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert Roddy

Robert Roddy, Interim Director of Utilities
City of Fort Smith, AR
Utility Department

12/14/16

Date

Inventory Management System Demonstration

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry- weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24)inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b) (20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA). One of the components includes the demonstration of the City's Inventory Management System as described within this document.

Section 1
Consent Decree Requirements for the Inventory Management System

The Inventory Management System documentation herein has been prepared to address the requirements set forth in Article Seven, Paragraph 56 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). **Table 1-1** provides a list of the Consent Decree requirements for the Inventory Management System and the section of this document that addresses each requirement.

Table 1-1 Summary of Consent Decree Requirements for the Inventory Management System

Consent Decree Paragraph	Consent Decree Requirement	Section
56	An Inventory control system for tracking spare parts usage, prioritizing spare parts purchase and stockpiling, and generating reports on spare parts inventory control.	3.1
56	A system for vehicle fleet preventative maintenance and replacement that maximizes the availability of City vehicles and equipment for WCTS operation and maintenance activities.	3.2
56	A listing of sources of rental and loaner vehicles and equipment available for City use during times of emergency or when City vehicles and/or equipment are out of service.	Appendix A

Section 2
Purpose and Goals of the Inventory Management System Demonstration

The Inventory Management System falls under both the City's Business and Finance Program and Fleet, Building, Station, & Easement Program. It is intended to provide a framework of business rules, information systems, facilities, and human resources necessary to support departmental functions including operation and maintenance of the WCTS.

The primary goal of the Inventory Management System is to provide a structured approach to the purchase, warehousing, tracking, release, and accounting of materials, tools, and equipment used in the day-to-day operation and maintenance of the WCTS.

In keeping with the Consent Decree requirements, the objectives of this document shall be to demonstrate a completed Inventory Management System by detailing all of the resources, facilities, policies, procedures, and workflows related to the WCTS and fleet maintenance. In addition, supporting documentation, such as inventory reports, critical parts list, and the vehicle vendor list are included as appendices.

Section 3
The Inventory Management System

This section describes components of the completed Inventory Management System:

- **Inventory Control System**
  - Organizational Structure;
  - Information System(s);
  - Facilities;
  - Departmental Operating Policies and Procedures; and
  - Recordkeeping and Accounting.
- **Fleet Preventative Maintenance**
  - Organizational Structure;
  - Information System(s);
  - Facilities;
  - Departmental Operating Policies and Procedures; and
  - Recordkeeping.

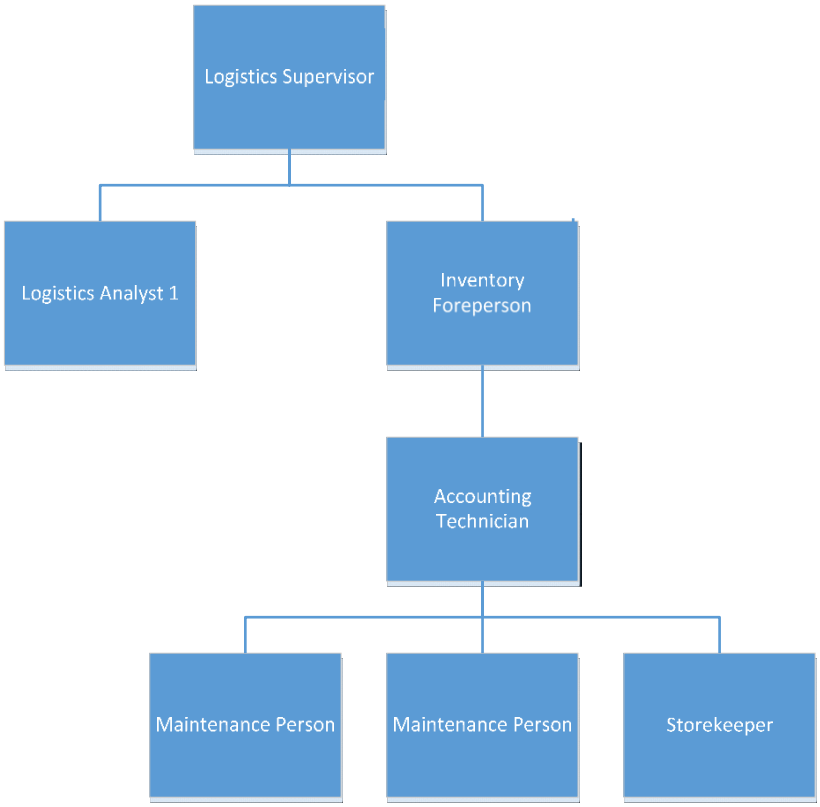
3.1 Inventory Control System

The Utility Department maintains a large stock of spare parts for the WCTS which are accessible twenty-four (24) hours a day, seven (7) days a week. Warehouses and the laydown yard are all access-controlled and actively managed by dedicated staff and information systems. Stock is replenished on an ongoing basis and regular physical counts of the inventory are conducted to verify that databases are accurate. The City's on hand inventory of materials and equipment enables operations and maintenance crews to mitigate problems within the WCTS.

3.1.1 Organizational Structure

The Logistics Section of the Business & Finance Program is responsible for implementation of the Inventory Control System. As shown in **Figure 3-1**, staffing in the Logistics Section consists of seven (7) positions including Logistics Supervisor, Logistics Analyst 1, Inventory Foreperson, Accounting Technician, Maintenance Person (two), and Storekeeper. The Utility Department warehouses stores parts at two primary locations; 3900 Kelley Highway is the repository for pipe related materials and 13 North P Street stores parts for the pump stations.

FIGURE 3-1 –Logistics Section Organization Structure



3.1.2 Information Systems

The Logistics Section utilizes the Parts Warehousing module of the Utility Department's computerized maintenance management system (CMMS), Lucity™, version 16.0.0.246, for tracking inventory, alerting staff of reorder needs, and generating reports.

In addition to Lucity™, the Kelley Highway facility is utilizing RetailEdge™ for inventory control of personal protective equipment and hand tools, due to its point-of-sale functionality and frequent associated transactions. Staff are also using a demo version of RetailEdge™ to mirror the inventory tracking of items in Lucity™. Currently, this is a redundant practice and used to validate the Lucity™ inventory database.

3.1.3 Facilities

The Utility Department's inventory is largely divided between two locations, 3900 Kelley Highway and 13 North P Street which together provide approximately 40,000 square feet of space for materials, spare parts, and equipment.

3.1.3.1 3900 Kelley Highway

The Kelley Highway warehouse is comprised of two floors and is approximately 3,600 square feet total floor space with considerable shelving and organizational products. The warehouse contains an extensive stock of small, weather sensitive, and high value items such as gaskets and pipe repair clamps. The space features:

- Dedicated office space;
- Steel rollup door;
- Loading dock;
- Forklift; and
- Climate controlled storage area.

The Kelley Highway basement measures approximately 2,000 square feet total of floor space with large steel industrial shelving capable of organizing very heavy stock items. In addition, a permanent steel cage has been installed to hold high value stock. Access is controlled by Logistics staff during business hours and by System Control Operators after-hours. The space features:

- Steel rollup door;
- Space for palletized stock; and
- Climate controlled storage area.

The Kelley Highway laydown yard measures approximately 34,000 square feet of outdoor space for the largest and least weather sensitive stock items such as pipe, fittings, appurtenances, and manholes. Access is controlled by Logistics staff during business hours and System Control Operators afterhours. The space features:

- Electric vehicle gate;
- Fully fenced storage area;
- Concrete housekeeping pads; and
- Drive up access to parts.

3.1.3.2 13 North P Street, Wastewater Treatment Plant

The P Street stockroom measures approximately 672 square feet and is located adjacent to the maintenance workshop. The stockroom is secured with electronic locks and houses primarily mechanical parts and related materials. The space features:

- Extensive shelving;
- Dedicated office space;
- Double access doors; and
- Climate controlled storage area.

The P Street pump room measures approximately 250 square feet and is in a separate structure adjacent to the main building. Despite its relatively small size, the high ceiling and industrial steel shelving allow significant storage of large, heavy, and bulky items such as pumps, motors, volutes, impellers, etc. The space features:

- Forklift; and
- Steel rollup door.

3.1.4 Departmental Operating Policies and Procedures

An “Inventory Control Policy” has been established to guide the operations of the two warehouses and covers, but is not limited to, topics such as access to inventory, stock count frequency, restock of materials, loss of inventory and recordkeeping.

The following subsections describe the inventory procedures used in each of the Utility Department's warehouses. Warehouse staff are onsite during business hours only, and thus, inventory control processes are different during after-hours. Each major procedure is described separately below.

3.1.4.1 Kelley Highway – Business Hours Stock Release

The workflow below is typically followed during business hours when the Utility Department has full staff complement.

1. Work order is generated.

2. Maintenance staff pull their desired parts from warehouse and/or laydown yard.

3. Parts from the warehouse are brought to the service counter where they are documented on the "Materials, Tools, and Equipment Release" form. Parts from the basement or laydown yard are loaded into service trucks under the supervision of the warehouse staff who document all parts drawn on the "Materials, Tools, and Equipment Release" form.

4. Yellow copy of form goes with the requesting employee and the white copy is retained by the warehouse.

5. Morning of the next business day, the quantities are updated in Lucity™ inventory by warehouse staff.

6. System Control Operators use the yellow copy, turned in with the completed work order, to enter the parts used and completed work order into Lucity™.

3.1.4.2 Kelley Highway – After-Hours Stock Release

This workflow is employed after business hours at Kelley Highway when staffing is minimal, typically for emergency repairs which cannot wait until business hours.

1. Maintenance staff pull parts from the warehouse and/or laydown yard.

2. System Control Operators complete the "Materials, Tools, Equipment Release" form and put their initials in upper right corner. The form is left in the warehouse office for the warehouse staff.

3. Yellow copy of the form goes with the employee and the white copy is retained by the warehouse.

4. Next business day, the warehouse staff contact the requesting employee to verify the items removed and review/update the form as required.

5. Morning of the next business day, the quantities are updated in Lucity™ inventory by warehouse staff.

6. System Control Operators use the yellow copy, turned in with the completed work order, to enter the parts and completed work order into Lucity™.

3.1.4.3 Kelley Highway – Stock Replenishment

The below workflow is critical for sustainable operation of the Inventory Management System and, in conjunction with the workflows above, completes the cycle of inventory control. As stock is consumed, stock levels need to be actively tracked and replenished.

1. Minimum and maximum, or Min – Max, stock levels are established in Lucity™ for regular stock items based on frequency of use, lead time, number in use in system, and their availability from local vendors.

2. Every morning warehouse staff run a report identifying those stock items which are below the minimum levels.

3. Warehouse staff review the report and confirm if any inventory replenishment is required.

4. Warehouse staff prepare a purchase order (PO) package for approval through the chain of command and Finance Department.

5. After a PO is issued by the Finance Department, warehouse staff place an order with the vendor.

6. When the order is received, it is checked against the PO for verification of pricing and correctness, before the stock is tagged and placed in the warehouse or laydown yard.

7. After the order is verified, payment process is completed through the Finance Department's payment system.

3.1.4.4 P Street – Business Hours Stock Release

The workflow below is typically followed during normal business hours when a full complement of staff is available.

1. Employee completes an "Inventory Removed from Storeroom" slip and presents it to the Maintenance person.

2. Maintenance person then pulls the requested item(s) from the storeroom and gives to the requesting employee.

3. The employee initials the "Inventory Removed from Storeroom" slip certifying they received the requested items.

4. Maintenance person attaches the completed "Inventory Removed from Storeroom" slip to the associated paper work order.

5. After the work is completed, Maintenance person removes items from inventory database when entering the work order information into Lucity™.

3.1.4.5 P Street – After-Hours Stock Release

This workflow is employed at P Street after normal business hours, typically for emergency work. Designated employees have access to the secure stockroom after normal business hours.

1. Employee uses a key fob to access the storeroom and pull the desired parts.

2. Employee completes an "Inventory Removed from Storeroom" slip and leaves in the office for the Maintenance person.

3. The Maintenance person then reviews the completed "Inventory Removed from Storeroom" slip the next work day and attaches it to the associated work order.
4. After the work is completed, the Maintenance person removes the released items from the inventory database when entering the work order details into Lucity™.

3.1.4.6 P Street – Stock Replenishment

The following workflow is critical for sustainable operation of the Inventory Management System and, in conjunction with the workflows above, completes the cycle of inventory control. As stock is consumed, stock levels need to be actively tracked and replenished.

1. Maintenance person identifies a low stock condition.

2. Maintenance person consults with the Wastewater Pump Station Maintenance Supervisor on the low stock condition.

3. Maintenance person prepares a PO package for approval through the chain of command and Finance Department.

4. After a PO is issued, the Maintenance person places an order with the vendor.

5. Once received, Maintenance person inspects the order for damage and compares against the invoice to verify completeness and pricing and then updates Lucity™ with the new inventory.

6. Maintenance person will then stock the item(s) in the storeroom.

7. After the order is verified, the payment process is completed through the Finance Department's payment system.

3.1.5 Recordkeeping and Accounting

The Kelley Highway and P Street locations use analogous forms for inventory requests from operations, maintenance, and construction staff. Specific information on the items requested, the requestor's name, and the date are recorded on the request forms. At both locations, transactions are logged into Lucity™ based on the paperwork, and the hard copies are archived onsite.

At Kelley Highway staff perform cycle counts of the inventory, completing approximately 10% of the total stock each month. Annually, a complete inventory count and reconciliation is performed in the fall and requires approximately two weeks to complete. The P Street facility, owing to its smaller size, performs random audits monthly to verify the accuracy of the inventory database.

3.2 Fleet Preventative Maintenance System

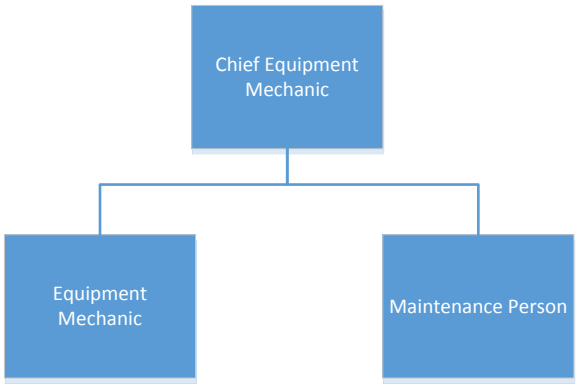
The Utility Department fleet includes approximately two hundred (200) vehicles, trailers, and pieces of equipment. Most the rolling stock is maintained in-house by City mechanics, who can

perform nearly all maintenance and repairs necessary. Examples of work which is not typically performed in-house include paint and body work; work requiring lifts exceeding the capacity of the installed vehicle lift (12 tons) or overhead crane (2 tons); equipment which is too large to fit through the garage bay doors; and tire replacement. The investment in facilities, personnel, and tools related to the Utility Department's extensive maintenance efforts reduces the amount of time vehicles are out of service. Vehicles and equipment are regularly replaced in accordance with the vehicle replacement guidelines and based on recommendations from the Garage Section with respect to specific operational and maintenance histories.

3.2.1 Organizational Structure

The Garage Section of the Fleet, Building, Station & Easement Maintenance Program is responsible for maintenance of the Utility Department's fleet assets. As shown in **Figure 3-2**, the Garage Section is composed of three positions including Chief Equipment Mechanic, Equipment Mechanic, and Maintenance Person.

FIGURE 3-2 – GARAGE SECTION ORGANIZATION CHART



3.2.2 Information Systems

The Kelley Highway garage utilizes Fleetmate®, a fleet-specific CMMS, for utility vehicle maintenance work management. The associated database is located on a dedicated server managed by the City's Information Technology Department. The software is installed on two computers located in the administrative space at the Kelley Highway garage.

Although the Garage Section does not use the Lucity™ Fleet module, System Control Operators of the System Control Section enter the out-of-service date/time and the date/time returned to service from the yellow copy of the "Service Request Form" into the Lucity™ Equipment module to track all vehicle and equipment out-of-service time.

3.2.3 Facilities

The Garage Section is in a standalone structure at 3900 Kelley Highway. The garage features ten (10) bays, one (1) vehicle lift, a lube pit, and an overhead crane. The Utility Department shares the building with the Street Department, each having four (4) dedicated bays and sharing the

bays with the lift and lube pit. The Police Department also utilizes a small portion of the building. A large gravel lot on three (3) sides of the garage is available for parking vehicles and equipment.

In addition to the physical facility, the Garage Section has two (2) vehicles assigned, providing the capability to perform some vehicle maintenance in the field.

3.2.4 Departmental Policies and Operating Procedures

The garage is operated in accordance with the "Fleet Maintenance Policy" which establishes preventative maintenance intervals and identifies priority vehicles.

Vehicle corrective and preventative maintenance work is addressed through similar workflows with variation dependent on the availability of the parts required to perform the work or if the vehicle will be sent out to a local vendor to perform the work. Most parts can be obtained by the Garage Section within forty-eight (48) hours. Preventative maintenance is performed by the Garage Section on a variety of vehicles and equipment in accordance with the manufacturers recommendations. Maintenance on specialized equipment is typically performed by the manufacturer. The Garage Section uses window stickers to record mileage or hours of operation for next required preventative maintenance.

3.2.4.1 Parts Available

The following workflow describes the maintenance process if parts are available in the shop to complete the work at the time the vehicle is dropped off for service. It is typical of preventative maintenance work because consumables such as oil, grease, and filters are stocked onsite.

1. Vehicle operator identifies a need for service, either from the window sticker or a vehicle issue, and drops off the vehicle at the Kelley Highway garage.

2. Vehicle operator completes the top portion of the "Service Request Form" detailing the work requested.

3. Garage Section personnel next complete the bottom portion of the "Service Request Form".

4. Garage Section staff create a work order in the Fleet CMMS and print a hard copy of the work order to which the "Service Request Form" is stapled, along with any related communications, invoices, or notes.

5. Printed work order packet is hung on the work bulletin board under "Work to Be Done" and in priority order.

6. The Mechanic retrieves the highest priority work order from bulletin board and performs the necessary work.

7. Mechanic then completes the "Service Request Form" paperwork and the work order in the Fleet CMMS after which the keys to the serviced vehicle are hung on the bulletin board.

8. Chief Equipment Mechanic notifies the supervisor responsible for the vehicle that the work is complete and the vehicle is ready for pickup.

9. Chief Equipment Mechanic then updates the work order with any additional related communications, photos, invoices, etc. and finally closes the work order. The physical work order is filed with the white original copy of the "Service Request Form".

10. Vehicle operator picks up the vehicle along with the pink copy of the "Service Request Form", and returns to work. The pink copy is provided to their supervisor.

11. Garage section provides the yellow copy of the "Service Request Form" to the System Control Operator for logging the time the vehicle was out of service in the Lucity™ Equipment module.

3.2.4.2 Parts Unavailable

The following workflow is common with corrective maintenance performed by the garage section, where parts are typically ordered from local vendors and delivered within forty-eight (48) hours.

1. Vehicle operator identifies a need for service, either from the window sticker or a vehicle issue, and drops off vehicle at Kelley Highway garage.

2. Vehicle operator completes the top portion of the "Service Request Form".

3. Garage Section personnel complete the bottom portion of "Service Request Form".

4. Garage Section staff create a work order in Fleetmate® and print a hard copy of the work order. The "Service Request Form" is stapled to the work order along with any related communications, invoices, or notes.

5. The printed work order is then hung on the work bulletin board under "Parts On Order" if parts aren't immediately available from local vendors.

6. After all of the required parts are received, the work order is moved on the bulletin board to under "Work to Be Done", in priority order.

7. Mechanic retrieves work order from the bulletin board and performs the necessary work.

8. Mechanic then completes the "Service Request Form" and work order in the Fleet CMMS and hangs the keys for the completed vehicle on the bulletin board.

9. Chief Equipment Mechanic notifies the supervisor responsible for the vehicle that the work is complete and the vehicle is ready for pick up.

10. Chief Equipment Mechanic closes the work order and updates the work order packet with any additional communications, photos, invoices, etc., and archives the paper copy of the "Service Request Form" (white copy).

11. Vehicle operator picks up the vehicle along with the pink copy of the "Service Request Form", and returns to work; pink copy is provided to their supervisor.

12. Yellow copy of the "Service Request Form" goes to the System Control Operator to log the time the vehicle was out of service in the Lucity™ Equipment module.

3.2.4.3 Outside Vendor

This final workflow used by the Garage Section covers work which is performed by local vendors, including both preventative and corrective maintenance. Vendors qualified to work on specialized equipment, such as closed circuit television units, maintain that equipment in those instances when the Garage Section staff is not qualified. The workflow is as follows:

1. Vehicle operator identifies a need for service, either from the window sticker or a vehicle issue, and drops off the vehicle at the Kelley Highway garage.

2. Vehicle operator completes the top portion of the "Service Request Form".

3. Garage Section personnel complete the bottom portion of the "Service Request Form".

4. Garage Section staff then create a work order in the Fleet CMMS and print a hard copy of the work order. The "Service Request Form" is stapled to the work order along with any related communications, invoices, or notes.

5. The printed work order package is hung on the work bulletin board under "Work Sent Out".

6. Vehicle is either picked up or delivered to the vendor facility.

7. Work is then completed by the vendor and the vehicle returned to the garage.

8. Mechanic completes the "Service Request Form" and work order in Fleet CMMS and then hangs keys to completed vehicle on bulletin board.

9. Chief Equipment Mechanic notifies the supervisor responsible for the vehicle that the work is complete and the vehicle is ready to be picked up.

10. Chief Equipment Mechanic closes the work order and updates the paper work order packet with any additional communications, photos, invoices, etc. The work order package is archived along with the original paper copy of the "Service Request Form" (white copy).

11. Vehicle operator picks up the vehicle and takes the pink copy of the "Service Request Form", and returns to work. The pink copy is provided to their supervisor.

12. Yellow copy of the "Service Request Form" goes to the System Control Operator to log the time the vehicle was out of service in the Lucity™ Equipment module.

3.2.5 Recordkeeping

The Utility Department Garage Section uses two (2) methods for fleet maintenance recordkeeping:

- The fleet CMMS software contains detailed records of vehicle maintenance since the software's launch in 2010; and

- Hard copy records of vehicle maintenance from the current year are maintained in the administrative office space while the archives of prior years are located on the second floor.

Section 4 Reporting

4.1 Annual Reporting

Per Article Seven, Paragraph 56 of the Consent Decree, the City must report a written summary of the activities directed toward improving its Inventory Management System each Calendar Year in the Annual Report as described in Section X of the Decree.

Appendix A
Vehicle and Equipment Vendor List

	Vendor Information									Rough Order of Magnitude Cost Quote			Equipment Information				
	Vendor	Address	Phone Number	After Hours Point of Contact	Days Open	Hours of Operation	Method of Payments Accepted	Open to As-Needed Contract?	Will Deliver?	Daily Rental	Weekly Rental	Monthly Rental	Notes	Make	Model/Size	Size	# of Units Stocked
Backhoe	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$255	$755	$2,255		CAT	420F4A	CAB/AIR	VARIABLE
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$275	$750	$2,000		Volvo	BL60/BL70		
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$282	$715	$1,736					
	Scott Equipment	6100 Zero St, Fort Smith, AR 72903	479-648-1600	24/7 support for emergencies - call main line	Mon - Fri	7AM-5PM	Typically they are issued a Purchase Order from Municipalities. They do require a Certificate Of Liability insurance form.	Yes	Yes, additional charge	$275/$300	$700/$800	$2200/$2500		Case	580 Rops/ 580 Cab		
Excavator	Forsgren, Inc.	3000 North 23rd St, Fort Smith, AR 72904	479-782-1061										Contractor				
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	N/A	N/A	$4,200	Track Excavator	Volvo	EC160EL	38,000	
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	N/A	N/A	$6,900	Rubber Tire Excavator	Volvo	EW210D	45,000	
	AAA U-Rent It	830 N Greenwood Ave, Fort Smith, AR 72901 & 2902 S. McKinley Avenue Fort Smith, AR 72901	479-782-4073 (Greenwood) 479-646-4341 (McKinley)		Mon-Sat	7AM-5PM Mon-Fri 7:30AM-12PM Sat	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$309	$908	$2,704	Week rental allows 40 hours of operation, month rental allows 160 hours			8,000	
	Scott Equipment	6100 Zero St, Fort Smith, AR 72903	479-648-1600	24/7 support for emergencies	Mon - Fri	7AM-5PM	Typically they are issued a Purchase Order from Municipalities. They do require a Certificate Of Liability insurance form.	Yes	Yes, additional charge	$200 - $800	$600 - $2750	$1550 - $8000		Kobelco/Case	Several models and sizes		
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	Mon - Fri	Open Account/CrCard	Yes	Yes	$778	$2,100	$4,999				43,000 lbs	
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$360	$1,055	$3,150		CAT	305ECR	11,000 lbs.	VARIABLE
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$615	$1,835	$5,480		CAT	316E	38,800 lbs	VARIABLE
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$750	$2,230	$6,685		CAT	320E	48,000 lbs	VARIABLE
Power Rodder	Henard Utility Products, Inc	1920 South Main St. Searcy, AR 72145	501-268-1987	No	Mon - Sat	8AM-5PM Mon-Fri 8AM-12PM Sat							They have rented truck before, but only when there are used trucks available.				
	Vacuum Truck Rentals	305 Walker Circle Richland, MS 39218	601-933-4650	Yes	Mon - Fri	8AM-5PM	Checks, Credit Card. Certificate of Insurance Required	Yes	Yes, $3.50 a mile each way	$700	$3,500	$12,000	http://www.vactruckrental.com/index.html				
	VAC2GO		855-822-7246	Yes, main line	Mon - Fri	8AM-5PM	Checks, Credit Card. Certificate of Insurance Required	Yes									
Dump Truck	Scott Equipment	6100 Zero St, Fort Smith, AR 72903	479 648-1600	24/7 support for emergencies	Mon - Fri	7AM-5PM	Typically they are issued a Purchase Order from Municipalities. They do require a Certificate Of Liability insurance form.	Yes	Yes, additional charge	$1000/ $1500	$3000/$4500	$9500/$13500	Articulated Truck - Off Road Only	Volvo	A25/A40		1 of each
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge			$11,500	Off Road Only	Volvo	A40F	40 Ton	
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$298	$810	$1,860					
	Forsgren, Inc.	3000 North 23rd St, Fort Smith, AR 72904	479-782-1061										Contractor				

	Vendor Information									Rough Order of Magnitude Cost Quote			Equipment Information				
	Vendor	Address	Phone Number	After Hours Point of Contact	Days Open	Hours of Operation	Method of Payments Accepted	Open to As-Needed Contract?	Will Deliver?	Daily Rental	Weekly Rental	Monthly Rental	Notes	Make	Model/Size	Size	# of Units Stocked
Pressure Washer	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$80	$225	$550		Shark	DG-354037	4200PSI	
	Forsgren, Inc.	3000 North 23rd St, Fort Smith, AR 72904	479-782-1061										Contractor				
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$90	$265	$660					
	AAA U-Rent It	830 N Greenwood Ave, Fort Smith, AR 72901 & 2902 S. McKinley Avenue Fort Smith, AR 72901	479-782-4073 (Greenwood) 479-646-4341 (McKinley)		Mon-Sat	7AM-5PM Mon-Fri 7:30AM-12PM Sat	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$90.08	$255.48	$745.35	Week rental allows 40 hours of operation, month rental allows 160 hours			3500psi	
Bypass Pumps	Rain for Rent	3210 Vail Avenue, Conway, AR 72032	501-328-5757	Yes, main line number forwards to on call	Mon - Fri	7AM-5PM	established account-check/credit card	Yes	Yes	$500	$1,500	$4,500	We deliver, set up and can man the equipment 24/7 if needed.	Power Prime	DV-200/DV-200C	8" & 12"	6 to 8
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$200	$700	$1,500					
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$80	$215	$625		Multiquip		6.0 kw	Variable
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$350	$1,040	$3,105		Multiquip		70 KW	Variable
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$79	$265	$550					
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$280	$700	$1,750		SWP	QP25	25KW	15
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$100	$250	$600		Subaru	RGX7500	7500W	
Light Trees	AAA U-Rent It	830 N Greenwood Ave, Fort Smith, AR 72901 & 2902 S. McKinley Avenue Fort Smith, AR 72901	479-782-4073 (Greenwood) 479-646-4341 (McKinley)		Mon-Sat	7AM-5PM Mon-Fri 7:30AM-12PM Sat	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$153	$495	$1,467				4k	
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$100	$250	$600		Magnum	MLT6S	4000W	
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$90	$265	$800		Genie	RL4	6KW	Variable
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$99	$200	$550					
	Rain for Rent	3210 Vail Avenue, Conway, AR 72032	501-328-5757	Yes, main line number forwards to on call	Mon - Fri	7AM-5PM	established account-check/credit card	Yes	Yes	$70			We deliver, set up and can man the equipment 24/7 if needed.			8kw-20kw	15
Compressor	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$95	$285	$845		Atlas Copco	185CD	120 psi	Variable
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$200	$500	$1,300		Doosan	HP375WCU-T4I	375CFM HP	
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$105	$265	$630					
Caution Tape	Lowe's	8001 Rogers Ave, Fort Smith, AR 72903	479-452-6000		Mon-Sun	6AM-10PM Mon-Sat 8AM-8PM Sun	Check, Credit, Cash										
	The Home Depot	5101 Phoenix Avenue Fort Smith, AR 72903	479-649-5888		Mon-Sun	6AM-10PM Mon-Sat 8AM-8PM Sun	Check, Credit, Cash										
	Yeager Ace Hardware	2619 Rogers Ave, Fort Smith, AR 72901	479-783-4629		Mon-Sun	7AM-7PM Mon-Fri 7:30AM-6PM Sat 9AM-5PM Sun	Check, Credit, Cash										

	Vendor Information									Rough Order of Magnitude Cost Quote			Equipment Information				
	Vendor	**Address**	**Phone Number**	**After Hours Point of Contact**	**Days Open**	**Hours of Operation**	**Method of Payments Accepted**	**Open to As-Needed Contract?**	**Will Deliver?**	**Daily Rental**	**Weekly Rental**	**Monthly Rental**	**Notes**	**Make**	**Model/Size**	**Size**	**# of Units Stocked**
Disinfectant	Lowe's	8001 Rogers Ave, Fort Smith, AR 72903	479-452-6000		Mon-Sun	6AM-10PM Mon-Sat 8AM-8PM Sun	Check, Credit, Cash										
	The Home Depot	5101 Phoenix Avenue Fort Smith, AR 72903	479-649-5888		Mon-Sun	6AM-10PM Mon-Sat 8AM-8PM Sun	Check, Credit, Cash										
	Yeager Ace Hardware	2619 Rogers Ave, Fort Smith, AR 72901	479-783-4629		Mon-Sun	7AM-7PM Mon-Fri 7:30AM-6PM Sat 9AM-5PM Sun	Check, Credit, Cash										
Pumps	Rain for Rent	3210 Vail Avenue, Conway, AR 72032	501-328-5757	Yes, main line number forwards to on call	Mon - Fri	7AM-5PM	established account-check/credit card	Yes	Yes	$150	$450	$1,350	We deliver, set up and can man the equipment 24/7 if needed.	Power Prime	DV-100C/DV-150	4"-6"	10
	Hugg & Hall Equipment Co.	2808 McKinley Ave, Fort Smith, AR 72908	479-648-3322	Yes, main line number forwards to on call	Mon - Fri	8AM-5PM	Open Account, Credit Card, Check, Cash	Yes	Yes, additional charge	$200	$550	$1,450	Cannot handle solids	Magnum	MTP6000S	6" (trailer mounted)	4
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$65	$165	$475					
	Riggs CAT	6601 Zero St, Forth Smith, AR 72903	479-646-7727	Main line	Mon - Fri	7:30AM-5PM	Charge account only		Yes	$225	$660	$1,975		Magnum	MTP6000	6"(Trailer)	Variable
Sand Bags/Inlet Guards	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	n/a	n/a	n/a					
Signage	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	n/a	n/a	n/a					
Utility / Pickup Truck	Penske	810 Phoenix Ave, Fort Smith, AR 72901	479-649-8513		Mon-Sat	8AM-5PM Mon-Fri 8AM-12PM Sat	Credit			Current rate is $115 a day and 33 cents per mile					12 FT Box truck		
	Enterprise Truck Rental	1185 S Aspen Ave, Broken Arrow, OK 74012	918-258-6911		Mon-Sun	7:30AM-6PM Mon-Fri 9AM-3PM Sat 9AM-12PM Sun	Credit			Current rate is $89 a day and 15 cents per mile				Ford, Dodge, or Chevy	F350, RAM 3500, SilveradoHD	1 Ton	
	United Rentals	3616 Towson Ave, Fort Smith, AR 72901	479-785-1966	479-785-1955	Mon - Fri	7AM-5PM	Open Account/CrCard	Yes	Yes	$125	$475	$1,250				1/2 Ton	
Vactor Truck	Forsgren, Inc.	3000 North 23rd St, Fort Smith, AR 72904	479-782-1061										Contractor				
	Henard Utility Products, Inc	1920 South Main St. Searcy, AR 72145	501-268-1987	No	Mon-Sat	8AM-5PM Mon-Fri 8AM-12PM Sat							They have rented before, but only when there are used truck available.				
	Vacuum Truck Rentals	305 Walker Circle Richland, MS 39218	601-933-4650	Yes	Mon - Fri	8AM-5PM	Checks, Credit Card. Certificate of Insurance Required	Yes	Yes, $3.50 a mile each way	$700	$3,500	$12,000	http://www.vactruckrental.com/index.html				

Appendix B
Critical Parts List

Fort Smith Utility Department

Wastewater Collection and Treatment System
Critical Parts

Critical Parts Definition: *Spare parts which would prevent, remedy, or reduce the severity (volume) of a sanitary sewer overflow (SSO).*

Wastewater Collection and Treatment Critical Spare Parts	
Part ID	**Part Description**
IMP-CORNELL-4414T	Impeller, Cornell, for Pump# 4414T, 310 mm
IMP-FLYGT-189mm	Impeller, Flygt, 1859 mm
IMP-FS-82436312	Impeller, 12SKU12KSL 8" Trimmed to 7.88", FlowServe PIN 82436312
IMP-FS-88449554	Impeller, 25AFV-P 15.5, Flowserve P/N 88449554
IMP-HYD-147690052	Impeller, 4.00", S3HRC/S3HVX, Hydromatic PIN 14769-005-2
IMP-HYDROMATIC-11II	Impeller, Hydromatic, 11"
IMP-MINISCUMPIT	Impeller, Mini Scum Pit,
IMP-S&L-60C75-85	Impeller, CCW, 8 5/8", Smith & Loveless PIN 60C75-85
IMP-S&L-60C76-85	Impeller, CW, 8 5/8", Smith & Loveless P/N 60C76-85
WER-FLYGT-3093400	Wear Ring, Volute, Flygt P/N 309 34 00
MTR-BALDOR-CWDM3545	Motor, Baldor, 1 hp, 3450 rpm, 3 ph, 230/460 volt, 56C frame, P/N CWDM3545
MTR-BALDOR-IDXM7144T	Motor, Baldor P/N IDXM7144T, 5 hp, 1750 rpm, 3 ph, 184TC fr., Explosion Pro
MTR-BALDOR-L3510	Motor, Baldor Cat #L3510, 1HP, 1725 RPM, 1 Phase, 115/230 V., 56/56H Frame
MTR-BALDOR-VM8003T	Motor, Baldor P/N VM8003T, 1 HP, 1728 RPM, 3 Ph. 208-230/460V, 143TC Fr.
GSK-6FL4BLT	Gasket, 6" Flange, 4 Bolt
GSK-CANLIDSEAL	Lid Seal, for Can Station Lids
MHLRS04	4' Manhole Riser
MHOLE3	23 ½" Manhole Cover – Style 1348 – A
PIP-S-0600-3	6" SCH35 Sewer Pipe
PIP-S-0800-3	8" SCH35 Sewer Pipe

Spare part inventory is reviewed and critical spare parts list updated annually.

Appendix C
Inventory Report

City Of Fort Smith "Utilities Department"
3900 Kelley Hwy.
Current Warehouse Inventory "Lucity"

Date: June 22, 2016 Prepared by Kevin Rice

Part Number	Part Description	UOM	QTY.
911CA06	6" 911 FLANGED COUPLING ADAPTER	Each	0.00
911CA10	10" 911 FLANGED COUPLING ADAPTOR O.D. 11.01	Each	0.00
912CA03	3" FLANGED COUPLING ADAPTOR 3.80/4.00	Each	4.00
912CA03B	3" FLANGED COUPLING ADAPTOR 3.80/4.06	Each	1.00
912CA04B	4" FLANGED COUPLING ADAPTOR 4.46/4.86	Each	4.00
912CA06B	6" FLANGED COUPLING ADAPTOR 6.56 / 6.96	Each	4.00
912CA08	8" FLANGED COUPLING ADAPTOR 8.98/9.20	Each	3.00
912CA12	12" FLANGED COUPLING ADAPTOR 13.14/13.26	Each	2.00
920CA06	6" 920 Flanged Coupling Adapter 6.63 - 6.90	Each	1.00
926FMA250	926 FLANGED METER ADAPTER, 2.38 - 2.50 (HYMAX TO FLANGE)	Each	3.00
ANODE-MG32-20TW	MAGNESIUM ANODE 32D5-R ULTRAMAG	Each	7.00
AVLV02-D060	2" Threaded Air Relief Valve, ARI, D060-CHF	Each	0.00
AVLV02S	2" AIR VALVE, ARI STAINLESS, D-020	Each	5.00
AVLV02S2	2" AIR VALVE, ARI STAINLESS, NPT MALE THREAD, D-025	Each	1.00
AVLV02WM	2" AIR VALVE, VALVMATIC , VM-202C	Each	3.00
AVLV02WM2	2" AIR VALVE X 1/2" OUTLET, VAL MATIC, 38.2	Each	0.00
AVLV03WM	3" AIR VALVE, VALVMATIC, VM203C	Each	0.00
AVLV04S	4" AIR VALVE, ARI STAINLESS, D-020	Each	0.00
AVLV04WM	4" AIR VALVE, VALVMATIC, VM-204C	Each	1.00
BGV200	2" BRASS GATE VALVE	Each	66.00
BGV300	3" BRASS GATE VALVE	Each	4.00
BJC02-SB	2" BELL JOINT CLAMP - SMITH BLAIR	Each	4.00
BJC03-SB	3" BELL JOINT CLAMP - SMITH BLAIR	Each	4.00
BJC04-SB	4" BELL JOINT CLAMP	Each	9.00
BJC06-DR	6" BELL JOINT CLAMP - DRESSER	Each	4.00
BJC06-SB	6" BELL JOINT CLAMP	Each	5.00
BJC08-DR	8" BELL JOINT CLAMP - DRESSER	Each	6.00
BJC08-SB	8" BELL JOINT CLAMP - SMITH BLAIR	Each	4.00
BJC10-DR	10" BELL JOINT CLAMP - DRESSER	Each	1.00
BJC10-SB	10" BELL JOINT CLAMP - SMITH BLAIR	Each	6.00
BJC12-SB	12" BELL JOINT CLAMP - SMITH BLAIR 13.20 / 13.50	Each	5.00
BJC14-SB	14" BELL JOINT CLAMP, OD 15.30	Each	3.00
BJC14-SB2	14" BELL JOINT CLAMP, OD 15.65	Each	5.00
BJC16-SB	16" BELL JOINT CLAMP 17.40 - 17.80	Each	3.00
BJC18-SB	18" BELL JOINT CLAMP 19.50 - 19.92	Each	5.00
BJC20-SB	20" BELL JOINT CLAMP 21.60 - 22.06	Each	3.00
BJC24-SB	24" BELL JOINT CLAMP 25.80 - 26.32	Each	2.00
BJC30-	30" BELL JOINT CLAMP 31.74 - 32.74	Each	2.00
BJC36-	36" BELL JOINT CLAMP 37.96 - 38.70	Each	2.00
BLOHYD01	2" IP BLOW-OFF HYDRANT, 36" TALL	Each	12.00
BLOKEY	BLOW-OFF PENTAGON KEY, K85	Each	4.00
BLORING1	WASTE TUBE O-RING - LARGE, FOR ECLIPSE BLOW-OFF	Each	20.00
BLORING2	WASTE TUBE O-RING - SMALL, FOR ECLIPSE BLOW-0FF #208	Each	0.00
BLORING3	WASTE TUBE O-RING - MEDIUM FOR ECLIPSE BLOW-OFF #209	Each	11.00
BR45-075	3/4" 45 ELL, BRASS	Each	16.00
BR45-100	1" 45 ELL, BRASS	Each	11.00
BR45-150	1 1/2" 45 ELL, BRASS	Each	8.00
BR45-200	2" 45 ELL, BRASS	Each	24.00
BR45-250	2 1/2" 45 ELL, BRASS	Each	2.00
BR45-300	3" 45 ELL, BRASS	Each	4.00
BR45-400	4" 45 ELL, BRASS	Each	2.00
BR90-075	3/4" 90 ELL, BRASS	Each	27.00
BR90-075-050	3/4" X 1/2" 90 ELL, BRASS	Each	22.00
BR90-100	1" 90 ELL, BRASS	Each	22.00
BR90-100-075	1" X 3/4" 90 ELL, BRASS	Each	13.00

BR90-125	1 1/4" 90 ELL, BRASS	Each	9.00
BR90-150	1 1/2" 90 ELL,BRASS	Each	15.00
BR90-200	2" 90 ELL, BRASS	Each	21.00
BR90-250	2 1/2" 90 ELL, BRASS	Each	4.00
BR90-300	3" 90 ELL, BRASS	Each	4.00
BR90-400	4" 90 ELL, BRASS	Each	4.00
BRBLR075-050	3/4" X 1/2" BELL REDUCER, BRASS	Each	10.00
BRBLR100-075	1" X 3/4" BELL REDUCER, BRASS	Each	10.00
BRBLR125-100	1 1/4" X 1" BELL REDUCER, BRASS	Each	12.00
BRBLR150-100	1 1/2" X 1" BELL REDUCER, BRASS	Each	18.00
BRBLR150-125	1 1/2" X 1 1/4" BELL REDUCER, BRASS	Each	4.00
BRBLR200-100	2" X 1" BELL REDUCER, BRASS	Each	16.00
BRBLR200-150	2" X 1 1/2" BELL REDUCER, BRASS	Each	14.00
BRBLR250-200	2 1/2" X 2" BELL REDUCER BRASS	Each	2.00
BRBLR300-200	3' X 2" BELL REDUCER, BRASS	Each	7.00
BRBLR300-250	3" x 2 1/2" BELL REDUCER BRASS	Each	4.00
BRBLR400-200	4" X 2" BELL REDUCER, BRASS	Each	5.00
BRBLR400-300	4" X 3" BELL REDUCER, BRASS	Each	4.00
BRBR050-025	1/2" X 1/4" BUSHING REDUCER, BRASS	Each	6.00
BRBR050-038	1/2" X 3/8" BUSHING REDUCER, BRASS	Each	6.00
BRBR075-025	3/4" X 1/4" BUSHING REDUCER, BRASS	Each	8.00
BRBR100-075	1" X 3/4" BUSHING REDUCER, BRASS	Each	13.00
BRBR125-100	1 1/4" X 1" BUSHING REDUCER, BRASS	Each	9.00
BRBR150-100	1 1/2" X 1" BUSHING REDUCER, BRASS	Each	4.00
BRBR150-125	1 1/2" X 1 1/4" BUSHING REDUCER, BRASS	Each	6.00
BRBR200-100	2" X 1" BUSHING REDUCER, BRASS	Each	10.00
BRBR200-150	2" X 1 1/2" BUSHING REDUCER, BRASS	Each	6.00
BRBR250-200	2 1/2" X 2" BUSHING REDUCER	Each	9.00
BRBR300-200	3" X 2" BUSHING REDUCER, BRASS	Each	7.00
BRBR300-250	3" x 2 1/2" BUSHING REDUCER	Each	4.00
BRBR400-200	4" X 2" BUSHING REDUCER, BRASS	Each	7.00
BRBR400-300	4" X 3" BUSHING REDUCER, BRASS	Each	4.00
BRCAP075	3/4" BRASS CAP	Each	9.00
BRCAP100	1" BRASS CAP	Each	7.00
BRCAP150	1 1/2" BRASS CAP	Each	9.00
BRCAP200	2" BRASS CAP	Each	7.00
BRCAP250	2 1/2" BRASS CAP	Each	5.00
BRCAP300	3" BRASS CAP	Each	5.00
BRCAP400	4" BRASS CAP	Each	4.00
BRCP025	1/4" ST. COUPLING, BRASS	Each	6.00
BRCP038	3/8" ST. COUPLING, BRASS	Each	6.00
BRCP075	3/4" ST. COUPLING , BRASS	Each	13.00
BRCP100	1" ST. COUPLING, BRASS	Each	28.00
BRCP125	1 1/4" ST. COUPLING, BRASS	Each	7.00
BRCP150	1 1/2" ST. COUPLING, BRASS	Each	15.00
BRCP200	2" ST. COUPLING, BRASS	Each	23.00
BRCP250	2 1/2" ST COUPLING, BRASS	Each	4.00
BRCP300	3" ST. COUPLING, BRASS	Each	4.00
BRCP400	4" ST. COUPLING, BRASS	Each	4.00
BRNP025-015	1/4" X 1 1/2" BRASS NIPPLE	Each	6.00
BRNP025-030	1/4" X 3" BRASS NIPPLE	Each	5.00
BRNP038-030	3/8" X 3" BRASS NIPPLE	Each	6.00
BRNP050-010	1/2" X CLOSE BRASS NIPPLE	Each	13.00
BRNP050-060	1/2" X 6" BRASS NIPPLE	Each	5.00
BRNP075-010	3/4" X CLOSE BRASS NIPPLE	Each	28.00
BRNP075-020	3/4" X 2" BRASS NIPPLE	Each	12.00
BRNP075-030	3/4" X 3" BRASS NIPPLE	Each	14.00
BRNP075-040	3/4" X 4" BRASS NIPPLE	Each	5.00
BRNP075-060	3/4" X 6" BRASS NIPPLE	Each	10.00
BRNP100-010	1" X CLOSE BRASS NIPPLE	Each	24.00
BRNP100-030	1" X 3" BRASS NIPPLE	Each	12.00
BRNP100-040	1" X 4" BRASS NIPPLE	Each	7.00
BRNP100-060	1" X 6" BRASS NIPPLE	Each	6.00

BRNP125-010	1 1/4" X CLOSE BRASS NIPPLE	Each	7.00
BRNP125-030	1 1/4" X 3" BRASS NIPPLE	Each	6.00
BRNP125-060	1 1/4" X 6" BRASS NIPPLE	Each	17.00
BRNP150-010	1 1/2" X CLOSE BRASS NIPPLE	Each	9.00
BRNP150-030	1 1/2" X 3" BRASS NIPPLE	Each	17.00
BRNP150-040	1 1/2" X 4" BRASS NIPPLE	Each	4.00
BRNP150-060	1 1/2" X 6" BRASS NIPPLE	Each	22.00
BRNP200-010	2" X CLOSE BRASS NIPPLE	Each	38.00
BRNP200-030	2" X 3" BRASS NIPPLE	Each	36.00
BRNP200-040	2" X 4" BRASS NIPPLE	Each	15.00
BRNP200-060	2" X 6" BRASS NIPPLE	Each	33.00
BRNP200-120	2" X 12" BRASS NIPPLE	Each	15.00
BRNP250-010	2 1/2" X CLOSE BRASS NIPPLE	Each	6.00
BRNP250-030	2 1/2" X 3" BRASS NIPPLE	Each	5.00
BRNP250-060	2 1/2" X 6" BRASS NIPPLE	Each	5.00
BRNP300-010	3" X CLOSE NIPPLE	Each	11.00
BRNP300-030	3" X 3" BRASS NIPPLE	Each	4.00
BRNP300-060	3" X 6" BRASS NIPPLE	Each	17.00
BRNP400-010	4" X CLOSE BRASS NIPPLE	Each	4.00
BRNP400-030	4" X 3" BRASS NIPPLE	Each	4.00
BRNP400-060	4" X 6" BRASS NIPPLE	Each	5.00
BRP050	1/2" PIPE PLUG, SQ. HEAD,BRASS	Each	8.00
BRP075	3/4" PIPE PLUG, SQ. HEAD, BRASS	Each	6.00
BRP100	1" PIPE PLUG, SQ. HEAD, BRASS	Each	8.00
BRP150	1 1/2" PIPE PLUG, SQ. HEAD, BRASS	Each	4.00
BRP200	2" PIPE PLUG, SQ. HEAD, BRASS	Each	10.00
BRP250	2 1/2" PIPE PLUG, SQ. HEAD, BRASS	Each	4.00
BRP300	3" PIPE PLUG, SQ. HEAD, BRASS	Each	4.00
BRP400	4" PIPE PLUG, SQ. HEAD, BRASS	Each	3.00
BRT025	1/4" BRASS TEE	Each	6.00
BRT050	1/2" BRASS TEE	Each	6.00
BRT075	3/4" BRASS TEE	Each	16.00
BRT100	1" BRASS TEE	Each	19.00
BRT125	1 1/4" BRASS TEE	Each	4.00
BRT150	1 1/2" BRASS TEE	Each	6.00
BRT200	2" BRASS TEE	Each	30.00
BRT250	2 1/2" BRASS TEE	Each	2.00
BRT300	3" BRASS TEE	Each	4.00
BRT400	4" BRASS TEE	Each	3.00
BUVLV12	12" BUTTERFLY VALVE	Each	0.00
BUVLV16	16" BUTTERFLY VALVE	Each	1.00
BUVLV18	18" BUTTERFLY VALVE	Each	3.00
BUVLV20	20" BUTTERFLY VALVE - MJ X MJ, MUELLER LINESEAL III	Each	0.00
BUVLV24	24" BUTTERFLY VALVE, FL X FL, MUELLER LINESEAL III	Each	0.00
BVBR-025T	1/4" BRASS BALL VALVE, THREADED	Each	4.00
BVBR-050T	1/2" BRASS BALL VALVE, THREADED	Each	6.00
BVBR-075T	3/4" BRASS BALL VALVE, THREADED	Each	7.00
BVBR-100T	1" BRASS BALL VALVE, THREADED	Each	15.00
BVBR-100TL	1" BRASS BALL VALVE, THREADED, LOCKING HANDLE	Each	1.00
BVBR-125T	1 1/4" BRASS BALL VALVE, THREADED	Each	15.00
BVBR-150T	1 1/2" BRASS BALL VALVE, THREADED	Each	17.00
BVBR-200T	2" BRASS BALL VALVE, THREADED	Each	15.00
CHKVLV-075	3/4" DUAL CHECK VALVE FOR METER BOX HHCI33-311	Each	4.00
CHKVLV-100	1" DUAL CHECK VALVE FOR METER BOX - HHC11-444	Each	44.00
CHKVLV-800RF	8" CHECK VALVE, RUBBER FACED, A2600-6-01	Each	0.00
CHLFPP10ML	FREE CHLORINE 10ML POWDER PILLOWS	Each	21.00
CHLHTH5	5 LB HTH DRY GRANULAR CHLORINE	Each	4.00
CLC-0200	2" COLLAR LEAK CLAMP	Each	7.00
CLC-0250	2 1/2" COLLAR LEAK CLAMP	Each	4.00
CLC-0300	3" COLLAR LEAK CLAMP	Each	5.00
CLC-0400	4" COLLAR LEAK CLAMP	Each	9.00
CLC-0600	6" COLLAR LEAK CLAMP	Each	5.00
CLC-0800	8" COLLAR LEAK CLAMP	Each	2.00

CLC-1000	10" COLLAR LEAK CLAMP	Each	2.00
CLC-1200	12" COLLAR LEAK CLAMP	Each	2.00
CONCRNGCO	CONCRETE RING - 24" ROUND X 5" OPENING FOR C/O	Each	51.00
CONCRNGVB	CONCRETE RING - 24" ROUND X 10" OPENING FOR VALVE BOX	Each	17.00
CS100-01000	CORP STOP, TAPPER CC F1000-4G 1"	Each	324.00
CSC100-44	1" LO2-44 CORP STOP COUPLING FLARE	Each	24.00
CSC100-44S	1" LO2-44S SWIVEL 90 FOR CORP STOP	Each	48.00
CURBS075	B11-333 3/4" CURB STOP FIPT	Each	13.00
CURBS100	B11-444 1" CURB STOP FIPT	Each	23.00
DIP03	3" DUCTILE IRON PIPE	Linear Feet	0.00
DIP04	4" DUCTILE IRON PIPE	Linear Feet	345.00
DIP06	6" DUCTILE IRON PIPE	Linear Feet	601.00
DIP08	8" DUCTILE IRON PIPE	Linear Feet	261.00
DIP10	10" DUCTILE IRON PIPE	Linear Feet	243.00
DIP12	12" DUCTILE IRON PIPE	Linear Feet	277.00
DIP14	14" DUCTILE IRON PIPE	Linear Feet	113.00
DIP16	16" DUCTILE IRON PIPE	Linear Feet	75.00
DIP18	18" DUCTILE IRON PIPE	Linear Feet	173.00
DIP20	20" DUCTILE IRON PIPE	Linear Feet	112.00
DIP24	24" DUCTILE IRON PIPE	Linear Feet	125.00
DIP30	30" DUCTILE IRON PIPE	Linear Feet	462.00
DIP36	36" DUCTILE IRON PIPE	Linear Feet	36.00
DONUT2	4" FERNCO DONUT FOR SCH 40 490-405	Each	109.00
EXP-EC1	5/8" FORD EC-1 EXPANSION WHEEL	Each	466.00
EXP-EC23	3/4" FORD EC-23 EXPANSION WHEEL	Each	46.00
EXP-EC23SF	3/4" FORD EC-23SF EXPANSION WHEEL	Each	44.00
EXP-EC4	1" FORD EC-4 EXPANSION WHEEL	Each	3.00
FBC-A12S	A12S (SHORT)) 5/8" X 3/4" THREADED ADAPTER RING	Each	126.00
FBC-A14	A-14 5/8" X 1" METER ADAPTOR	Each	415.00
FBC-A34	A-34 METER ADAPTOR	Each	236.00
FBC-A46	1" METER TO 1 1/2" FLANGE METER SIZE AND LENGTH	Each	6.00
FBC-A47	1" METER TO 2" FLANGE METER SIZE AND LENGTH	Each	20.00
FBC-A67	1 1/2" METER TO 2" FLANGE METER SIZE AND LENGTH	Pair	8.00
FBC-A95017-003	ADAPTER (OS) 1" METER BOX	Each	48.00
FBC-A95017-008	ADAPTER 1 FIP X 3/4 PVC	Each	88.00
FBC-BBIA-74	BBIA-74 2" IP x 1" CC BRASS BUSHING	Each	21.00
FBC-C0133	C01-33 3/4" ADPT FCT X FIP	Each	17.00
FBC-C0134	C01-34 3/4" ADPT FCT X 1" FIP	Each	11.00
FBC-C0144	C01-44 1" ADPT FCT X FIP	Each	19.00
FBC-C0433	C04-33 3/4" CPLG FCT X PJ CTS	Each	6.00
FBC-C0433-G	C04-33G 3/4" CPLG FCT X GJ CTS	Each	20.00
FBC-C0434-G	C04-34G 3/4" FEMALE FLARE X 1" CTS GRIP JOINT	Each	417.00
FBC-C0443	C04-43 1 X 3/4 CPLG FCT X PJ CTS	Each	10.00
FBC-C0443-G	C04-43G 1" X 3/4" CPLG FCT X GJ CTS	Each	73.00
FBC-C0734	C07-34 3/4" X 1" CPLG FCT X PJ PVC	Each	20.00
FBC-C0833	C08-33 3/4 MALE ADP FCT X MIP	Each	18.00
FBC-C0843	C08-43 1" X 3/4" ADPT FCT X MIP	Each	19.00
FBC-C0844	C08-44 1" MALE ADPT FCT X MIP	Each	19.00
FBC-C1433	C14-33 3/4" FIP / 3/4" CTSPJ	Each	4.00
FBC-C2233	C22-33 3/4" CT FLARE/ 3/4" CT FLARE	Each	27.00
FBC-C2833	C28-33 3/4" FLARE / 3/4" MIP	Each	57.00
FBC-C2844	C28-44 1" FLARE/ 1" MIP TH'D	Each	61.00
FBC-C3413	C34-13 METER COUPLING 5/8 SWIVEL X 3/4" CTSPJ	Each	6.00
FBC-C4413	C44-13 1/2" CTSPJ/ 3/4" CTSPJ	Each	4.00
FBC-C4433-G	C44-33G 3/4"PJ/CTS/3/4" PJ/CTS	Each	374.00
FBC-C4434-G	C44-34G 3/4" PJ/CP/1" PJCP	Each	302.00
FBC-C4444-G	C44-44G 1" PJ/CP/1" PJ/CP	Each	286.00
FBC-C4445-G	C44-45G 1" X 1 1/4" GJCTS CPLG	Each	9.00
FBC-C4446-G	C44-46G 1 1/2" X 1" GJCTS CPLG	Each	8.00
FBC-C4455-G	C44-55G 1 1/4" GJCTS CPLG	Each	4.00
FBC-C4456-G	C44-56G 1 1/4" X 1 1/2" COUPLING	Each	6.00
FBC-C4466-G	C44-66G 1 1/2" GJCTS COUPLING	Each	7.00
FBC-C4467-G	C44-67G 1 1/2" X 2" GJCTS CPLG	Each	5.00

FBC-C4477-G	C44-77G 2" PJ/CP / 2" PJ/CP	Each	12.00
FBC-C4533-G	C45-33G 3/4" CTS to 3/4" PJ/IP	Each	5.00
FBC-C4534-G	C45-34G 3/4" CTS/ 1" IP PJ	Each	16.00
FBC-C4545-G	C45-45G 1 1/4" PJ/IP/1" PJ/CP	Each	4.00
FBC-C4733	C47-33, 3/4 CPLG PJ (CTS) X PJ (PVC)	Each	38.00
FBC-C4733-G	C47-33G 3/4" CPLG GJ (CTS) X GJ PVC	Each	80.00
FBC-C4734	C47-34 1" PVC PJ / 3/4" CTS PJ	Each	11.00
FBC-C4734-G	C47-34G 3/4" CTS / 1" CTS	Each	17.00
FBC-C4743-G	C47-43G 1" CPLG PJ (CTS) / 3/4" GJ (PVC)	Each	31.00
FBC-C4744	C47-44, 1" CPLG PJ (CTS) PJ (PVC)	Each	19.00
FBC-C4744-G	C47-44G 1" CPLG GJ (CTS) X GJ	Each	30.00
FBC-C4777-G	C47-77-G 2" PJ/PVC/2" CTS	Each	8.00
FBC-C7766	C77-66 1 1/2" IP/PVC/1 1/2" IP/PVC	Each	6.00
FBC-C7777	C77-77 2" IP/PVC/2" IP/PVC	Each	4.00
FBC-C8433-G	C84-33G 3/4" MIP/3/4" PJ/CP	Each	122.00
FBC-C8434-G	C84-34G 3/4" MIP/1" PJ/CP	Each	72.00
FBC-C8443	C84-43 1" MIP X 3/4" CTS PJ	Each	22.00
FBC-C8443-G	C84-43G 1" MIP/3/4" PJ/CP	Each	185.00
FBC-C8444-G	C84-44G 1" MIP/1" PJ/CP	Each	158.00
FBC-C8466	C84-66 1" 1/2 MIP X 1" 1/2 CTS PJ	Each	7.00
FBC-C8466-G	C84-66G 1 1/2" MIP/1 1/2" PJ/CP	Each	5.00
FBC-C8467	C84-67 2" PJ/CP / 1 1/2" MIP	Each	11.00
FBC-C8467-G	C84-67G 2" PJ/CP/1 1/2" MIP	Each	12.00
FBC-C8477-G	C84-77G 2" PJ/CP/2" MIP	Each	53.00
FBC-C8734	C87-34 3/4" MIP X 1" PVC	Each	13.00
FBC-C8743	C87-43 1" MIP / 3/4" PJ/PVC	Each	34.00
FBC-C8744	C87-44 1" MIP / 1" PJ/PVC	Each	33.00
FBC-C8746	C87-46 1 1/2" PJ/PVC / 1" MIP	Each	3.00
FBC-C8754	C87-54 1 1/4" MIP / 1" PJ/PVC	Each	6.00
FBC-C8755	C87-55 1 1/4" PJ/PVC / 1 1/4" MIP	Each	5.00
FBC-C8766	C87-66 1 1/2" PJ/PVC/1 1/2" MIP	Each	6.00
FBC-C8777	C87-77 2" PJ/PVC / 2" MIP	Each	27.00
FBC-GJN4-3	3/4" COMPRESSION NUT - GRIP JOINT W/GSKT -GJN4-3	Each	280.00
FBC-GJN4-4	1" COMPRESSION NUT - GRIP JOINT W/GSKT - GJN4-4	Each	613.00
FBC-L0433S-G	L04-33S-G, 3/4" SWIVEL 90 SWFCT X GJ CTS	Each	125.00
FBC-L0444S-G	L04-44S-G, 1" SWIVEL 90 X COMPRESSION - SWFCT X GJ (CTS)	Each	128.00
FBC-L8444-G	L84-44G - BRASS 90 COUPLING - 1" MIP X 1" CTS GRIP JOINT	Each	115.00
FBC-LA0433S-G	LA04-33S-G, 3/4" 45 SWFCT X GJ CTS	Each	131.00
FBC-LA0444S-G	LA04-44S-G, 1" SWIVEL 45 X COMPRESSION, SWFCTXGJ (CTS)	Each	121.00
FBC-LA8444-G	LA84-44G - BRASS 45 COUPLING - 1" MIP X 1" CTS GRIP JOINT	Each	121.00
FBC-RA4233	RA-42-33 3/4" CTS PG X 3/4" FL ADPT (WEDDING RING)	Each	349.00
FBC-RA4244	RA-42-44 1" CTS PJ X 1" FL ADPT	Each	55.00
FCB025-075SB	2 1/2" X 7 1/2" FULL CIRCLE BAND #226 2.70 - 3.00	Each	2.00
FCB03-075SB	3" X 7 1/2" FULL CIRCLE BAND #227 3.49/4.29	Each	4.00
FCB03-100SB	3" X 10" FULL CIRCLE BAND #227 3.49 / 4.29	Each	1.00
FCB03-125SB	3" X 12.5" FULL CIRCLE BAND #227 3.49 / 4.29	Each	1.00
FCB03-150SB	3" X 15" FULL CIRCLE BAND #227 3.49 / 4.29	Each	3.00
FCB04-075SB	4" X 7 1/2" FULL CIRCLE BAND #227 4.44/5.24	Each	7.00
FCB04-075SB2	4" X 7 1/2" FULL CIRCLE BAND #227 4.74/5.57	Each	8.00
FCB04-100SB	4" X 10" FULL CIRCLE BAND #227 4.74-5.57	Each	1.00
FCB04-150SB	4" X 15" FULL CIRCLE BAND #227 4.74/5.57	Each	2.00
FCB04-150SB2	4" X 15" FULL CIRCLE BAND #227 4.44 / 5.24	Each	3.00
FCB04-200SB	4" X 20" FULL CIRCLE BAND #227 4.74/5.57	Each	0.00
FCB06-075SB2	6" X 7 1/2" FULL CIRCLE BAND #227 6.62/7.42	Each	4.00
FCB06-075SB3	6" X 7 1/2" FULL CIRCLE BAND #227 6.84/7.64	Each	16.00
FCB06-100MU	6" X 10" FULL CIRCLE BAND MUELLER 6.62 / 7.42	Each	0.00
FCB06-150SB	6" X 15" FULL CIRCLE BAND #227 6.84/7.64	Each	4.00
FCB06-150SB2	6" X 15" FULL CIRCLE BAND #227 6.62 / 7.42	Each	3.00
FCB06-200SB	6" X 20" FULL CIRCLE BAND #227 6.84 / 7.64	Each	2.00
FCB08-075SB	8" X 7 1/2" FULL CIRCLE BAND #227 8.62/9.42	Each	3.00
FCB08-075SB2	8" X 7 1/2" FULL CIRCLE BAND #227 8.99/9.79	Each	8.00
FCB08-125FD	8" X 12 1/2" FULL CIRCLE BAND FORD 8.99 - 9.79	Each	1.00
FCB08-125SB	8" X 12 1/2" FULL CIRCLE BAND #227 8.99/9.79	Each	0.00

FCB08-150SB	8" X 15" FULL CIRCLE BAND #227 8.62/9.42	Each	5.00
FCB08-150SB2	8" X 15" FULL CIRCLE BAND #227 8.99/9.79	Each	6.00
FCB08-200SB	8" X 20" FULL CIRCLE BAND #227 8.99/9.79	Each	2.00
FCB08-300MU	8" X 30" FULL CIRCLE BAND MUELLER 8.88/9.68	Each	2.00
FCB08-300SB	8" X 30" FULL CIRCLE BAND #227 8.99/9.79	Each	1.00
FCB10-100FD	10" X 10" FULL CIRCLE BAND FORD 11.10/11.90	Each	0.00
FCB10-100SB	10" X 10" FULL CIRCLE BAND #227 11.04/12.24	Each	0.00
FCB10-100SB3	10" X 10" FULL CIRCLE BAND #227 11.60/12.40	Each	3.00
FCB10-150MU	10" X 15" FULL CIRCLE BAND MUELLER 11.05/12.05	Each	0.00
FCB10-150SB	10" X 15" FULL CIRCLE BAND #227 10.75 / 11.55	Each	3.00
FCB10-150SB2	10" X 15" FULL CIRCLE BAND #227 11.10/11.90	Each	3.00
FCB10-150SB3	10" X 15" FULL CIRCLE BAND #227 11.60 / 12.40	Each	3.00
FCB10-200MU	10" X 20" FULL CIRCLE BAND MUELLER 11.05/12.05	Each	2.00
FCB10-300RW	10 X 30 FULL CIRCLE BAND ROCKWELL 11.04/12.24	Each	1.00
FCB10-300SB	10" X 30" FULL CIRCLE BAND #227 11.04/12.24	Each	2.00
FCB10-300SB2	10" X 30" FULL CIRCLE BAND #227 11.10/11.90	Each	4.00
FCB12-100FD	12" X 10" FULL CIRCLE BAND FORD 13.65/14.45	Each	0.00
FCB12-100SB	12" X 10" FULL CIRCLE BAND #227 12.75 - 13.55	Each	0.00
FCB12-150SB	12" X 15" FULL CIRCLE BAND #227 12.75-13.55	Each	2.00
FCB12-150SB3	12" X 15" FULL CIRCLE BAND #227 13.20/14.00	Each	1.00
FCB12-150SB4	12" X 15" FULL CIRCLE BAND #227 13.65/14.85	Each	2.00
FCB12-200SB	12" X 20" FULL CIRCLE BAND #227 13.20/14.00	Each	0.00
FCB12-200SB2	12" X 20" FULL CIRCLE BAND #227 13.65/14.85	Each	2.00
FCB12-300MU	12" X 30" FULL CIRCLE BAND MUELLER 13.10/14.30	Each	1.00
FCB12-300SB	12" X 30" FULL CIRCLE BAND #227 13.14/14.34	Each	1.00
FCB12-300SB2	12" X 30" FULL CIRCLE BAND #227 13.65/14.85	Each	1.00
FCB14-100SB	14" X 10" FULL CIRCLE BAND #227 14.10/14.80	Each	0.00
FCB14-100SB2	14" X 10" FULL CIRCLE BAND #228 15.07 / 15.82	Each	2.00
FCB14-100SB3	14" X 10" FULL CIRCLE BAND #228 15.92 / 16.67	Each	2.00
FCB14-200SB	14" X 20" FULL CIRCLE BAND #228 15.07 / 15.82	Each	2.00
FCB14-300SB	14" X 30" FULL CIRCLE BAND #228 15.07 / 15.82	Each	2.00
FCB16-100SB	16" X 10" FULL CIRCLE BAND #228 16.56/17.31	Each	7.00
FCB16-100SB2	16" X 10" FULL CIRCLE BAND #228 17.13 /17.90	Each	2.00
FCB16-125SB	16" X 12 1/2" FULL CIRCLE BAND #228 17.15/17.90	Each	5.00
FCB16-150SB	16" X 15" FULL CIRCLE BAND #228 15.92/16.67	Each	4.00
FCB16-200SB	16" X 20" FULL CIRCLE BAND #228 17.15/17.90	Each	1.00
FCB16-200SB2	16" X 20" FULL CIRCLE BAND #228 17.82/18.57	Each	1.00
FCB16-200SB3	16" X 20" FULL CIRCLE BAND #228 18.46/19.21	Each	2.00
FCB16-300SB2	16" X 30" FULL CIRCLE BAND #228 15.92 / 16.67	Each	2.00
FCB18-150MU	18" X 15" FULL CIRCLE BAND MUELLER 19.90/20.70	Each	2.00
FCB18-300SB	18" x 30" Full Circle Band #228 19.90/20.65	Each	1.00
FCB18-300SB2	18" x 30" FULL CIRCLE BAND #228 19.23 X 19.98	Each	1.00
FCB20-100SB	20" X 10" FULL CIRCLE BAND #228 21.40/22.20	Each	0.00
FCB20-100SB2	20" X 10" FULL CIRCLE BAND SMITH/BLAIR 21.40/22.20	Each	0.00
FCB20-150RW	20" X 15" FULL CIRCLE BAND ROCKWELL 21.52/22.27	Each	3.00
FCB20-150UN	20 X 15 FULL CIRCLE BAND 21.40 / 22.40	Each	0.00
FCB20-200SB	20" X 20" FULL CIRCLE BAND #228 21.52/22.27	Each	1.00
FCB20-200SB2	20" X 20" FULL CIRCLE BAND #227 21.12/22.87	Each	0.00
FCB20-200SB3	20" X 20" FULL CIRCLE BAND #228 22.90 - 23.65	Each	3.00
FCB20-200SB4	20" X 20" FULL CIRCLE BAND #228 23.28 - 24.38	Each	1.00
FCB20-200SB5	20" X 20" FULL CIRCLE BAND #228 24.38 - 25.48	Each	3.00
FCB20-200SB6	20" X 20" FULL CIRCLE BAND #223 23.02 - 23.20	Each	1.00
FCB20-300SB	20" X 30" FULL CIRCLE BAND #228 19.23/19.98	Each	0.00
FCB20-300SB3	20" X 30" FULL CIRCLE BAND #228 21.52 / 22.27	Each	2.00
FCB22-150RW	22" X 15" FULL CIRCLE BAND ROCKWELL 22.12/22.87	Each	4.00
FCB22-150RW2	22" X 15" FULL CIRCLE BAND ROCKWELL 21.52 - 22.27	Each	1.00
FCB22-200RW	22" X 20" FULL CIRCLE BAND ROCKWELL 22.12/22.87	Each	3.00
FCB24-150SB	24" X 15" FULL CIRCLE BAND #228 25.70/26.80	Each	2.00
FCB24-300SB	24" X 30" FULL CIRCLE BAND #228 25.70 - 26.80	Each	2.00
FCB27-100SB	27" X 10" FULL CIRCLE BAND #228 26.48/27.58	Each	0.00
FCB27-100SB2	27" X 10" FULL CIRCLE BAND #228 27.65/28.75	Each	6.00
FCB27-150SB	27" X 15" FULL CIRCLE BAND #228 27.65/28.75	Each	2.00
FCB27-200SB	27" X 20" FULL CIRCLE BAND #228 26.48/27.58	Each	1.00

FCB27-200SB2	27" X 20" FULL CIRCLE BAND #228 27.65/28.75	Each	4.00
FCB27-300SB	27" X 30" FULL CIRCLE BAND #228 26.48/27.58	Each	2.00
FCB27-300SB2	27" X 30" FULL CIRCLE BAND #228 27.65/28.75	Each	1.00
FCB28-300SB	28" X 30" FULL CIRCLE BAND 28.30/30.23	Each	1.00
FCB30-120JC	30" X 12" FULL CIRCLE BAND JCM 31.70/32.90	Each	1.00
FCB30-200SB	30" X 20" FULL CIRCLE BAND #228 29.62/30.72	Each	0.00
FCB30-300RW	30" X 30" FULL CIRCLE BAND ROCKWELL 29.62 - 30.72	Each	1.00
FCB30-300SB	30" X 30" FULL CIRCLE BAND #228 29.62/30.72	Each	0.00
FCB30-300SB2	30" X 30" FULL CIRCLE BAND #268 31.70 - 32.80	Each	1.00
FCB34-120SB	34" X 12" FULL CIRCLE BAND #267 34.39 - 34.79	Each	1.00
FCB36-150SB	36" X 15" FULL CIRCLE BAND #228 38.30/39.50	Each	0.00
FH-EX450-06	FIRE HYDRANT EXTENSION, MUELLER A-319-006, 4 1/2" X 6"	Each	9.00
FH-EX450-12	FIRE HYDRANT EXTENSION, A-319-310, 4 1/2" X 12"	Each	18.00
FH-EX450-12MH	FIRE HYDRANT EXTENSION, M & H STYLE 12"	Each	1.00
FH-EX450-18	FIRE HYDRANT EXTENSION, MUELLER A-319-016 , 4 1/2" X 18"	Each	10.00
FH-EX450-18MH	FIRE HYDRANT EXTENSION, M & H STYLE 18"	Each	10.00
FH-EX450-18PRE	FIRE HYDRANT EXTENSION, A-319-00-016 MUELLER PRE 1972 18"	Each	3.00
FH-EX450-24	FIRE HYDRANT EXTENSION, MUELLER A-319-020, 4 1/2" X 24"	Each	4.00
FH-EX450-24MH	FIRE HYDRANT EXTENSION, M & H STYLE 24"	Each	10.00
FH-EX450-42PRE	FIRE HYDRANT EXTENSION, MUELLER PRE 72 - 4 1/2" X 42"	Each	3.00
FH-EX525-12	FIRE HYDRANT EXTENSION, MUELLER A320 5 1/2" X 12"	Each	8.00
FH-FH450-421	FIRE HYDRANT, MUELLER A-421 4 1/2"	Each	15.00
FH-GS200-CGS	2" FIRE HYDRANT CAP GASKET	Each	84.00
FH-GS250-RNGNOZ	NOZZLE O-RING FOR 2 1/2" NOZZLE	Each	10.00
FH-GS400-CGS	4" FIRE HYDRANT CAP GASKET	Each	129.00
FH-GS400-RNGPMP	NOZZLE O-RING FOR 4" NOZZLE	Each	10.00
FH-GS450-AFW	ANTI-FRICTION WASHER A-6 4 1/2" MUELLER HYD.	Each	15.00
FH-GS450-BF-RNG	BONNET FLANGE O-RING A-10 4 1/2" MUELLER HYD.	Each	24.00
FH-GS450-BN-RNG	BONNET NUT O-RING A-5 4 1/2" MUELLER HYD.	Each	20.00
FH-GS450-MET	METALLIC GASKET, MUELLER 4 1/2"	Each	23.00
FH-GS450-RNG217	BONNET O-RING - #217, FOR 4 1/2" MUELLER FIRE HYDRANT	Each	130.00
FH-GS450-SFL	SAFETY FLANGE GASKET FOR 4 1/2" HYDRANT	Each	3.00
FH-GS525-MET	METALLIC GASKET, MUELLER 5 1/2"	Each	9.00
FH-GS525-SFL	SAFETY FLANGE GASKET, MUELLER A-27-19838 5 1/4"	Each	12.00
FH-KT450-BNT	4 1/2 " BONNET REPAIR KIT	Each	12.00
FH-KT450-EXT	HYDRANT EXTENSION KIT FOR A319 4 1/2" MUELLER 280374	Each	11.00
FH-KT450-EXT12	HYDRANT EXTENSION KIT WITH 12" STEM FOR 4 1/2", 287000	Each	1.00
FH-KT450-EXT-NS-PRE	EXTENSION KIT, PRE 1972, NO STEM, 4 1/2"	Each	5.00
FH-KT450-FL	FLANGE REPAIR KIT, MUELLER A-300 4 1/2"	Each	15.00
FH-KT450--MVLV	4 1/2" MAIN VALVE REPAIR KIT	Each	0.00
FH-KT450-SFLPRE	SAFETY FLANGE REPAIR KIT, MUELLER A300-00 KIT PRE 1972 4 1/2"	Each	2.00
FH-KT450-SHOE	4 1/2" SHOE REPAIR KIT	Each	12.00
FH-KT525-EXT-3PRE	EXTENSION KIT PRE 1972 WITH STEM - 287003 5 1/4"	Each	8.00
FH-KT525-EXT-4PRE	EXTENSION KIT PRE 1972 WITH STEM - 287004 5 1/4"	Each	2.00
FH-KT525-FL	FLANGE REPAIR KIT, MUELLER A301 5 1/4"	Each	29.00
FH-KT525-FLPRE	FLANGE REPAIR KIT, MUELLER A30100 PRE 1972 5 1/2"	Each	1.00
FH-PT-025BPLG	SQ HD PIPE PLUG BRASS 1/4" NPT BONNET OIL PLUG	Each	22.00
FH-PT-025CPLG	STEEL 1/4" THREADED PLUG FOR PRE-72 COUPLING	Each	22.00
FH-PT-450EFL	4 1/2" EXTENSION FLANGE ONLY - 175522	Each	10.00
FH-PT-450LVP	LOWER VALVE PLATE, 190355-1 4 1/2"	Each	23.00
FH-PT-450MVSR	MAIN SEAT VALVE, MUELLER REVERSEABLE, 190353 4 1/2"	Each	3.00
FH-PT-450SFL	4 1/2" SAFETY FLANGE ONLY - 175284 FOR MUELLER HYDRANT	Each	6.00
FH-PT450-STRNG	4 1/2" SEAT RING, MUELLER	Each	3.00
FH-PT-525LVP	LOWER VALVE PLATE, 190356-1 5 1/2"	Each	10.00
FH-PT-525MVS	MAIN SEAT VALVE, MUELLER H-88 5 1/2"	Each	7.00
FH-PT-525MVSR	MAIN SEAT VALVE, REVERSEABLE, MUELLER 5 1/4" 190354	Each	8.00
FH-PT-525SFL	5 1/4" SAFETY FLANGE ONLY	Each	2.00
FH-PT-CLPA25	CLEVIS PIN FOR A-25 SAFETY STEM COUPLING	Each	38.00
FH-PT-CP250	2 1/2" FIRE HYDRANT CAP	Each	13.00
FH-PT-CP450	4 1/2" FIRE HYDRANT CAP	Each	5.00
FH-PT-CPCHN	CHAIN FOR HYDRANT CAP	Each	75.00
FH-PT-CTPA25	COTTER PIN FOR A-25 SAFETY FLANGE COUPLING	Each	66.00
FH-PT-DVFH81	DRAIN VALVE FACING, MUELLER H-81	Each	44.00

FH-PT-ESCA25	EXTENSION STEM COUPLING, MUELLER 158878	Each	26.00
FH-PT-NOZ250	2 1/2" BRASS THREADED NOZZLE	Each	5.00
FH-PT-NOZ400	4" BRASS THREADED NOZZLE	Each	4.00
FH-PT-NOZLOC	NOZZLE LOCK FOR BRASS NOZZLES	Each	17.00
FH-PT-OIL10	FIRE HYDRANT OIL 10.5 OZ BOTTLE	Each	17.00
FH-PT-SFCA25	A-25 SAFETY STEM COUPLING	Each	17.00
FH-PT-SHK	S HOOKS FOR CAP CHAINS	Each	129.00
FH-PT-SSCH75	SAFETY SLEEVE COUPLING, MUELLER H75	Each	27.00
FH-PT-SSH95	SAFETY SLEEVE, MUELLER H95	Each	23.00
FH-ST-06	HYDRANT STEM, MUELLER 158287 6"	Each	28.00
FH-ST-06PRE	HYDRANT STEM, MUELLER 175513 6" PRE 1972	Each	11.00
FH-ST-12	HYDRANT STEM, MUELLER 158288 12"	Each	25.00
FH-ST-12PRE	HYDRANT STEM, MUELLER 175506 12" PRE 1972	Each	7.00
FH-ST-18PRE	HYDRANT STEM, MUELLER, 18" PRE 1972	Each	4.00
FH-ST-27UP	UPPER HYDRANT STEM, MUELLER, 27 5/8"	Each	5.00
FH-ST-30UP	UPPER HYDRANT STEM, MUELLER, 30 1/16"	Each	5.00
FH-TL-NZLTL	NOZZLE LOCK INSTALLATION TOOL	Each	1.00
FLEX-050	1/2" X 6" FLEX COUPLING	Each	15.00
FLEX-075	3/4" X 6" FLEX COUPLING	Each	35.00
FLEX-100	1" X 6" FLEX COUPLING	Each	41.00
FLEX-125	1 1/4" X 6" FLEX COUPLING	Each	9.00
FLEX-150	1 1/2" X 6" FLEX COUPLING	Each	11.00
FLEX-200	2" X 6" FLEX COUPLING	Each	32.00
FLEX-250	2 1/2" X 6" FLEX COUPLING	Each	6.00
FLEX-275	2 3/4" X 6" FLEX COUPLING	Each	5.00
FLEX-300	3" X 6" FLEX COUPLING	Each	4.00
FLEX-400-200	4" X 2" X 6" LONG FLEX COUPLING	Each	3.00
FLEX-400-300	4" X 3" TRANSITION	Each	1.00
FLEX-GSKT-050	1/2" ADAPTER GASKET FOR 1/2" FLEX COUPLING	Each	12.00
FLEX-GSKT-075	3/4" ADAPTER GASKET FOR 3/4" FLEX COUPLING	Each	46.00
FLEX-GSKT-100	1" ADAPTER GASKET FOR 1" FLEX COUPLING	Each	31.00
FLEX-GSKT-125	1 1/4" ADAPTER GASKET FOR 1 1/4" FLEX COUPLING	Each	19.00
FLEX-GSKT-150	1 1/2" ADAPTER GASKET FOR 1 1/2" FLEX COUPLING	Each	14.00
FLEX-GSKT-200	2" ADAPTER GASKET FOR 2" FLEX COUPLING	Each	7.00
FLGACC02	2" X 1/8 FLANGE ACC KIT - BOLTS & GSKT	Each	4.00
FLGACC03	3" X 1/8 FLANGE ACC KIT - BOLTS & GSKT	Each	22.00
FLGACC04	4" X 1/8 FLANGE ACC KIT - BOLTS & GSKT	Each	20.00
FLGACC06	6" X 1/8 FLANGE ACC KIT - BOLTS & GSKT	Each	24.00
FLGACC08	8" X 1/8 FLANGE ACC KIT - BOLTS & GSKT	Each	9.00
FLGACC10	10" X 1/8" FLANGE ACC KIT - BOLTS & GSKT	Each	3.00
FLGCMP03DS	3" COMPANION FLANGE, STEEL THREADS, DI,	Each	5.00
FLGCMP04DS	4" COMPANION FLANGE, STEEL THREADS, DI	Each	11.00
FLGUNIADPT03	3" UNIFLANGE ADAPTER, SERIES 200	Each	12.00
FLGUNIADPT04	4" UNIFLANGE ADAPTER, SERIES 200	Each	10.00
FLGUNIADPT06	6" UNIFLANGE ADAPTER, SERIES 200	Each	8.00
FLGUNIADPT08	8" UNIFLANGE ADPATER , SERIES 200	Each	5.00
FLVLV02	2" FLANGE VALVE - FL X FL - W/ HAND WHEEL	Each	2.00
FLVLV03	3" FLANGE VALVE - FLXFL -W/HAND WHEEL	Each	0.00
FLVLV04	4" FLANGE VALVE - FL X FL - W/ HAND WHEEL	Each	3.00
FLVLV04-MJ	4" FLANGE X MJ VALVE	Each	2.00
FLVLV06	6" FLANGE VALVE - FL X FL W/HAND WHEEL	Each	2.00
FLVLV08	8" FLANGE VALVE - FL X FL W/HAND WHEEL	Each	0.00
FLVLV10-MJ	10" FLANGE X MJ VALVE	Each	1.00
FLVLV12	12" FLANGE VALVE - FLXFL W/HAND WHEEL	Each	0.00
FNUT-075	CTN-3 3/4" FLARE NUT	Each	95.00
FNUT-100	CTN-4 1" FLARE NUT	Each	52.00
GERM-A-CIDE64	GERM-A-CIDE 64 DISINFECTANT, 1GAL	Each	30.00
GERM-PG-04	PURE GREEN 24, DISINFECTANT & DEODORIZER-4OZ.	Each	11.00
GRADJ1	3/4" & 5/8" YOKE BOX GRADE ADJUSTER (OLD STYLE)	Each	71.00
GRADJ2	5/8" LONG BOX GRADE ADJUSTER	Each	68.00
GRADJ3	1" LONG BOX GRADE ADJUSTER (NEW STYLE) - CAST IRON	Each	60.00
GSKTMTRL-LF36	1/8" X 36" X 50' RED RUBBER GASKET	Linear Feet	33.00
GSKTRUB-GT112	RUBBER YOKE END GASKET	Each	0.00

GSKTRUB-GT118	RUBBER GASKET 5/8 X 3/4	Each	884.00
GSKTRUB-GT123	RUBBER YOKE END GASKET	Each	457.00
HMAX0206	2" X 6" HYMAX COUPLING 2.28 / 2.60	Each	10.00
HMAX0306	3" X 6" HYMAX COUPLING 3.46/4.33	Each	13.00
HMAX0406B	4" X 6" HYMAX COUPLING 4.25 / 5.63	Each	24.00
HMAX0612	6" X 12" HYMAX COUPLING 6.42- 7.05 LR; 7.01-7.68 HR	Each	62.00
HMAX0812	8" X 12" HYMAX COUPLING 8.54 -9.84	Each	18.00
HMAX1012	10" X 12" HYMAX COUPLING 10.70 / 12.00	Each	18.00
HMAX1012B	10" X 12" OS HYMAX COUPLING 10.96 / 12.26	Each	10.00
HMAX1212	12" X 12" HYMAX COUPLING 12.40 / 13.66	Each	13.00
HMAX1212B	12" X 12" OS HYMAX COUPLING 13.15 / 14.41	Each	12.00
HMAX1412	14" X 12" HYMAX COUPLING 15.00 / 17.10	Each	6.00
HMAX1612	16" X 12" HYMAX COUPLING 17.10 / 19.20	Each	6.00
HMAX1812	18" X 12" HYMAX COUPLING 19.20 / 21.30	Each	4.00
HMAX2012	20" X 12" HYMAX COUPLING 21.50 / 23.60	Each	6.00
HMAX2412	24" X 12" HYMAX COUPLING 24.60 / 26.70	Each	9.00
HMAX2412B	24" X 12" HYMAX COUPLING 23.85 - 25.95	Each	2.00
HUB-1001-1010	1001-1010 10" CLAY TO CLAY FERNCO COUPLING	Each	8.00
HUB-1002-1010	1002-1010 10" CLAY TO CI/PVC FERNCO COUPLING	Each	6.00
HUB-1002-1212	1002-1212 12" CLAY TO CI/PVC FERNCO COUPLING	Each	4.00
HUB-1002-1818	1002-1818	Each	2.00
HUB-1002-44	1002-44 4" CLAY TO PVC FERNCO COUPLING	Each	39.00
HUB-1002-64	1002-64 6" CLAY TO 4" CI/PVC FERNCO COUPLING	Each	11.00
HUB-1002-66	1002-66 6" CLAY TO CI/PVC FERNCO COUPLING	Each	14.00
HUB-1002-88	1002-88 8" CLAY TO PVC FERNCO COUPLING	Each	37.00
HUB-1003-1010	1003-1010 10" CLAY TO AC/DI FERNCO COUPLING	Each	6.00
HUB-1003-88	1003-88 8" CLAY TO AC/DI FERNCO COUPLING	Each	6.00
HUB-1006-1010	1006-1010 10" CONCRETE TO PVC FERNCO COUPLING	Each	10.00
HUB-1006-1212	1006-1212 12" CONCRETE TO CI/PVC FERNCO COUPLING	Each	4.00
HUB-1006-44	1006-44 4" CONCRETE TO PVC FERNCO COUPLING	Each	32.00
HUB-1006-66	1006-66 6" CONCRETE TO CI/PVC FERNCO COUPLING	Each	22.00
HUB-1006-88	1006-88 8" CONCRETE TO PVC FERNCO COUPLING	Each	18.00
HUB-1051-1010	1051-1010 10" AC/DI TO CI/PVC FERNCO COUPLING	Each	5.00
HUB-1051-44	1051-44 4" AC/DI TO CI/PVC FERNCO COUPLING	Each	10.00
HUB-1051-88	1051-88 8" AC/DI TO CI/PVC	Each	6.00
HUB-1055-1010	1055-1010 10" AC TO DI FERNCO COUPLING	Each	2.00
HUB-1056-1010	1056-1010 10" CI/PVC TO CI/PVC FERNCO COUPLING	Each	4.00
HUB-1056-1212	1056-1212 12" CI/PVC TO CI/PVC FERNCO COUPLING	Each	2.00
HUB-1056-43	1056-43 3" PVC TO 4" PVC FERNCO COUPLING	Each	14.00
HUB-1056-44	1056-44 4" PVC TO PVC FERNCO COUPLING	Each	50.00
HUB-1056-66	1056-66 6" CI/PVC TO CI/PVC FERNCO COUPLING	Each	17.00
HUB-1056-88	1056-88 8" CI/PVC TO CI/PVC FERNCO COUPLING	Each	15.00
INBET1	3/4" OR 5/8" FORD PLASTIC INBETWEEN (OS)	Each	18.00
INBET2	5/8" FORD LYPR-4 PLASTIC INBETWEEN FOR LONG BOX	Each	48.00
JRSTDI-E1106HD	6" JOINT RESTRAINT FOR DI PIPE	Each	2.00
JRSTDI-E1708	8" JOINT RESTRAINT FOR DI PIPE	Each	0.00
LCBV100	LOCKING CAP FOR 1" BALL VALVE - BVLC-1	Each	15.00
LNVALMJMJ02	2" LINE VALVE - MJ X MJ	Each	2.00
LNVALMJMJ03	3" LINE VALVE - MJ X MJ	Each	4.00
LNVALMJMJ04	4" LINE VALVE - MJ X MJ	Each	9.00
LNVALMJMJ06	6" LINE VALVE - MJ X MJ	Each	30.00
LNVALMJMJ08	8" LINE VALVE - MJ X MJ	Each	7.00
LNVALMJMJ10	10" LINE VALVE - MJ X MJ	Each	4.00
LNVALMJMJ12	12" LINE VALVE - MJ X MJ	Each	3.00
LNVALMJMJ16	16" LINE VALVE - MJ X MJ	Each	1.00
LNVALTHTH02	2" THRD RW OL GATE VLV W/NUT	Each	3.00
LSC005	30" X 12" LARGE STEEL COUPLING 411 31.94/32.08	Each	4.00
LSC010	30" X 16" LARGE STEEL COUPLING 415 25.05/29.00	Each	1.00
LSC012	30" X 24" LARGE STEEL COUPLING #415 27.70/32.00	Each	4.00
LSC017	30" X 12" LARGE STEEL COUPLING #411 30.65	Each	1.00
LSC018	30" X 24" LARGE STEEL COUPLING #415 27.90/31.50	Each	1.00
LSC019	30" X 24" LARGE STEEL COUPLING #415 27.90/32.00	Each	2.00
LSC020	30" X 30" #413 LARGE STEEL COUPLING 30.00 - 32.00	Each	4.00

LSC024	24" X 24" LARGE STEEL COUPLING 25.80 / 27.15	Each	3.00
LSC027	30" X 9" LARGE STEEL COUPLING 30.65 TYPE 411	Each	1.00
LSC042	42" X 36" LARGE STEEL COUPLING #415 38.30 - 42.50	Each	1.00
MADPCST150-200	1.5" TO 2" CTS METER ADAPTER	Each	8.00
MGL03D	3" MEGALUG FOR DI	Each	6.00
MGL03P	3" MEGALUG FOR PVC	Each	1.00
MGL04D	4" MEGALUG FOR DI	Each	7.00
MGL04P	4" MEGALUG FOR PVC	Each	24.00
MGL06D	6" MEGALUG FOR DI	Each	26.00
MGL06P	6" MEGALUG FOR PVC	Each	12.00
MGL08D	8" MEGALUG FOR DI	Each	8.00
MGL08P	8" MEGALUG FOR PVC	Each	12.00
MGL10CD	10" CAMLOCK JOINT RESTRAINT FOR DI	Each	8.00
MGL10D	10" MEGALUG FOR DI	Each	5.00
MGL10P	10" MEGALUG FOR PVC	Each	13.00
MGL12D	12" MEGALUG FOR DI	Each	9.00
MGL12P	12" MEGALUG FOR PVC	Each	7.00
MGL14D	14" MEGALUG FOR DUCTILE IRON	Each	8.00
MGL16D	16" MEGALUG FOR DI	Each	4.00
MGL18D	18" MEGALUG FOR DI	Each	10.00
MGL20D	20" MEGALUG FOR DI	Each	3.00
MGL24D	24" MEGALUG FOR DI	Each	12.00
MGL30D	30" MEGALUG FOR DI	Each	4.00
MGL36D	36" MEGALUG FOR DI	Each	6.00
MGLKIT03P	3" MEGALUG KIT FOR 3" PVC	Each	4.00
MGLKIT04P	4" MEGALUG KIT FOR PVC	Each	21.00
MGLKIT06P	6" MEGALUG KIT FOR PVC	Each	4.00
MGLKIT10D	10" MEGALUG KIT FOR DUCTILE	Each	2.00
MGLKIT10P	10" MEGALUG KIT FOR PVC	Each	4.00
MGLKIT12P	12" MEGALUG KIT FOR PVC	Each	12.00
MHLRS02	2" MANHOLE RISER	Each	42.00
MHLRS03	3" MANHOLE RISER	Each	32.00
MHLRS04	4" MANHOLE RISER	Each	22.00
MHLWRAP-01	48" MANHOLE RATCHET WRAP	Each	7.00
MHOLE2	23 1/2" MANHOLE RING - STYLE 1348-Z	Each	71.00
MHOLE3	23 1/2" MANHOLE COVER - STYLE 1348-A	Each	97.00
MHOLE7	23 1/2" MANHOLE RING - HEAVY DUTY - STYLE 1480-Z	Each	2.00
MHOLE8	23 1/2" MANHOLE COVER - HEAVY DUTY - STYLE 1480-A	Each	2.00
MJB2203	3" 22.50 DEGREE BEND, DI	Each	2.00
MJB2204	4" 22.50 DEGREE BEND, DI	Each	11.00
MJB2206	6" 22.50 DEGREE BEND, DI	Each	11.00
MJB2208	8" 22.50 DEGREE BEND, DI	Each	3.00
MJB2210	10" 22.50 DEGREE BEND, DI	Each	3.00
MJB2212	12" 22.50 DEGREE BEND, DI	Each	1.00
MJB4503	3" 45 DEGREE BEND, DI, CL153	Each	2.00
MJB4504	4" 45 DEGREE BEND, DI	Each	4.00
MJB4506	6" 45 DEGREE BEND, DI	Each	2.00
MJB4508	8" 45 DEGREE BEND, DI, CL153	Each	5.00
MJB4510	10" 45 DEGREE BEND, DI, CL153	Each	2.00
MJB4512	12" 45 DEGREE BEND, DI	Each	3.00
MJB4514	14" 45 DEGREE BEND, DI	Each	1.00
MJB4516	16" 45 DEGREE BEND, DI	Each	1.00
MJB4518	18" 45 DEGREE BEND, DI	Each	1.00
MJB9003	3" 90 DEGREE BEND, DI	Each	2.00
MJB9004	4" 90 DEGREE BEND, DI	Each	5.00
MJB9006	6" 90 DEGREE BEND, DI	Each	2.00
MJB9008	8" 90 DEGREE BEND, DI	Each	4.00
MJB9010	10" 90 DEGREE BEND,DI	Each	2.00
MJB9012	12" 90 DEGREE BEND, DI	Each	3.00
MJB9014	14" 90 DEGREE BEND, DI	Each	1.00
MJB9016	16" 90 DEGREE BEND, DI	Each	1.00
MJB9018	18" 90 DEGREE BEND, DI	Each	1.00
MJBLT03	3" MJ BOLT & GASKET KT, C153	Each	5.00

MJBLT04	4" MJ BOLT & GASKET KIT C153	Each	10.00
MJBLT06	6" MJ BOLT & GASKET KIT C153	Each	55.00
MJBLT08	8" MJ BOLT & GASKET KIT	Each	37.00
MJBLT10	10" MJ BOLT & GASKET KIT	Each	12.00
MJBLT12	12" MJ BOLT & GASKET KIT	Each	14.00
MJBLT14	14" MJ BOLT & GASKET KIT	Each	13.00
MJBLT16	16" MJ BOLT & GASKET KIT	Each	6.00
MJBLT18	18" MJ BOLT & GASKET KIT	Each	6.00
MJBLT20	20" MJ BOLT & GASKET KIT	Each	6.00
MJBLT36	36" MJ BOLT & GASKET KT	Each	6.00
MJCAPS03	3" SOLID CAP, MJ, DI	Each	3.00
MJCAPS04	4" SOLID CAP, MJ, DI	Each	4.00
MJCAPS06	6" SOLID CAP, MJ, DI	Each	4.00
MJCAPS08	8" SOLID CAP, MJ, DI	Each	8.00
MJCAPS10	10" SOLID CAP, MJ, DI, CL153	Each	2.00
MJCAPS12	12" SOLID CAP, MJ, DI	Each	4.00
MJCAPS14	14" SOLID CAP, MJ, DI, CL153	Each	1.00
MJCAPS16	16" SOLID CAP, MJ, DI	Each	1.00
MJCAPS18	18" SOLID CAP, MJ, DI,CL153	Each	1.00
MJCAPS24	24" SOLID CAP, MJ, DI	Each	1.00
MJCAPT0302	3" MJ X 2" IP TAPPED CAP, DI	Each	5.00
MJCAPT0402	4" MJ X 2" IP TAPPED CAP, DI	Each	3.00
MJCAPT0602	6" X 2" IP TAPPED CAP, DI	Each	4.00
MJCAPT0802	8" X 2" IP TAPPED CAP, DI	Each	3.00
MJCAPT1202	12" X 2" IP TAPPED CAP, DI	Each	0.00
MJCAPT3004	30" X 4" IP TAPPED CAP, DI	Each	1.00
MJCR06	6" X 6" CROSS, MJ X MJ, DI	Each	2.00
MJCR1206	12" X 6" CROSS, MJ X MJ, DI	Each	1.00
MJCR1212	12" X 12" CROSS, MJ X MJ, DI	Each	1.00
MJFCR0403	4" X 3" FLANGED CONCENTRIC REDUCER, DI	Each	6.00
MJFLG02	2" MJ FLANGE & ACCESSORY KIT	Each	0.00
MJFLG03	3" MJ FLANGE & ACCESSORY KIT	Each	7.00
MJFLG04	4" MJ FLANGE & ACCESSORY KIT	Each	13.00
MJFLG06	6" MJ FLANGE & ACCESSORY KIT	Each	20.00
MJFLG08	8" MJ FLANGE & ACCESSORY KIT	Each	19.00
MJFLG10	10" MJ FLANGE & ACCESSORY KIT	Each	9.00
MJFLG12	12" MJ FLANGE & ACCESSORY KIT	Each	8.00
MJFLG14	14" MJ FLANGE & ACCESSORY KIT	Each	16.00
MJFLG16	16" MJ FLANGE & ACCESSORY KIT	Each	8.00
MJFLG36	36" MJ FLANGE & ACCESSORY KIT	Each	0.00
MJFLGBT0602	6" X 2" TAPPED BLIND FLANGE, 8 HOLE	Each	7.00
MJFLGBT0802	8" X 2" IP TAPPED BLIND FLANGE, 8 HOLE	Each	0.00
MJFLGBT1002	10" X 2" IP TAPPED BLIND FLANGE, 12 HOLE	Each	1.00
MJFLGBT1202	12" X 2" IP TAPPED BLIND FLANGE	Each	1.00
MJPLGS03	3" SOLID PLUG, MJ, DI	Each	4.00
MJPLGS04	4" SOLID PLUG, MJ, DI	Each	5.00
MJPLGS06	6" SOLID PLUG, MJ, DI	Each	8.00
MJPLGS08	8" SOLID PLUG, MJ, DI	Each	5.00
MJPLGS10	10" SOLID PLUG, MJ, DI	Each	4.00
MJPLGS12	12" SOLID PLUG, MJ, DI	Each	1.00
MJPLGS14	14" SOLID PLUG, MJ, DI, CL153	Each	1.00
MJPLGS16	16" SOLID PLUG, MJ, DI	Each	1.00
MJPLGT0302	3" MJ X 2" IP TAPPED PLUG, DI, CL153	Each	5.00
MJPLGT0402	4" MJ X 2" IP TAPPED PLUG, DI, CL153	Each	2.00
MJPLGT0602	6" MJ X 2" IP TAPPED PLUG, DI, CL153	Each	17.00
MJPLGT0802	8" MJ X 2" IP TAPPED PLUG, DI, CL153	Each	7.00
MJPLGT1002	10" MJ X 2" IP, TAPPED PLUG, DI, CL153	Each	2.00
MJPLGT1202	12" MJ X 2" IP TAPPED PLUG, DI, CL153	Each	1.00
MJRED0402	4" X 2" REDUCER, MJ X MJ, DI	Each	2.00
MJRED0604	6" X 4" REDUCER, MJ X MJ, DI	Each	1.00
MJRED0804	8" X 4" MJ REDUCER, MJ X MJ, DI, CL153	Each	1.00
MJRED0806	8" X 6" MJ REDUCER MJ X MJ, DI	Each	3.00
MJRED1008	10" X 8" MJ REDUCER, MJ X MJ, DI	Each	1.00

MJRED1206	12" X 6" MJ REDUCER, MJ X MJ, DI	Each	1.00
MJRED1208	12" x 8" MJ REDUCER, MJ X MJ, DI	Each	1.00
MJSW9006	6" SWIVEL 90, DI, CL153	Each	4.00
MJSWC06	6" SWIVEL COUPLING, DI	Each	13.00
MJSWC0624	6" X 24" SWIVEL COUPLING, DI	Each	5.00
MJSWC12	12" SWIVEL COUPLING, DI	Each	2.00
MJSWG06	6" SWIVEL, GLAND ONLY, DI, CL153	Each	29.00
MJSWT06	6" SWIVEL TEE, MJ, DI, CL153	Each	6.00
MJSWT0806	8" X 6" SWIVEL TEE, MJ, DI	Each	1.00
MJSWT0808	8" X 8" SWIVEL TEE, MJ, DI	Each	1.00
MJSWT1006	10" X 6" SWIVEL TEE, MJ, DI	Each	2.00
MJSWT1206	12" X 6" SWIVEL TEE, MJ, DI	Each	1.00
MJTFFF04	4" TEE, FLANGED, DI, CL153	Each	2.00
MJTMMF06	6" TEE, MJ X MJ X FLANGE, DI	Each	3.00
MJTMMM03	3" TEE, MJ, DI, CL153	Each	2.00
MJTMMM04	4" TEE, MJ, DI, CL153	Each	4.00
MJTMMM06	6" TEE, MJ, DI, CL153	Each	7.00
MJTMMM0604	6" X 4" TEE, MJ, DI	Each	1.00
MJTMMM08	8" TEE, MJ, DI, CL153	Each	3.00
MJTMMM0806	8" X 6" TEE, MJ, DI	Each	2.00
MJTMMM10	10" TEE, MJ, DI, CL153	Each	4.00
MJTMMM1004	10" X 4" TEE, MJ, DI, CL153	Each	2.00
MJTMMM1006	10" X 6" TEE, MJ, DI, CL153	Each	1.00
MJTMMM1008	10" X 8" TEE, MJ, DI, CL153	Each	1.00
MJTMMM12	12" TEE, MJ, DI, CL153	Each	2.00
MJTMMM1206	12" X 6" TEE, MJ, DI, CL153	Each	3.00
MJTMMM1208	12" X 8" TEE, MJ, DI, CL153	Each	1.00
MJTMMM1606	16" X 6" TEE, MJ, DI, CL153	Each	1.00
MJTMMM1612	16" X 12" TEE, MJ, DI, CL153	Each	1.00
MRK-FB-TRI-VIEW	TRI-VIEW FIBER LINE MARKER	Each	51.00
MRK-SW-TRI-VIEW	TRI-VIEW SEWER LINE MARKER	Each	38.00
MRK-WT-TRI-VIEW	TRI-VIEW WATER LINE MARKER	Each	93.00
MSTRN04	4" METER STRAINER , AMCO	Each	0.00
MSTRN04-N	4" METER STRAINER , NEPTUNE	Each	0.00
MSTRN06	6" METER STRAINER	Each	0.00
MSTRN08	8" METER STRAINER, AMCO	Each	0.00
OAK005	5LB OAKUM	Each	2.00
PCSTCCS4830	PRE CAST CONCENTRIC CONE SECTION 48" X 30"	Each	0.00
PCSTFST60	PRE CAST FLAT SLAB TOP 60" DIAM, 12" TALL	Each	0.00
PCSTRS4812	PRE CAST MH RISER 48" X 12"	Each	20.00
PCSTRS4818	PRE CAST MH RISER 48" X 18"	Each	6.00
PCSTRS4824	PRE CAST MH RISER 48" X 24"	Each	0.00
PCSTRS4830	PRE CAST MH RISER 48" X 30"	Each	0.00
PCSTRS4836	PRE CAST MH RISER 48" X 36"	Each	1.00
PCSTRS4848	PRE CAST MH RISER 48" X 48"	Each	3.00
PCSTRS6036	PRE CAST MH RISER 60" X 36"	Each	0.00
PCSTRS6048	PRE CAST MH RISER 60" X 48"	Each	0.00
PEGSTICK	Pegging Stick, 1 5/16" OD x 8' L, Round Wood Stick	Each	3.00
PIP-S-0400-4	4" SCH40 SEWER PIPE	Linear Feet	2,214.00
PIP-S-0600-3	6" SCH35 SEWER PIPE	Linear Feet	308.00
PIP-S-0800-3	8" SCH35 SEWER PIPE	Linear Feet	237.00
PIP-S-1000-3	10" SCH 35 SEWER PIPE	Linear Feet	216.00
PIP-S-1200-3	12" SCH. 35 SEWER PIPE	Linear Feet	879.00
PIP-S-1400-3	14" SCH. 35 SEWER PIPE	Linear Feet	84.00
PIP-S-1500-3	15" SCH. 35 SEWER PIPE	Linear Feet	230.00
PIP-S-2200-3	22" SCH.35 SEWER PIPE	Linear Feet	20.00
PIP-S-3000-3	30" SCH. 35 SEWER PIPE	Linear Feet	120.00
PIP-W-0050-4	1/2" SCH40 PIPE 10' STICKS	Linear Feet	40.00
PIP-W-0075-4	3/4" SCH40 PIPE 10' STICKS	Linear Feet	118.00
PIP-W-0075-D9	3/4" SDR 9 DRISCO PIPE	Linear Feet	300.00
PIP-W-0100-4	1" SCH40 PIPE 10' STICKS	Linear Feet	45.00
PIP-W-0100-D9	1" SDR DRISCO PIPE	Linear Feet	15,900.00
PIP-W-0125-4	1 1/4" SCH40 PIPE 10' STICKS	Each	123.00

PIP-W-0150-4	1 1/2" SCH40 PIPE 10' STICKS	Linear Feet	40.00
PIP-W-0200-13G	2" SDR 13.5 PVC GASKETED JOINT, 315 PSI	Linear Feet	282.00
PIP-W-0200-4	2" SCH40 PIPE - 20' STICKS	Linear Feet	0.00
PIP-W-0200-D9	2" SDR9 DRISCO PIPE	Linear Feet	2,517.00
PIP-W-0250-4	2 1/2" SCH40 PIPE - 20' STICKS	Linear Feet	250.00
PIP-W-0300-21	3" SDR21 CL200 WATER PIPE	Linear Feet	229.00
PIP-W-0400-C9	4" SDR 18 C900 WATER PIPEC90001	Linear Feet	306.00
PIP-W-0600-C9	6" SDR 18 C900 WATER PIPE	Linear Feet	175.00
PIP-W-0800-C9	8" SDR 18 C900 WATER PIPE	Linear Feet	635.00
PIP-W-0800-C9L	8" C900 DR CERTA-LOK PIPE W/COUPLING	Each	10.00
PIP-W-1000-C9	10" SDR 18 C900 WATER PIPE	Linear Feet	152.00
PIP-W-1200-C9	12" SDR 18 C900 WATER PIPE	Linear Feet	116.00
PJ22-0400-BB-4	4" 22 1/2 DEGREE ELL SCH 40 BELL TO BELL	Each	29.00
PJ22-0400-BS-4	4" 22 1/2 DEGREE ELL SCH 40 BELL TO SPIGOT	Each	31.00
PJ22-0600-BB-3	6" 22 1/2 DEGREE ELL SCH 35 BELL TO BELL	Each	29.00
PJ22-0600-BS-3	6" 22 1/2 DEGREE ELL SCH 35 BELL TO SPIGOT	Each	10.00
PJ45-0050	1/2" 45 ELL PVC COUPLING	Each	14.00
PJ45-0075	3/4" 45 ELL PVC COUPLING	Each	7.00
PJ45-0100	1" 45 ELL PVC COUPLING	Each	5.00
PJ45-0125	1 1/4" 45 ELL PVC COUPLING	Each	5.00
PJ45-0200-4	2" SCH40 45 ELL PVC COUPLING	Each	7.00
PJ45-0400-BB-4	4" 45 DEGREE ELL SCH 40 BELL TO BELL	Each	44.00
PJ45-0400-BS-4	4" 45 DEGREE ELL SCH 40 BELL TO SPIGOT	Each	37.00
PJ45-0600-BB-3	6" 45 DEGREE ELL SCH 35 BELL TO BELL	Each	26.00
PJ45-0600-BS-3	6" 45 DEGREE ELL SCH 35 BELL TO SPIGOT	Each	10.00
PJ45-0800-BB-3	8" 45 DEGREE ELL SDR 35 BELL TO BELL	Each	10.00
PJ90-0050	1/2" 90 ELL PVC COUPLING	Each	23.00
PJ90-0075	3/4" 90 ELL PVC COUPLING	Each	14.00
PJ90-0100	1" 90 ELL PVC COUPLING	Each	10.00
PJ90-0100-0050-T	1" GLUE 90 X 1/2" THREADED COUPLING	Each	0.00
PJ90-0100-0075-T	1" GLUE 90 X 3/4" THREADED COUPLING	Each	4.00
PJ90-0125	1 1/4" 90 ELL PVC COUPLING	Each	9.00
PJ90-0150	1 1/2" 90 ELL PVC COUPLING	Each	8.00
PJ90-0200	2" 90 ELL PVC COUPLING	Each	15.00
PJ90-0400-BB-4	4" 90 DEGREE ELL SCH 40 BELL TO BELL	Each	35.00
PJ90-0600-BB-3	6" 90 DEGREE ELL SCH 35 BELL TO BELL	Each	20.00
PJ90L-0600-BB	6" 90 DEGREE ELL, LONG TURN, BELL TO BELL	Each	4.00
PJAD-0050-F	1/2" FEMALE PVC ADAPTOR	Each	2.00
PJAD-0050-M	1/2" MALE PVC ADAPTOR	Each	65.00
PJAD-0075-F	3/4" FEMALE PVC ADAPTOR	Each	7.00
PJAD-0075-M	3/4" MALE PVC ADAPTOR	Each	40.00
PJAD-0100-F	1" FEMALE PVC ADAPTOR	Each	7.00
PJAD-0100-M	1" MALE PVC ADAPTOR	Each	3.00
PJAD-0125-F	1 1/4" FEMALE PVC ADAPTOR	Each	5.00
PJAD-0125-M	1 1/4" MALE PVC ADAPTOR	Each	8.00
PJAD-0400-SB-34	4" 35 - 40 ADAPTOR SPGT X DWV	Each	60.00
PJAD-0600-0400-SB-3	6" X 4" ADAPTOR SCH 35 6" SPIGOT TO 4" BELL	Each	19.00
PJAD-0800-0400-SB-3	8" X 4" ADAPTOR SCH 35 8" SPIGOT TO 4" BELL	Each	12.00
PJAD-0800-0600	8" X 6" ADAPTOR	Each	7.00
PJBLV-0050	1/2" PLASTIC BALL VALVE	Each	5.00
PJBLV-0075	3/4" PLASTIC BALL VALVE	Each	3.00
PJBLV-0075-T	3/4" PLASTIC BALL VALVE, THREADED	Each	1.00
PJBLV-0100	1" PLASTIC BALL VALVE	Each	5.00
PJBR-0075-0050	3/4" X 1/2" PVC BUSHING REDUCER	Each	32.00
PJBR-0100-0075	1" X 3/4" PVC BUSHING REDUCER	Each	6.00
PJBR-0125-0075	1 1/4" X 3/4" PVC BUSHING REDUCER	Each	8.00
PJBR-0125-0100	1 1/4" X 1" PVC BUSHING REDUCER	Each	10.00
PJBR-0125-0100-F	1 1/4" X 1" FEMALE PVC BUSHING	Each	10.00
PJBR-0150-0075	1 1/2" X 3/4" PVC BUSHING	Each	15.00
PJBR-0150-0100	1 1/2" X 1" PVC BUSHING	Each	25.00
PJBR-0200-0150-TR	2" X 1 1/2" THREADED PVC BUSHING REDUCER	Each	1.00
PJBS-0400-34	4" SCH 35 TO 40 BUSHING SLEEVE	Each	57.00
PJCAD-0400-FT-4	4" CLEANOUT ADAPTOR SCH 40 WITH FEMALE THREADS	Each	52.00

PJCAD-0600-FT-4	6" CLEANOUT ADAPTOR SCH40 W/FEMALE THREADS	Each	4.00
PJCAP-0100-4	1" SCH40 PVC CAP	Each	5.00
PJCAP-0150-4	1 1/2" SCH40 PVC CAP	Each	10.00
PJCAP-0200-4	2" SCH40 PVC CAP	Each	7.00
PJCAP-0300-3	3" SCH 35 CAP	Each	0.00
PJCAP-0400-4	4" SCH 40 GLUE CAP	Each	16.00
PJCAP-0600-3	6" SCH35 GLUE CAP	Each	5.00
PJCAP-0800-3	8" SCH35 CAP	Each	1.00
PJCP-0050	1/2" PVC COUPLING	Each	63.00
PJCP-0075	3/4" PVC COUPLING	Each	2.00
PJCP-0100	1" PVC COUPLING	Each	4.00
PJCP-0125	1 1/4" PVC COUPLING	Each	8.00
PJCP-0150	1 1/2" PVC COUPLING	Each	9.00
PJCP-0200-4	2" SCH40 PVC COUPLING	Each	14.00
PJCP-0400-4	4" PIPE COUPLING SCH 40	Each	53.00
PJCP-0600-3	6" PIPE COUPLING SCH 35	Each	17.00
PJCP-0800-3	8" PIPE COUPLING SCH 35	Each	4.00
PJER-0600-0400-BB-4	6" X 4" ECCENTRIC REDUCING COUPLING SCH40, BXB	Each	3.00
PJER-0600-0400-SB	6" X 4" ECCENTRIC REDUCER , 6" SPIGOT X 4" BELL	Each	3.00
PJPLG-0400-MT	4" CLEANOUT PLUG SCREW TYPE/MALE THREADS	Each	53.00
PJPLG-0600-MT	6" CLEANOUT PLUG SCREW TYPE / MALE THREADS	Each	6.00
PJT-0050	1/2" TEE PVC COUPLING	Each	14.00
PJT-0075	3/4" TEE PVC COUPLING	Each	7.00
PJT-0075-0050	3/4" X 1/2" TEE PVC COUPLING	Each	6.00
PJT-0100	1" TEE PVC COUPLING	Each	46.00
PJT-0100-0050	1" X 1/2" PVC TEE	Each	5.00
PJT-0100-0050-T	1" GLUE X 1/2" THREADED PVC TEE	Each	8.00
PJT-0100-0075	1" X 3/4" PVC TEE	Each	24.00
PJT-0125	1 1/4" PVC TEE	Each	9.00
PJT-0125-0075	1 1/4" X 3/4" PVC TEE	Each	8.00
PJT-0125-0100	1 1/4" X 1" PVC TEE	Each	9.00
PJT-0150	1 1/2" PVC TEE	Each	10.00
PJT-0200	2" PVC TEE	Each	1.00
PJTCL-0400-4	4" CLEANOUT TEE SCH 40	Each	40.00
PJTS-0400-EPX	4" SEWER TAPPING SADDLE HTS4/E W/EPOXY	Each	137.00
PJY-0200	2" PVC WYE	Each	1.00
PJY-0400-BB-4	4" WYE SCH 40 BELL TO BELL	Each	44.00
PJY-0600-0400-3	6" X 4" WYE SCH 35	Each	5.00
PJY-0600-3	6" WYE SCH 35	Each	11.00
PJY-0800-0400-3	8" X 8" X 4" SCH 35 WYE	Each	18.00
PJY-0800-0600-3	8" X 6" WYE SCH 35	Each	17.00
PJY-0800-0800-3	8" X 8" WYE SCH 35	Each	9.00
PLUBEQT02	PIPE LUBE PRO-SELECT - QT	Each	15.00
PLUBEWD01	AEROSOL SPRAY LUBE	Each	11.00
PREC01	HYDRAULIC CEMENT 5 GALLON PAIL	Each	110.00
PRV0075	3/4" PRESSURE REGULATING VALVE	Each	3.00
PRV0100	1" PRESSURE REGULATING VALVE	Each	3.00
PVCF-CEMCP	PVC CEMENT, CLEAR, 1 PT	Each	32.00
PVCF-DOPMHP	PIPE DOPE, MEGALOCK, 1/2 PT	Each	14.00
PVCF-PRMP	PRIMER, PVC PURPLE, 1 PT	Each	28.00
PVCF-WDCEMQ	WET / DRY PVC CEMENT, 1 QT	Each	3.00
RC050-03	1/2" X 3" REDI-CLAMP	Each	6.00
RC075-03	3/4" X 3" REDI-CLAMP	Each	4.00
RC075-06	3/4" X 6" REDI-CLAMP	Each	4.00
RC100-03	1" X 3" REDI-CLAMP	Each	5.00
RC100-06	1" X 6" REDI-CLAMP	Each	6.00
RC125-03	1 1/4" X 3" REDI-CLAMP	Each	10.00
RC125-06	1 1/4" X 6" REDI-CLAMP	Each	6.00
RC150-03	1 1/2" X 3" REDI-CLAMP	Each	5.00
RC150-06	1 1/2" X 6" REDI-CLAMP	Each	6.00
RC150-06FC	1 1/2" X 6" REDI-CLAMP, FULL CIRCLE	Each	10.00
RC200-03	2" X 3" REDI-CLAMP	Each	30.00
RC200-03FC	2" X 3" REDI-CLAMP, FULL CIRCLE	Each	14.00

RC200-06	2" X 6" REDI-CLAMP	Each	22.00
RC200-06FC	2" X 6" REDI-CLAMP, FULL CIRCLE	Each	18.00
RC200-12FC	2" X 12" REDI-CLAMP, FULL CIRCLE	Each	19.00
RC250-03	2 1/2" X 3" REDI-CLAMP	Each	5.00
RC250-06	2 1/2" X 6" REDI-CLAMP	Each	6.00
RC300-03	3" X 3" REDI-CLAMP	Each	11.00
RC300-06	3" X 6" REDI-CLAMP	Each	10.00
RC350-06	3 1/2" x 6" REDI-CLAMP	Each	4.00
ROOFCEM-G1	ROOF CEMENT, 1 GALLON	Each	2.00
SAMPSTAT6603	#66 SAMPLING STATION / 3' BURY	Each	13.00
SCHD40-400	4" SCH-40 PIPE 20' STICKS	Linear Feet	22.00
SE-CHN-CERT-05	3/8" X 5' CERTIFED SAFETY CHAIN	Each	3.00
SE-CHN-CERT-10	3/8" X 10' CERTIFED SAFETY CHAIN	Each	6.00
SE-CHN-CERT-20	3/8" X 20' CERTIFED SAFETY CHAIN	Each	3.00
SE-DBLD14RG	14" Diamond Blade - Red Gullet	Each	6.00
SE-FLR-RND-075	3/4" HAND FLR TOOL F/ PLASTIC PIPE	Each	3.00
SE-FLR-RND-100	1" HAND FLR TOOL F/ PLASTIC PIPE	Each	3.00
SE-LDBIND-5400-RAT	5/16" - 3/8" RAT CHAIN LOAD BINDER	Each	6.00
SE-MBKEY1	FORD METER BOX COMBINATION KEY #9505	Each	106.00
SE-MBKEY2	SMALL METER BOX KEY - MBLK	Each	3.00
SE-MBKEY3	Y SHAPED SMALL STEEL METER KEY	Each	1.00
SE-MBKEY4	LONG STEEL METER BOX KEY	Each	6.00
SE-ORWCOOL-G3	3 GALLON ORANGE COOLER	Each	5.00
SE-ORWCOOL-G5	5 GALLON ORANGE COOLER	Each	6.00
SE-ORWCOOL-MT	WATER COOLER HOLDER	Each	5.00
SE-PMP-150-SPP	PUMP, WARREN RUPP, 1 1/2" 12 VOLT	Each	2.00
SE-PMPHND	METER BOX PVC HAND PUMP W/ 6FT HOSE	Each	7.00
SE-PSQZ-VICE	PIPE SQUEEZERS	Each	14.00
SE-PVCPIPE-CUT	1 5/8/" PVC PIPE CUTTER	Each	10.00
SE-TM2-ARB-100	3/4" - 1 1/4" TAPMATE TOO HOLESAW ARBOR	Each	5.00
SE-TM2-HL-100	1" TAPMATE TOO CARB HOLESAW	Each	3.00
SE-TM2-HL-200	2 TAPMATE TOO HOLESAW	Each	5.00
SE-TM2-HL-200PVC	2" TAPMATE TOO PVC HOLESAW	Each	2.00
SE-TM2-PBT-025	1/4" TAPMATE TOO PILOT DRILL BIT	Each	13.00
SE-TP2SFRED-G2.5	2 1/2 GAL. RED SAFETY FUEL CAN	Each	2.00
SE-TP2SFRED-G5	5 GAL. RED SAFETY FUEL CAN	Each	1.00
SE-TP2SFYEL-G5	5 GAL. YELLOW SAFETY DIESEL FUEL CAN	Each	6.00
SEWMCNCT04	4" MULTI CONNECTOR, OD 3.5 - 4.8, S106-7WS	Each	4.00
SEWMCNCT06	6" MULTI CONNECTOR, OD 6.00-6.75, S406-10AW	Each	13.00
SEWMCNCT08	8" MULTI CONNECTOR, OD 8.25 - 9.75, S106-12W	Each	11.00
SEWMCNCT10	10" MULTI CONNECTOR, OD 9.50 - 11.25 S106-14AWP	Each	3.00
SEWMCNCT12	12" MULTI CONNECTOR, OD 11.25 - 13.00 S106-16AWP	Each	6.00
SNPIT-CD14	Snake Pit - 14" for Concrete Driveway	Each	17.00
SP03024FLFL	3" ID X 24" L Spool piece, Flange x Flange	Each	1.00
SP03036FLPE	3" ID x 36" L Spool Piece, Flanged x Plain End	Each	0.00
SP03048FLFL	3" ID X 48" L Spool piece, Flange x Flange	Each	0.00
SP03048FLPE	3" ID X 48" L Spool Piece, Flanged x Plain end	Each	0.00
SP04020FLFL	4" ID X 20" L SPOOL PIECE, FLANGE X FLANGE	Each	0.00
SP04036FLPE	4" ID X 36" L Spool Piece, Flanged x Plain End	Each	0.00
SP04048FLPE	4" ID X 48" L Spool Piece, Flanged x Plain End	Each	0.00
SP04084FLPE	4" ID X 84" L, Spool Piece, Flanged x Plain End	Each	1.00
SP04144FLFL	4" ID X 144" L, SPOOL PIECE, FLANGE X FLANGE	Each	0.00
SP06016FLPE	6" ID x 16" L, Spool Piece, Flanged x Plain End	Each	1.00
SP06020FLFL	6" ID X 24" L Spool Piece, Flanged x Flanged	Each	0.00
SP06036FLFL	6" ID X 36" L Spool Piece, Flanged x Flanged	Each	0.00
SP06048FLPE	6" ID X 48" L Spool Piece, Flanged x Plain End	Each	0.00
SP06060FLFL	6" ID X 60" L Spool Piece, Flanged x Flanged	Each	1.00
SP06072FLFL	6" ID X 72" L, Spool Piece Flanged x Flanged	Each	0.00
SP06096FLPE	6" ID X 96" L, Spool Piece Flanged x Plain End	Each	0.00
SP06240FLBE	6" ID X 240" L, Spool Piece, Flanged x Bell End	Each	0.00
SP06240FLPE	6" ID X 240" L, Spool Piece, Flanged x Plain End	Each	0.00
SP08048FLPE	8" ID X 48" L Spool Piece, Flanged x Plain End	Each	0.00
SP10036FLPE	10" ID X 3'0" L, Spool Piece, Flanged x Plain End	Each	0.00

SP10222FLPE	10" ID x 222" L, Spool Piece, Flanged x Plain End	Each	2.00
SP10240FLBE	10" ID X 240" L, Spool Piece, Flanged x Bell End	Each	1.00
SP10240FLPE	10" ID X 240" L, Spool Piece, Flanged x Plain End	Each	1.00
SPAC-1-SV	5/8" SPACER FOR METER BOX	Each	92.00
SPAC-4-DV	1" SPACER FOR METER BOX	Each	31.00
SPCFLG400-300	4" X 3" SPACE SAVER FLANGE	Each	2.00
SPCFLG600-300	6" X 3" SPACE SAVER FLANGE	Each	0.00
SPCFLG800-600	8" X 6" SPACE SAVER FLANGE	Each	0.00
SSLV06-120	6" X 12" CAST IRON SOLID SLEEVE	Each	5.00
SSLV30-150	30" X 15" CAST IRON SOLID SLEEVE	Each	0.00
SSLV30-240	30" X 24" CAST IRON SOLID SLEEVE	Each	5.00
SSLV36-150	36" X 15" CAST IRON SOLID SLEEVE	Each	3.00
TAPE-CAUT-01	CAUTION BARACADE TAPE 3" X 1000'	Each	4.00
TAPE-DUCT-01	DUCT TAPE 1.88 X 55 YD ECON	Each	9.00
TRCDYE-16	TRACING DYE - YELLOW/GREEN, 16oz BOTTLE	Each	39.00
TRCWR01-50014	COPPER TRACER WIRE , 500FT X 14 GAUGE	Each	8.00
TS317-0125-100CC	1 1/4" X 1 1/2" X 1" CC SERVICE SADDLE, DS STAINLESS	Each	22.00
TS317-0200-100CC	2" X 1" CC SERVICE SADDLE, DS, STAINLESS 2.35-2.56	Each	33.00
TS317-0250-100CC	2 1/2" x 1" CC SERVICE SADDLE DS. STAINLESS 2.44/2.91	Each	1.00
TS317-0300-100CC	3" X 1" CC SERVICE SADDLE, DS STAINLESS	Each	13.00
TS317-0300-200IP	3" X 2" IP SERVICE SADDLE, DS, STAINLESS, 3.74 - 4.13	Each	0.00
TS317-0400-100CC	4" X 1" CC SERVICE SADDLE, DS STAINLESS 5.00 / 5.63	Each	6.00
TS317-0400-100CC2	4" x 1" CC Service Saddle 4.40 - 4.80	Each	15.00
TS317-0400-200IP	4" X 2" IP SERVICE SADDLE STAINLESS 4.40 / 4.80	Each	8.00
TS317-0400-200IP2	4" X 2 1/2" IP SERVICE SADDLE, STAINLESS, 4.14 - 4.80	Each	12.00
TS317-0600-100CC2	6" X 1" CC SERVICE SADDLE, DS, STAINLESS 6.84 / 7.60	Each	197.00
TS317-0600-200IP2	6" X 2" IP THREAD SERVICE SADDLE, DS STAINLESS 6.84 / 7.60	Each	8.00
TS317-0800-100CC	8" X 1" CC SERVICE SADDLE, DS STAINLESS 8.54 / 10.10	Each	80.00
TS317-0800-200IP	8" X 2" IP THREAD SERVICE SADDLE, DS STAINLESS 8.54 / 10.10	Each	6.00
TS317-1000-100CC	10" - 12" X 1" CC SERVICE SADDLE, DS STAINLESS 10.64 / 12.12	Each	12.00
TS317-1000-200IP	10" X 2" IP SERVICE SADDLE, DS STAINLESS 10.64 / 12.12	Each	25.00
TS317-1200-100CC	12" X 1" CC SERVICE SADDLE, DS STAINLESS 12.62/14.32	Each	9.00
TS317-1200-200IP	12" X 2" IP SERVICE SADDLE,DS STAINLESS 12.62 / 14.32	Each	12.00
TS317-1400-100CC	14" X 1" CC SERVICE SADDLE DS, STAINLESS 14.73 / 15.65	Each	9.00
TS317-1400-200IP	14" X 2" IP SERVICE SADDLE, DS STAINLESS 14.73 / 15.65	Each	6.00
TS317-1600-100CC	16" - 18" X 1" CC SERVICE SADDLE, DS STAINLESS 17.40-18.88	Each	6.00
TS317-1600-200IP	16" - 18" X 2" IP SERVICE SADDLE, DS STAINLESS, 17.40 - 18.88	Each	9.00
TS317-1800-100IP	18" X 1" IP SERVICE SADDLE 19.38/19.63	Each	1.00
TS317-2000-100CC	20" X 1" CC SERVICE SADDLE, DS STAINLESS 21.55 - 21.65	Each	2.00
TS331-0400-100CC	4" x 1" DS REPAIR SADDLE, CC THREAD, 4.79 - 5.32	Each	4.00
TS331-0600-100CC	6" X 1" DS REPAIR SADDLE CC THREAD, 6.90 - 7.40	Each	16.00
TS331-0800-100CC	8" X 1" DS REPAIR SADDLE CC THREAD, 9.00 - 9.63	Each	16.00
TS331-1000-100CC	10" X 1" DS REPAIR SADDLE CC THREAD, 11.04 - 12.12	Each	16.00
TS331-1200-100CC	12" X 1" DS REPAIR SADDLE CC THREAD, 13.14 - 14.38	Each	8.00
TS331-1200-200IP2	12" X 2" DS REPAIR SADDLE IP THREAD	Each	11.00
TS366-2000-100CC	20" X 1" CC SADDLE, 19.25 - 20.00	Each	3.00
TS366-2000-100CC2	20" X 1" CC SERVICE SADDLE, 21.35 - 22.10	Each	4.00
TS366-2000-200IP	20" x 2" IP SERVICE SADDLE 366 19.75/20.50	Each	2.00
TS366-2000-200IP3	20" X 2" IP SERVICE SADDLE 21.35 - 22.10	Each	4.00
TS366-2200-100CC	22" X 1" CC SERVICE SADDLE 22.50- 23.25	Each	3.00
TS366-2400-100CC	24" X 1" CC SADDLE 25.55 / 26.32	Each	2.00
TS366-2400-200IP	24" X 2" IP SADDLE 25.55 / 26.32	Each	2.00
TS366-2400-200IP2	24" X 2" IP SADDLE, 27.51-28.25	Each	4.00
TS366-3000-100CC	30" X 1" CC SADDLE 31.75 / 32.50	Each	3.00
TS366-3000-200IP	30" X 2" IP SADDLE 31.75 / 32.50	Each	2.00
TS366-3600-100CC	36" X 1" CC SADDLE 37.71 / 38.46	Each	1.00
TS366-3600-200IP	36" X 2" IP SADDLE 37.71-38.46	Each	1.00
TS-GSKT-01	SERVICE SADDLE GASKETS 317, 331, 366 STYLE	Each	12.00
TSLV01	6" X 4" MUELLER H-615 TAPPING SLEEVE	Each	0.00
TSLV02	6" X 6" MUELLER H-615 TAPPING SLEEVE 6.84/7.40	Each	4.00
TSLV03	6" X 6" MUELLER H-619 TAPPING SLEEVE 7.05/7.60	Each	4.00
TSLV04	8" X 6" MUELLER H-615 TAPPING SLEEVE 8.99/9.62	Each	1.00
TSLV05	8" X 6" MUELLER H-619 TAPPING SLEEVE 9.22/9.79	Each	1.00

TSLV06	10" X 6" MUELLER H-615 TAPPING SLEEVE 11.04 / 11.16	Each	1.00
TSLV07	10" X 6" MUELLER H-619 TAPPING SLEEVE 11.27 / 12.25	Each	3.00
TSLV08	10" X 10" MUELLER H-615 TAPPING SLEEVE 11.04 / 11.45	Each	2.00
TSLV09	12" X 6" MUELLER H-615 TAPPING SLEEVE 13.14 / 13.58	Each	2.00
TSLV10	12" X 6" MUELLER H-619 TAPPING SLEEVE 14.03 / 14.51	Each	4.00
TSLV11	12" X 12" MUELLER H-615 TAPPING SLEEVE	Each	0.00
TSLV12	16" X 6" MUELLER H-615 TAPPING SLEEVE 17.32 / 17.86	Each	2.00
TSLV13	8" X 8" MUELLER TAPPING SLEEVE H-615, 8.99/9.62	Each	3.00
TSLV20	8" X 8" MUELLER TAPPING SLEEVE, H-619, 9.22/9.79	Each	2.00
TSLV21	6" x 6" CROSS, MUELLER H-715 TAPPING SLEEVE	Each	2.00
TSLV23	18" x 8" Tapping Sleeve, Smith Blair 665 Stainless Steel, 19.50 - 20.10	Each	0.00
TSLV24	6" X 6" MUELLER H-615 TAPPING SLEEVE 6.84 - 6.96	Each	1.00
TVAL04-2360	4" MUELLER T-2360 TAPPING VALVE	Each	0.00
TVAL06-2360	6" MUELLER T-2360 TAPPING VALVE	Each	0.00
TVAL08-2360	8" MUELLER T-2360 TAPPING VALVE	Each	1.00
TVAL08-667	8" MUELLER H-667 TAPPING VALVE	Each	12.00
TVAL10-2360	10" MUELLER T-2360 TAPPING VALVE	Each	2.00
TVAL10-667	10" MUELLER H-667 TAPPING VALVE	Each	0.00
TVAL12-667	12" MUELLER H-667 TAPPING VALVE	Each	2.00
V76X12B	1 1/2" X 12" CUSTOM SETTER VV76-12B-11-66	Each	0.00
V76X18B	1 1/2" X 18" CUSTOM SETTER VV76-18B-11-66	Each	0.00
V76X18HB	1 1/2" X 18" CUSTOM SETTER HIGH BYPASS VV76-18HB-11-66-NL	Each	3.00
V77X12B	2" X 12" CUSTOM SETTER VV77-12B-11-77	Each	0.00
V77X18B	2" X 18" CUSTOM SETTER VV77-18B-11-77	Each	0.00
V77X18HB	2" X 18" CUSTOM SETTER HIGH BYPASS VV77-18HB-11-77-NL	Each	17.00
VBB15	15" SHORT BOTTOM - FOR CAST IRON VALVE BOX	Each	65.00
VBB24	24" TALL BOTTOM - FOR CAST IRON VALVE BOX	Each	86.00
VBE14	14" EXTENSION - FOR CAST IRON VALVE BOX	Each	70.00
VBE18	18" EXTENSION - FOR CAST IRON VALVE BOX	Each	76.00
VBE24	24" EXTENSION - FOR CAST IRON VALVE BOX	Each	86.00
VBLOC02	2" GATE VALVE LOCK FOR NUT	Each	7.00
VBLS0525	5 1/4" DROP LID "SEWER" FOR CAST IRON VALVE BOX	Each	14.00
VBLW0112	1 1/8" DROP LID - "WATER" FOR CAST IRON VALVE BOX	Each	0.00
VBLW0525	5 1/4" DROP LID "WATER" FOR CAST IRON VALVE BOX	Each	48.00
VBR01	1" RISER - FOR CAST IRON VALVE BOX	Each	0.00
VBR0112	1 1/8" RISER - FOR CAST IRON VALVE BOX	Each	9.00
VBR015	1 1/2" RISER - FOR CAST IRON VALVE BOX	Each	0.00
VBR02	2" RISER - FOR CAST IRON VALVE BOX	Each	66.00
VBR03	3" RISER - FOR CAST IRON VALVE BOX	Each	6.00
VBR04	4" RISER - FOR CAST IRON VALVE BOX	Each	14.00
VBRA	ADJUSTABLE RISER - FOR CAST IRON VALVE BOX	Each	54.00
VBT10	10" SHORT TOP - FOR CAST IRON VALVE BOX	Each	101.00
VBT16	16" MEDIUM TOP - FOR CAST IRON VALVE BOX	Each	107.00
VBT26	26" TALL TOP - FOR CAST IRON VALVE BOX	Each	116.00
VNUTRO	VALVE OPERATION ROUND NUT M-1569401	Each	11.00
VNUTSQ	VALVE OPERATION SQUARE NUT M-1568661	Each	15.00
WIMB01	28 X 30 WESTERN IRON METER BOX	Each	35.00
WRSPLC01	WIRE SPLICE KIT DIRECT BURY FOR TRACER WIRE	Each	24.00
YBLID-058-NS	5/8" LONG BOX LID LYL (NEW STYLE)- CAST IRON	Each	66.00
YBLID-058-NSP	5/8" LONG BOX LID LYLP (NEW STYLE) - PLASTIC	Each	0.00
YBLID-058-OS	3/4" OR 5/8" LID FOR YOKE BOX YL (OLD STYLE) - CAST IRON	Each	70.00
YBLID-058-OSP	3/4" or 5/8" LID FOR YOKE BOX, YLP, (OLD STYLE) - PLASTIC	Each	0.00
YBLID-100-NS	1" LONG BOX LID LYL-4 (NEW STYLE) - CAST IRON	Each	92.00
YBLID-100-NSP	1" LONG BOX LID LYLP-4 (NEW STYLE) - PLASTIC	Each	0.00
YBLID-100-OS	1" ROUND LID - YOKE BOX (OLD STYLE) - CAST IRON	Each	49.00
YBLID-100-OSP	1" ROUND LID FOR YOKE BOX, YBLP (OLD STYLE) - PLASTIC	Each	0.00
YBLID-100-PLG	CAST IRON PLUG FOR 1" METER LID	Each	41.00
YBLID-TS	TEXAS SPECIAL LID 30" X 30" #5 W/LOCK	Each	4.00
YBUC-058-NS	5/8 UPPER BOX CASTING LYIB (NEW STYLE) - CAST IRON	Each	30.00
YBUC-058-OS	5/8" UPPER BOX CASTING YUC-9 (OLD STYLE) - CAST IRON	Each	58.00
YBUC-100-OS	1" UPPER BOX CASTING (OLD STYLE) - CAST IRON	Each	41.00
YBX-100	1" LONG YOKE BOX WITHOUT CHECK VALVE AND SOLID LID	Each	80.00
YBX-100-CV	1" LONG YOKE BOX WITH CHECK VALVE & SOLID LID	Each	130.00

Warehouse Parts Inventory Transactions Report

Inventory ending 6/23/2016 and Amount Used Between 6/23/2016 and 6/23/2016

Warehouse

Part / Location		Currently Onhand	Transaction Quantity	Part Inventory Ending 6/23/2016
1300 Parts Warehouse 13 N P St				
ADH-2SIDEDTAPE	**2 Sided Tape**			
			Part Inventory in 1301.1	**1.0**
ADH-2SIDEDTAPE	2 Sided Tape			**1.0**
ADH-ACRYLICCAULK	**Acrylic Caulk**			
			Part Inventory in 1301.1	**0.0**
ADH-ACRYLICCAULK	Acrylic Caulk			**0.0**
ADH-CAULK-ACRLATSIL	**Caulk, Acrylic Latex with Silicone**			
			Part Inventory in 1301.1	**0.0**
ADH-CAULK-ACRLATSIL	Caulk, Acrylic Latex with Silicone			**0.0**
ADH-CEMENTCRACKFILLR	**Cement Crack Filler, Liquid**			
			Part Inventory in 1301.1	**1.0**
ADH-CEMENTCRACKFILLR	Cement Crack Filler, Liquid			**1.0**
ADH-DECAL/ADH-REMOVE	**Remover, Decal and Adhesive**			
			Part Inventory in 1301.1	**0.0**
ADH-DECAL/ADH-REMOVE	Remover, Decal and Adhesive			**0.0**
ADH-DECALERASERPAD	**Smart Eraser Pad, for removal of pinstripes, adhesives, & doul**			
			Part Inventory in 1301.1	**0.0**
ADH-DECALERASERPAD	Smart Eraser Pad, for removal of pinstripe			**0.0**
ADH-DUCKTAPE	**Duck Tape**			
			Part Inventory in 1301.1	**1.0**
ADH-DUCKTAPE	Duck Tape			**1.0**
ADH-EZMIXULTRABOND	**E-Z Mix Ultrabond**			
			Part Inventory in 1301.1	**1.0**
ADH-EZMIXULTRABOND	E-Z Mix Ultrabond			**1.0**
ADH-GAL-WATERBASED	**Water Based Adhesive, Gallon**			
			Part Inventory in 1301.1	**1.0**
ADH-GAL-WATERBASED	Water Based Adhesive, Gallon			**1.0**
ADH-GASKETMAKER	**Gasket Maker, Blue RTV Silicone**			
			Part Inventory in 1301.1	**0.0**
ADH-GASKETMAKER	Gasket Maker, Blue RTV Silicone			**0.0**

ADH-GORILLAGLUE **Gorilla Glue**

Part Inventory in 1301.1 **1.0**

ADH-GORILLAGLUE Gorilla Glue **1.0**

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ADH-GORILLATAPE **Gorilla Tape**

Part Inventory in 1301.1 **2.0**

ADH-GORILLATAPE Gorilla Tape **2.0**

ADH-JAPWRAP-ELETAPE **Electrical Tape, "Jap Wrap"**

Part Inventory in 1301.1 **10.0**

ADH-JAPWRAP-ELETAPE Electrical Tape, "Jap Wrap" **10.0**

ADH-JBWELD **J-B Weld**

Part Inventory in 1301.1 **2.0**

ADH-JBWELD J-B Weld **2.0**

ADH-MASKINGTAPEBLUE **Masking Tape, Blue**

Part Inventory in 1301.1 **1.0**

ADH-MASKINGTAPEBLUE Masking Tape, Blue **1.0**

ADH-METALDUCTTAPE **Metal Duct Tape**

Part Inventory in 1301.1 **0.0**

ADH-METALDUCTTAPE Metal Duct Tape **0.0**

ADH-NP1-BUTYLCAULK **Caulk, Butyl Rubber, NP1**

Part Inventory in 1301.1 **0.0**

ADH-NP1-BUTYLCAULK Caulk, Butyl Rubber, NP1 **0.0**

ADH-PACKINGTAPE **Packing Tape, Clear**

Part Inventory in 1301.1 **2.0**

ADH-PACKINGTAPE Packing Tape, Clear **2.0**

ADH-PATCHINGPLASTER **Patching Plaster, Ready Mix**

Part Inventory in 1301.1 **1.0**

ADH-PATCHINGPLASTER Patching Plaster, Ready Mix **1.0**

ADH-PLASTICROOFCMNT **Plastic Roof Cement, tube for caulk gun**

Part Inventory in 1301.1 **2.0**

ADH-PLASTICROOFCMNT Plastic Roof Cement, tube for caulk gun **2.0**

ADH-PLMGLUE-1/2PT **Glue, PVC, 1/2 Pint**

Part Inventory in 1301.1 **1.0**

ADH-PLMGLUE-1/2PT Glue, PVC, 1/2 Pint **1.0**

ADH-PLMGLUE-735-QT **Glue, PVC, 1 Quart**

Part Inventory in 1301.1 **1.0**

ADH-PLMGLUE-735-QT Glue, PVC, 1 Quart **1.0**

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ADH-PLMGLUE-782-PT	**Glue, PVC, Gray, 1 Pint, 782**	
	Part Inventory in 1301.1	**1.0**
ADH-PLMGLUE-782-PT	Glue, PVC, Gray, 1 Pint, 782	**1.0**
ADH-PLMPRIMER-1/2PT	**Primer, PVC, 1/2 Pint**	
	Part Inventory in 1301.1	**2.0**
ADH-PLMPRIMER-1/2PT	Primer, PVC, 1/2 Pint	**2.0**
ADH-PLMPRIMER-PT	**Primer, Plumbing, PVC, Clear, 1 Pint**	
	Part Inventory in 1301.1	**1.0**
ADH-PLMPRIMER-PT	Primer, Plumbing, PVC, Clear, 1 Pint	**1.0**
ADH-PLMPRIMER-QT	**Primer, Purple, PVC, 1 Quart**	
	Part Inventory in 1301.1	**1.0**
ADH-PLMPRIMER-QT	Primer, Purple, PVC, 1 Quart	**1.0**
ADH-POWERFAST	**Power Fast Cartridge System, Epoxy Adhesive**	
	Part Inventory in 1301.1	**1.0**
ADH-POWERFAST	Power Fast Cartridge System, Epoxy Adhe	**1.0**
ADH-RBBRSPLICINGTAPE	**Linerless Rubber Splicing Tape**	
	Part Inventory in 1301.1	**1.0**
ADH-RBBRSPLICINGTAPE	Linerless Rubber Splicing Tape	**1.0**
ADH-RTVSILICONE	**RTV Silicone Sealant**	
	Part Inventory in 1301.1	**0.0**
ADH-RTVSILICONE	RTV Silicone Sealant	**0.0**
ADH-SAFETYWALK-3M	**3M Safety Walk Tape**	
	Part Inventory in 1301.1	**1.0**
ADH-SAFETYWALK-3M	3M Safety Walk Tape	**1.0**
ADH-STRETCHWRAP-20	**Stretch Wrap, 20"**	
	Part Inventory in 1301.1	**2.0**
ADH-STRETCHWRAP-20	Stretch Wrap, 20"	**2.0**
ADH-STRETCHWRAP-3	**Stretch Wrap, 3"**	
	Part Inventory in 1301.1	**17.0**
ADH-STRETCHWRAP-3	Stretch Wrap, 3"	**17.0**
ADH-WTHRSTRP&GSKTADH	**Adhesive, Weatherstrip and Gasket, 3M 08008**	
	Part Inventory in 1301.1	**1.0**
ADH-WTHRSTRP&GSKTADH	Adhesive, Weatherstrip and Gasket, 3M 08	**1.0**

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AIR-AUTOFLTDRN	**Drain, Auto Float, for compressed air/water separator**	
	Part Inventory in 1301.1	**1.0**
AIR-AUTOFLTDRN	Drain, Auto Float, for compressed air/wate	**1.0**
AIR-CD-RELIEF-1/4NPT	**Valve, ASME Safety, C D, Inc. P/N SA25, 1/4" NPT, 125 PSI, 109**	

		Part Inventory in 1301.1	**6.0**
	AIR-CD-RELIEF-1/4NPT	Valve, ASME Safety, C D, Inc. P/N SA25,	**6.0**
AIR-COUPLER-3/8M-I/M	**Coupler, I/M Style, 3/8" (M)NPT**		
		Part Inventory in 1301.1	**0.0**
	AIR-COUPLER-3/8M-I/M	Coupler, I/M Style, 3/8" (M)NPT	**0.0**
AIR-FILELEM-COAL	**Element, Filter, Coal, for compressed air/water separator**		
		Part Inventory in 1301.1	**1.0**
	AIR-FILELEM-COAL	Element, Filter, Coal, for compressed air/w	**1.0**
AIR-FILTER-4.25X2.12	**Filter, Air Compressor, 4 1/4" X 2 1/8"**		
		Part Inventory in 1301.1	**5.0**
	AIR-FILTER-4.25X2.12	Filter, Air Compressor, 4 1/4" X 2 1/8"	**5.0**
AIR-FILTER-4.25X4.75	**Filter, Air Compressor, 4 1/4" X 4 3/4"**		
		Part Inventory in 1301.1	**3.0**
	AIR-FILTER-4.25X4.75	Filter, Air Compressor, 4 1/4" X 4 3/4"	**3.0**
AIR-FILTER-5.63X4.75	**Filter, Air Compressor, 5 5/8" X 4 3/4"**		
		Part Inventory in 1301.1	**1.0**
	AIR-FILTER-5.63X4.75	Filter, Air Compressor, 5 5/8" X 4 3/4"	**1.0**
AIR-FURNAS-69JF7LY2C	**Pressure Switch, 95/125 with Manifold, Furnas P/N 69JF7LY2C**		
		Part Inventory in 1301.1	**0.0**
	AIR-FURNAS-69JF7LY2C	Pressure Switch, 95/125 with Manifold, Fu	**0.0**
AIR-GAST-5KA94	**Air Compressor/Vacuum Pump, Gast P/N 5KA94**		
		Part Inventory in 1301.1	**0.0**
	AIR-GAST-5KA94	Air Compressor/Vacuum Pump, Gast P/N	**0.0**
AIR-HOSE-3/8X50	**Hose, Air, 3/8" X 50'**		
		Part Inventory in 1301.1	**0.0**
	AIR-HOSE-3/8X50	Hose, Air, 3/8" X 50'	**0.0**
AIR-HOSE-SN3/8X24	**Air Hose, Snubber, 3/8" X 24"**		
		Part Inventory in 1301.1	**0.0**
	AIR-HOSE-SN3/8X24	Air Hose, Snubber, 3/8" X 24"	**0.0**
1300 Parts Warehouse 13 N P St			
AIR-HOSE-SN3/8X48	**Air Hose, Snubber, 3/8" X 48"**		
		Part Inventory in 1301.1	**0.0**
	AIR-HOSE-SN3/8X48	Air Hose, Snubber, 3/8" X 48"	**0.0**
AIR-I/MPLUG-3/8NPT	**Plug, I/M Style, 3/8" NPT (Male Quick-Connect)**		
		Part Inventory in 1301.1	**0.0**
	AIR-I/MPLUG-3/8NPT	Plug, I/M Style, 3/8" NPT (Male Quick-Con	**0.0**
AIR-SPEEDAIRE-4ZM08	**Air Regulator, Speedaire, 1/4" NPT, 15 CFM, 300 PSI**		
		Part Inventory in 1301.1	**1.0**

	AIR-SPEEDAIRE-4ZM08	Air Regulator, Speedaire, 1/4" NPT, 15 CF	**1.0**
AIR-SPEEDAIRE-4ZM15	**Air Regulator, Speedaire, 3/8" NPT, 70 CFM, 300 PSI**		
		Part Inventory in 1301.1	**1.0**
	AIR-SPEEDAIRE-4ZM15	Air Regulator, Speedaire, 3/8" NPT, 70 CF	**1.0**
AIR-THOMAS-5Z647	**Compressor, Piston Air/Vacuum Pump, Thomas Brand, Graine**		
		Part Inventory in 1301.1	**1.0**
	AIR-THOMAS-5Z647	Compressor, Piston Air/Vacuum Pump, Th	**1.0**
ARD-1/4HOTROLLED	**All Rod, Hot Rolled, 1/4"**		
		Part Inventory in 1301.1	**2.0**
	ARD-1/4HOTROLLED	All Rod, Hot Rolled, 1/4"	**2.0**
ARD-3/8BRS	**Round Stock, 3/8" Brass**		
		Part Inventory in 1301.1	**73.0**
	ARD-3/8BRS	Round Stock, 3/8" Brass	**73.0**
ARD-5/16BRS	**Round Stock, 5/16" Brass**		
		Part Inventory in 1301.1	**9.0**
	ARD-5/16BRS	Round Stock, 5/16" Brass	**9.0**
ARN-P-SUPPORTBOSS-4	**Support Boss, for P Street Aeration System Basin Line, 4"**		
		Part Inventory in 1301.1	**2.0**
	ARN-P-SUPPORTBOSS-4	Support Boss, for P Street Aeration Syster	**2.0**
ARN-P-SUPPORTBOSS-6	**Support Boss, for P Street Aeration System Basin Line, 6"**		
		Part Inventory in 1301.1	**2.0**
	ARN-P-SUPPORTBOSS-6	Support Boss, for P Street Aeration Syster	**2.0**
ARN-P-VLOCK	**V Lock, for P Street Fine Bubble Aeration System**		
		Part Inventory in 1301.1	**66.0**
	ARN-P-VLOCK	V Lock, for P Street Fine Bubble Aeration S	**66.0**
1300 Parts Warehouse 13 N P St			
ATH-1/2-13	**All-Thread, 1/2-13**		
		Part Inventory in 1301.1	**32.0**
	ATH-1/2-13	All-Thread, 1/2-13	**32.0**
ATH-1/2-13SS	**All-Thread, 1/2-13 Stainless Steel**		
		Part Inventory in 1301.1	**17.0**
	ATH-1/2-13SS	All-Thread, 1/2-13 Stainless Steel	**17.0**
ATH-1/4-20	**All-Thread, 1/4-20**		
		Part Inventory in 1301.1	**9.8**
	ATH-1/4-20	All-Thread, 1/4-20	**9.8**
ATH-16.0MM-2.00MM	**All-Thread, 16.0mm -2.00mm**		
		Part Inventory in 1301.1	**7.0**
	ATH-16.0MM-2.00MM	All-Thread, 16.0mm -2.00mm	**7.0**

ATH-3/4-10	**All-Thread, 3/4-10**		
		Part Inventory in 1301.1	**11.0**
	ATH-3/4-10	All-Thread, 3/4-10	**11.0**
ATH-3/4-10LH	**All-Thread, 3/4-10, Left-Handed Threads**		
		Part Inventory in 1301.1	**11.0**
	ATH-3/4-10LH	All-Thread, 3/4-10, Left-Handed Threads	**11.0**
ATH-3/8-16	**All-Thread, 3/8-16**		
		Part Inventory in 1301.1	**20.5**
	ATH-3/8-16	All-Thread, 3/8-16	**20.5**
ATH-3/8-16 SS	**All-Thread, 3/8-16 Stainless Steel**		
		Part Inventory in 1301.1	**0.0**
	ATH-3/8-16 SS	All-Thread, 3/8-16 Stainless Steel	**0.0**
ATH-5/16-18	**All-Thread, 5/16-18**		
		Part Inventory in 1301.1	**6.5**
	ATH-5/16-18	All-Thread, 5/16-18	**6.5**
ATH-5/8-11	**All-Thread, 5/8-11**		
		Part Inventory in 1301.1	**3.0**
	ATH-5/8-11	All-Thread, 5/8-11	**3.0**
ATH-7/8-9	**All-Thread, 7/8-9**		
		Part Inventory in 1301.1	**5.0**
	ATH-7/8-9	All-Thread, 7/8-9	**5.0**

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ATH-7/8-9SS	**All-Thread, 7/8-9 Stainless Steel**		
		Part Inventory in 1301.1	**0.0**
	ATH-7/8-9SS	All-Thread, 7/8-9 Stainless Steel	**0.0**
ATH-9/16-18	**All-Thread, 9/16-18**		
		Part Inventory in 1301.1	**6.0**
	ATH-9/16-18	All-Thread, 9/16-18	**6.0**
AUT-ALT-ASSET742	**Alternator, for Asset #742**		
		Part Inventory in 1301.1	**1.0**
	AUT-ALT-ASSET742	Alternator, for Asset #742	**1.0**
AUT-CARBHOSE	**Carburetor Hose**		
		Part Inventory in 1301.1	**0.0**
	AUT-CARBHOSE	Carburetor Hose	**0.0**
AUT-CLUTCHSW	**Clutch Switch**		
		Part Inventory in 1301.1	**1.0**
	AUT-CLUTCHSW	Clutch Switch	**1.0**

AUT-FREON-134	**Freon, 134**		
		Part Inventory in 1301.1	**2.0**
	AUT-FREON-134	Freon, 134	**2.0**
AUT-FUELPUMP	**Fuel Pump**		
		Part Inventory in 1301.1	**0.0**
	AUT-FUELPUMP	Fuel Pump	**0.0**
AUT-FUELSTRAINER	**Fuel Strainer**		
		Part Inventory in 1301.1	**0.0**
	AUT-FUELSTRAINER	Fuel Strainer	**0.0**
AUT-HEATFTG	**Heater Hose Fitting**		
		Part Inventory in 1301.1	**0.0**
	AUT-HEATFTG	Heater Hose Fitting	**0.0**
AUT-HEATHOSE	**Heater Hose**		
		Part Inventory in 1301.1	**0.0**
	AUT-HEATHOSE	Heater Hose	**0.0**
AUT-IACVALVE	**IAC Valve**		
		Part Inventory in 1301.1	**0.0**
	AUT-IACVALVE	IAC Valve	**0.0**
1300 Parts Warehouse 13 N P St			
AUT-LIGHT-REARTRLR	**Light, Rear, Trailer**		
		Part Inventory in 1301.1	**1.0**
	AUT-LIGHT-REARTRLR	Light, Rear, Trailer	**1.0**
AUT-PCVVALVE	**PCV Valve**		
		Part Inventory in 1301.1	**0.0**
	AUT-PCVVALVE	PCV Valve	**0.0**
AUT-PLUG	**Plug, Square Head**		
		Part Inventory in 1301.1	**0.0**
	AUT-PLUG	Plug, Square Head	**0.0**
AUT-RADHOSELOWER	**Radiator Hose, Lower**		
		Part Inventory in 1301.1	**0.0**
	AUT-RADHOSELOWER	Radiator Hose, Lower	**0.0**
AUT-SOL4P	**Solenoid, Starter, 4 Post, for Starter and Glow Plugs**		
		Part Inventory in 1301.1	**2.0**
	AUT-SOL4P	Solenoid, Starter, 4 Post, for Starter and G	**2.0**
AUT-TRLRLIGHTBAR	**Light Bar, for Rear of Trailer**		
		Part Inventory in 1301.1	**0.0**
	AUT-TRLRLIGHTBAR	Light Bar, for Rear of Trailer	**0.0**
AUT-TRLRLIGHTGUARD	**Guard, for Trailer Lights**		

		Part Inventory in 1301.1	**0.0**
	AUT-TRLRLIGHTGUARD	Guard, for Trailer Lights	**0.0**
AUT-WATERPUMP	**Water Pump**		
		Part Inventory in 1301.1	**0.0**
	AUT-WATERPUMP	Water Pump	**0.0**
BAR-SPIRALFLIGHT-12"	**12" Spiral Flight Brush for Bar Screen Auger**		
		Part Inventory in 1301.1	**5.5**
	BAR-SPIRALFLIGHT-12"	12" Spiral Flight Brush for Bar Screen Aug	**5.5**
BAR-SPIRALFLIGHT-14"	**Spiral Flight Brush, 14"**		
		Part Inventory in 1301.1	**6.0**
	BAR-SPIRALFLIGHT-14"	Spiral Flight Brush, 14"	**6.0**
BAR-SPIRALFLIGHT-16"	**Spiral Flight Brush, 16"**		
		Part Inventory in 1301.1	**12.0**
	BAR-SPIRALFLIGHT-16"	Spiral Flight Brush, 16"	**12.0**
1300 Parts Warehouse 13 N P St			
BFU-GRIFFCO-RK002	**Parts Kit, 1/2" - 1" Valve, 150 psi Spring**		
		Part Inventory in 1301.1	**2.0**
	BFU-GRIFFCO-RK002	Parts Kit, 1/2" - 1" Valve, 150 psi Spring	**2.0**
BFU-POLYMIX-OLD	**Polymer Mixer, Old Style, for P Street BFU**		
		Part Inventory in 1301.1	**1.0**
	BFU-POLYMIX-OLD	Polymer Mixer, Old Style, for P Street BFU	**1.0**
BFU-SANDNOZ-1.25	**Sand Nozzle, 1.25", For P Street BFU**		
		Part Inventory in 1301.1	**6.0**
	BFU-SANDNOZ-1.25	Sand Nozzle, 1.25", For P Street BFU	**6.0**
BFU-WC-1579018	**Body, Vacuum Enhancer, PVC, 6", Water Champ P/N 1579018**		
		Part Inventory in 1301.1	**1.0**
	BFU-WC-1579018	Body, Vacuum Enhancer, PVC, 6", Water	**1.0**
BFU-WC-7772808	**Screw, Set, Allen, HD 316 SS 10-2, Water Champ P/N 7772808**		
		Part Inventory in 1301.1	**1.0**
	BFU-WC-7772808	Screw, Set, Allen, HD 316 SS 10-2, Water	**1.0**
BFU-WC-7800705	**Seal, Gasket, Viton, 1", #3TGVI100, Water Champ P/N 7800705**		
		Part Inventory in 1301.1	**2.0**
	BFU-WC-7800705	Seal, Gasket, Viton, 1", #3TGVI100, Wate	**2.0**
BFU-WC-7800706	**Seal, Gasket, Viton, 1.5", #3TGVI15, Water Champ P/N 7800706**		
		Part Inventory in 1301.1	**2.0**
	BFU-WC-7800706	Seal, Gasket, Viton, 1.5", #3TGVI15, Wate	**2.0**
BFU-WC-D11224-001-A	**Braided Hose Assembly, 1", 16.5' Long, with Camlocks, P/N D1**		
		Part Inventory in 1301.1	**1.0**

	BFU-WC-D11224-001-A	Braided Hose Assembly, 1", 16.5' Long, w	**1.0**
BIO-ALA-AS008565	**Ceramic Wear Pad, Steering Paddle, Alfa Laval P/N AS008565**		
		Part Inventory in 1301.1	**2.0**
	BIO-ALA-AS008565	Ceramic Wear Pad, Steering Paddle, Alfa	**2.0**
BIO-ALA-AS012985	**Steering Paddle Weldment, Alfa Laval P/N AS012985**		
		Part Inventory in 1301.1	**1.0**
	BIO-ALA-AS012985	Steering Paddle Weldment, Alfa Laval P/N	**1.0**
BLT-2/5M515JB	**Fan Belt, 2/5M515JB**		
		Part Inventory in 1301.1	**4.0**
	BLT-2/5M515JB	Fan Belt, 2/5M515JB	**4.0**
1300 Parts Warehouse 13 N P St			
BLT-3VX630	**Fan Belt, 3VX630**		
		Part Inventory in 1301.1	**13.0**
	BLT-3VX630	Fan Belt, 3VX630	**13.0**
BLT-3VX750	**Belt, 3VX750**		
		Part Inventory in 1301.1	**1.0**
	BLT-3VX750	Belt, 3VX750	**1.0**
BLT-3VX800	**Fan Belt, 3VX800**		
		Part Inventory in 1301.1	**6.0**
	BLT-3VX800	Fan Belt, 3VX800	**6.0**
BLT-4230V556	**Fan Belt, 4230V556**		
		Part Inventory in 1301.1	**1.0**
	BLT-4230V556	Fan Belt, 4230V556	**1.0**
BLT-5V1120	**Belt, 5V1120**		
		Part Inventory in 1301.1	**0.0**
	BLT-5V1120	Belt, 5V1120	**0.0**
BLT-5VX650	**Fan Belt, 5VX650**		
		Part Inventory in 1301.1	**9.0**
	BLT-5VX650	Fan Belt, 5VX650	**9.0**
BLT-7PK1855	**Fan Belt, 7PK1855**		
		Part Inventory in 1301.1	**1.0**
	BLT-7PK1855	Fan Belt, 7PK1855	**1.0**
BLT-A21	**Fan Belt, A21**		
		Part Inventory in 1301.1	**2.0**
	BLT-A21	Fan Belt, A21	**2.0**
BLT-A23	**Fan Belt, A23**		
		Part Inventory in 1301.1	**1.0**
	BLT-A23	Fan Belt, A23	**1.0**

BLT-A26	**Fan Belt, A26**		
		Part Inventory in 1301.1	**2.0**
	BLT-A26 Fan Belt, A26		**2.0**
BLT-A27	**Fan Belt, A27**		
		Part Inventory in 1301.1	**0.0**
	BLT-A27 Fan Belt, A27		**0.0**
1300 Parts Warehouse 13 N P St			
BLT-A29	**Fan Belt, A29**		
		Part Inventory in 1301.1	**5.0**
	BLT-A29 Fan Belt, A29		**5.0**
BLT-A30	**Fan Belt, A30**		
		Part Inventory in 1301.1	**8.0**
	BLT-A30 Fan Belt, A30		**8.0**
BLT-A33	**Fan Belt, A-33**		
		Part Inventory in 1301.1	**0.0**
	BLT-A33 Fan Belt, A-33		**0.0**
BLT-A35	**Fan Belt, A35**		
		Part Inventory in 1301.1	**0.0**
	BLT-A35 Fan Belt, A35		**0.0**
BLT-A36	**Fan Belt, A36**		
		Part Inventory in 1301.1	**1.0**
	BLT-A36 Fan Belt, A36		**1.0**
BLT-A37	**Fan Belt, A37**		
		Part Inventory in 1301.1	**2.0**
	BLT-A37 Fan Belt, A37		**2.0**
BLT-A40	**Fan Belt, A40**		
		Part Inventory in 1301.1	**4.0**
	BLT-A40 Fan Belt, A40		**4.0**
BLT-A43	**Fan Belt, A43**		
		Part Inventory in 1301.1	**0.0**
	BLT-A43 Fan Belt, A43		**0.0**
BLT-A45	**Fan Belt, A45**		
		Part Inventory in 1301.1	**1.0**
	BLT-A45 Fan Belt, A45		**1.0**
BLT-A48	**Fan Belt, A48**		
		Part Inventory in 1301.1	**1.0**
	BLT-A48 Fan Belt, A48		**1.0**

BLT-A50	**Fan Belt, A50**		
		Part Inventory in 1301.1	**1.0**
	BLT-A50 Fan Belt, A50		**1.0**
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BLT-A51	**Fan Belt, A51**		
		Part Inventory in 1301.1	**1.0**
	BLT-A51 Fan Belt, A51		**1.0**
BLT-A58	**Belt, A58**		
		Part Inventory in 1301.1	**0.0**
	BLT-A58 Belt, A58		**0.0**
BLT-A60	**Fan Belt, A60**		
		Part Inventory in 1301.1	**6.0**
	BLT-A60 Fan Belt, A60		**6.0**
BLT-A75	**Fan Belt, A75**		
		Part Inventory in 1301.1	**6.0**
	BLT-A75 Fan Belt, A75		**6.0**
BLT-ADJBELT	**Belt, Adjustable, V Belt Replacement**		
		Part Inventory in 1301.1	**11.0**
	BLT-ADJBELT Belt, Adjustable, V Belt Replacement		**11.0**
BLT-B105	**Fan Belt, B105**		
		Part Inventory in 1301.1	**6.0**
	BLT-B105 Fan Belt, B105		**6.0**
BLT-B31	**Fan Belt, B31**		
		Part Inventory in 1301.1	**0.0**
	BLT-B31 Fan Belt, B31		**0.0**
BLT-B52	**Fan Belt, B52**		
		Part Inventory in 1301.1	**1.0**
	BLT-B52 Fan Belt, B52		**1.0**
BLT-B58	**Fan Belt, B58**		
		Part Inventory in 1301.1	**1.0**
	BLT-B58 Fan Belt, B58		**1.0**
BLT-B67	**Belt, B(X)67**		
		Part Inventory in 1301.1	**0.0**
	BLT-B67 Belt, B(X)67		**0.0**
BLT-B68	**Fan Belt, B68**		
		Part Inventory in 1301.1	**4.0**
	BLT-B68 Fan Belt, B68		**4.0**

BLT-B81	**Fan Belt, B81**		
		Part Inventory in 1301.1	**2.0**
	BLT-B81	Fan Belt, B81	**2.0**
BLT-B82	**Fan Belt, B82**		
		Part Inventory in 1301.1	**2.0**
	BLT-B82	Fan Belt, B82	**2.0**
BLT-B85	**Fan Belt, B85**		
		Part Inventory in 1301.1	**2.0**
	BLT-B85	Fan Belt, B85	**2.0**
BRG-15/16"BALLBRG	**Bearing, Ball, 15/16"**		
		Part Inventory in 1301.1	**22.0**
	BRG-15/16"BALLBRG	Bearing, Ball, 15/16"	**22.0**
BRG-1638	**Bearing, 1638**		
		Part Inventory in 1301.1	**3.0**
	BRG-1638	Bearing, 1638	**3.0**
BRG-22218E-SKF	**Bearing, 22218E, SKF**		
		Part Inventory in 1301.1	**1.0**
	BRG-22218E-SKF	Bearing, 22218E, SKF	**1.0**
BRG-23100	**Tapered Roller Bearing, P/N NTN23100**		
		Part Inventory in 1301.1	**2.0**
	BRG-23100	Tapered Roller Bearing, P/N NTN23100	**2.0**
BRG-23256	**Tapered Roller Bearing, P/N NTN23256**		
		Part Inventory in 1301.1	**2.0**
	BRG-23256	Tapered Roller Bearing, P/N NTN23256	**2.0**
BRG-2720	**Tapered Roller Bearing, P/N NTN2720**		
		Part Inventory in 1301.1	**2.0**
	BRG-2720	Tapered Roller Bearing, P/N NTN2720	**2.0**
BRG-2788	**Tapered Roller Bearing, P/N NTN2788**		
		Part Inventory in 1301.1	**2.0**
	BRG-2788	Tapered Roller Bearing, P/N NTN2788	**2.0**
BRG-3219A/C3-SKF	**Bearing, SKF, 3219A/C3**		
		Part Inventory in 1301.1	**2.0**
	BRG-3219A/C3-SKF	Bearing, SKF, 3219A/C3	**2.0**

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BRG-3308	**Bearing, 3308**		
		Part Inventory in 1301.1	**1.0**
	BRG-3308	Bearing, 3308	**1.0**
BRG-3309	**Bearing, 3309**		

		Part Inventory in 1301.1	**1.0**
	BRG-3309	Bearing, 3309	**1.0**
BRG-3317	**Bearing, 3317**		
		Part Inventory in 1301.1	**4.0**
	BRG-3317	Bearing, 3317	**4.0**
BRG-3820	**Bearing, Timken Tapered Roller Bearing, 3820**		
		Part Inventory in 1301.1	**1.0**
	BRG-3820	Bearing, Timken Tapered Roller Bearing, 3	**1.0**
BRG-3878	**Bearing, Timken, 3878**		
		Part Inventory in 1301.1	**1.0**
	BRG-3878	Bearing, Timken, 3878	**1.0**
BRG-5222A/C3-SKF	**Bearing, SKF 5222 A/C3**		
		Part Inventory in 1301.1	**1.0**
	BRG-5222A/C3-SKF	Bearing, SKF 5222 A/C3	**1.0**
BRG-5307K-TIMKEN	**Bearing, Timken, 5307K**		
		Part Inventory in 1301.1	**1.0**
	BRG-5307K-TIMKEN	Bearing, Timken, 5307K	**1.0**
BRG-5318	**Bearing, 5318 BR**		
		Part Inventory in 1301.1	**1.0**
	BRG-5318	Bearing, 5318 BR	**1.0**
BRG-5417WBR	**Bearing, Timken 5417W BR**		
		Part Inventory in 1301.1	**1.0**
	BRG-5417WBR	Bearing, Timken 5417W BR	**1.0**
BRG-6015	**Bearing, 6015**		
		Part Inventory in 1301.1	**2.0**
	BRG-6015	Bearing, 6015	**2.0**
BRG-60220300-SPLTJRN	**Bearing, Split Journal, 3" Bronze, Royersford Foundry P/N 60-**		
		Part Inventory in 1301.1	**2.0**
	BRG-60220300-SPLTJRN	Bearing, Split Journal, 3" Bronze, Royersfo	**2.0**
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BRG-6201	**Bearing, 6201**		
		Part Inventory in 1301.1	**2.0**
	BRG-6201	Bearing, 6201	**2.0**
BRG-6202	**Bearing, 6202**		
		Part Inventory in 1301.1	**4.0**
	BRG-6202	Bearing, 6202	**4.0**
BRG-6203	**Bearing, 6203**		
		Part Inventory in 1301.1	**5.0**

	BRG-6203	Bearing, 6203	**5.0**
BRG-6204	**Bearing, 6204**		
		Part Inventory in 1301.1	**9.0**
	BRG-6204	Bearing, 6204	**9.0**
BRG-6205	**Bearing, 6205**		
		Part Inventory in 1301.1	**3.0**
	BRG-6205	Bearing, 6205	**3.0**
BRG-6206	**Bearing, 6206**		
		Part Inventory in 1301.1	**3.0**
	BRG-6206	Bearing, 6206	**3.0**
BRG-6207ZZC3-KOYO	**Bearing, Koyo, 6207ZZC3**		
		Part Inventory in 1301.1	**1.0**
	BRG-6207ZZC3-KOYO	Bearing, Koyo, 6207ZZC3	**1.0**
BRG-62082RDC3-KOYO	**Bearing, Koyo, 6208 2 RDC 3**		
		Part Inventory in 1301.1	**1.0**
	BRG-62082RDC3-KOYO	Bearing, Koyo, 6208 2 RDC 3	**1.0**
BRG-6210	**Bearing, 6210**		
		Part Inventory in 1301.1	**1.0**
	BRG-6210	Bearing, 6210	**1.0**
BRG-6303	**Bearing, 6303**		
		Part Inventory in 1301.1	**1.0**
	BRG-6303	Bearing, 6303	**1.0**
BRG-6305	**Bearing, 6305**		
		Part Inventory in 1301.1	**1.0**
	BRG-6305	Bearing, 6305	**1.0**

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BRG-6306	**Bearing, 6306**		
		Part Inventory in 1301.1	**3.0**
	BRG-6306	Bearing, 6306	**3.0**
BRG-6307	**Bearing, 6307**		
		Part Inventory in 1301.1	**2.0**
	BRG-6307	Bearing, 6307	**2.0**
BRG-6309	**Bearing, 6309**		
		Part Inventory in 1301.1	**3.0**
	BRG-6309	Bearing, 6309	**3.0**
BRG-6310	**Bearing, 6310**		
		Part Inventory in 1301.1	**9.0**
	BRG-6310	Bearing, 6310	**9.0**

BRG-6311	**Bearing, 6311**		
		Part Inventory in 1301.1	**0.0**
	BRG-6311 Bearing, 6311		**0.0**
BRG-6312	**Bearing, 6312**		
		Part Inventory in 1301.1	**2.0**
	BRG-6312 Bearing, 6312		**2.0**
BRG-6313	**Bearing, 6313**		
		Part Inventory in 1301.1	**5.0**
	BRG-6313 Bearing, 6313		**5.0**
BRG-6314	**Bearing, 6314**		
		Part Inventory in 1301.1	**3.0**
	BRG-6314 Bearing, 6314		**3.0**
BRG-6316	**Bearing, 6316**		
		Part Inventory in 1301.1	**3.0**
	BRG-6316 Bearing, 6316		**3.0**
BRG-63182RS-1C3	**Bearing, Koyo 63182RS-1C3**		
		Part Inventory in 1301.1	**1.0**
	BRG-63182RS-1C3 Bearing, Koyo 63182RS-1C3		**1.0**
BRG-632	**Bearing, Timken, 632**		
		Part Inventory in 1301.1	**1.0**
	BRG-632 Bearing, Timken, 632		**1.0**
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BRG-644	**Bearing, Timken, 644**		
		Part Inventory in 1301.1	**1.0**
	BRG-644 Bearing, Timken, 644		**1.0**
BRG-7/8"BALLBRG	**Ball, Bearing, 7/8"**		
		Part Inventory in 1301.1	**41.0**
	BRG-7/8"BALLBRG Ball, Bearing, 7/8"		**41.0**
BRG-7217BGC3FY	**Bearing, koyo 7217BGC3 FY**		
		Part Inventory in 1301.1	**1.0**
	BRG-7217BGC3FY Bearing, koyo 7217BGC3 FY		**1.0**
BRG-7308	**Bearing, 7308**		
		Part Inventory in 1301.1	**2.0**
	BRG-7308 Bearing, 7308		**2.0**
BRG-7311	**Bearing, 7311**		
		Part Inventory in 1301.1	**3.0**
	BRG-7311 Bearing, 7311		**3.0**

BRG-7314	**Bearing, 7314**		
		Part Inventory in 1301.1	**3.0**
	BRG-7314	Bearing, 7314	**3.0**
BRG-7315BECBY-SKF	**Bearing, SKF, 7315BECBY**		
		Part Inventory in 1301.1	**4.0**
	BRG-7315BECBY-SKF	Bearing, SKF, 7315BECBY	**4.0**
BRG-7316	**Bearing, 7316**		
		Part Inventory in 1301.1	**0.0**
	BRG-7316	Bearing, 7316	**0.0**
BRG-7319	**Bearing, 7319 BECBY**		
		Part Inventory in 1301.1	**4.0**
	BRG-7319	Bearing, 7319 BECBY	**4.0**
BRG-82576	**Bearing, Timken, 82576**		
		Part Inventory in 1301.1	**2.0**
	BRG-82576	Bearing, Timken, 82576	**2.0**
BRG-82931	**Bearing, Timken, 82931**		
		Part Inventory in 1301.1	**2.0**
	BRG-82931	Bearing, Timken, 82931	**2.0**

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BRG-9109PP	**Bearing, 9109PP**		
		Part Inventory in 1301.1	**4.0**
	BRG-9109PP	Bearing, 9109PP	**4.0**
BRG-AN17LOCKNUT	**Locknut, AN17 N-00 Series**		
		Part Inventory in 1301.1	**1.0**
	BRG-AN17LOCKNUT	Locknut, AN17 N-00 Series	**1.0**
BRG-BROWNING-UPS-123	**Bearing, Pillow Block, 1 7/16", Browning P/N UPS-123**		
		Part Inventory in 1301.1	**1.0**
	BRG-BROWNING-UPS-123	Bearing, Pillow Block, 1 7/16", Browning P	**1.0**
BRG-BU-1.25X1.5X1.75	**Bushing, 1.25" X 1.50" X 1.75" Long**		
		Part Inventory in 1301.1	**2.0**
	BRG-BU-1.25X1.5X1.75	Bushing, 1.25" X 1.50" X 1.75" Long	**2.0**
BRG-BU-1.25X1.63X1.7	**Bushing, Brass, 1 1/4" X 1 5/8" X 1 3/4" (3/16" Thick)**		
		Part Inventory in 1301.1	**10.0**
	BRG-BU-1.25X1.63X1.7	Bushing, Brass, 1 1/4" X 1 5/8" X 1 3/4" (3	**10.0**
BRG-DODGE-INSSC115	**Insert, Ball Bearing, 210 Series, 1 15/16", Dodge P/N INSSC115**		
		Part Inventory in 1301.1	**1.0**
	BRG-DODGE-INSSC115	Insert, Ball Bearing, 210 Series, 1 15/16",	**1.0**
BRG-DODGE-LT700-7/8"	**Bearing, Dodge, LT700 S/Lube Inner Assembly, 7/8"**		

		Part Inventory in 1301.1	**1.0**
	BRG-DODGE-LT700-7/8"	Bearing, Dodge, LT700 S/Lube Inner Asse	**1.0**
BRG-DODGE-P2BE207R	**Bearing, Pillow Block, 2 7/16", Dodge P/N P2B-E-207R, Type E**		
		Part Inventory in 1301.1	**3.0**
	BRG-DODGE-P2BE207R	Bearing, Pillow Block, 2 7/16", Dodge P/N	**3.0**
BRG-DODGE-P2BSC115	**Bearing, Pillow Block, Dodge P/N P2B-SC-115, 1 15/16"**		
		Part Inventory in 1301.1	**1.0**
	BRG-DODGE-P2BSC115	Bearing, Pillow Block, Dodge P/N P2B-SC	**1.0**
BRG-DODGE-WSTUSC207	**Take Up Bearing Unit, Cast Iron, Side Mount, 2 7/16" ID - 1 1/16**		
		Part Inventory in 1301.1	**0.0**
	BRG-DODGE-WSTUSC207	Take Up Bearing Unit, Cast Iron, Side Mou	**0.0**
BRG-F2BSC100-FLNG2BT	**Bearing, Flange, 2 Bolt, Dodge F2BSC100 (For Filter Bldg. Scra**		
		Part Inventory in 1301.1	**1.0**
	BRG-F2BSC100-FLNG2BT	Bearing, Flange, 2 Bolt, Dodge F2BSC100	**1.0**
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BRG-FAFNIR-PB2.1875	**Bearing, Pillow Block, Fafnir RSA 2 3/16" T-22696**		
		Part Inventory in 1301.1	**1.0**
	BRG-FAFNIR-PB2.1875	Bearing, Pillow Block, Fafnir RSA 2 3/16" T	**1.0**
BRG-G1115KRRB	**Bearing, G1115KRRB + Col Ag**		
		Part Inventory in 1301.1	**2.0**
	BRG-G1115KRRB	Bearing, G1115KRRB + Col Ag	**2.0**
BRG-G1203KRRB	**Bearing, G1203KRRB + Col Ag**		
		Part Inventory in 1301.1	**14.0**
	BRG-G1203KRRB	Bearing, G1203KRRB + Col Ag	**14.0**
BRG-HGRBRG-HALVES	**Insert, Hanger Bearing, Halves**		
		Part Inventory in 1301.1	**8.0**
	BRG-HGRBRG-HALVES	Insert, Hanger Bearing, Halves	**8.0**
BRG-HH421210	**Bearing, Timken, HH421210**		
		Part Inventory in 1301.1	**2.0**
	BRG-HH421210	Bearing, Timken, HH421210	**2.0**
BRG-HH421246C	**Bearing, Timken, HH421246C**		
		Part Inventory in 1301.1	**2.0**
	BRG-HH421246C	Bearing, Timken, HH421246C	**2.0**
BRG-MU5206TV	**Bearing, Timken, MU5206TV**		
		Part Inventory in 1301.1	**1.0**
	BRG-MU5206TV	Bearing, Timken, MU5206TV	**1.0**
BRG-NJ219EE	**Bearing, NJ219EE TVP2**		
		Part Inventory in 1301.1	**1.0**

	BRG-NJ219EE	Bearing, NJ219EE TVP2	**1.0**
BRG-NTN30307	**Race, Bearing, NTN30307**		
		Part Inventory in 1301.1	**0.0**
	BRG-NTN30307	Race, Bearing, NTN30307	**0.0**
BRG-PBI-VS131	**Bearing, Pillow Block, Insert, VS-131**		
		Part Inventory in 1301.1	**3.0**
	BRG-PBI-VS131	Bearing, Pillow Block, Insert, VS-131	**3.0**
BRG-RAL012NPP	**Ball Bearing Insert w/ Collar, Fafnir P/N RAL012NPP**		
		Part Inventory in 1301.1	**0.0**
	BRG-RAL012NPP	Ball Bearing Insert w/ Collar, Fafnir P/N R/	**0.0**
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BRG-ROLLWAY-U1224B	**Bearing, Rollway U1224B**		
		Part Inventory in 1301.1	**1.0**
	BRG-ROLLWAY-U1224B	Bearing, Rollway U1224B	**1.0**
BRG-SM-NP-23-1-7/16	**Bearing, Pillow Block, Seal Master Gold Bearing, P/N NP-23, 1**		
		Part Inventory in 1301.1	**2.0**
	BRG-SM-NP-23-1-7/16	Bearing, Pillow Block, Seal Master Gold B(	**2.0**
BRG-SPLTBUSH-3"BRONZ	**Bushing, Split, 3" Bronze (for Thermo-Blender)**		
		Part Inventory in 1301.1	**3.0**
	BRG-SPLTBUSH-3"BRONZ	Bushing, Split, 3" Bronze (for Thermo-Bler	**3.0**
BRG-SUM-998RP613087G	**Ring Pins, Sumitomo P/N 998RP613-087G, for Clarifier Gear B(**		
		Part Inventory in 1301.1	**0.0**
	BRG-SUM-998RP613087G	Ring Pins, Sumitomo P/N 998RP613-087(	**0.0**
BRG-SUM-AN7775G-6	**Bearing, Cam, Sumitomo P/N AN7775G-6, for Clarifier Gear Bo**		
		Part Inventory in 1301.1	**0.0**
	BRG-SUM-AN7775G-6	Bearing, Cam, Sumitomo P/N AN7775G-6	**0.0**
BRG-TIMKEN-09067	**Bearing, Cone, Tapered, Timken 09067**		
		Part Inventory in 1301.1	**6.0**
	BRG-TIMKEN-09067	Bearing, Cone, Tapered, Timken 09067	**6.0**
BRG-TIMKEN-09195	**Bearing, Cup, Tapered, Timken 09195**		
		Part Inventory in 1301.1	**4.0**
	BRG-TIMKEN-09195	Bearing, Cup, Tapered, Timken 09195	**4.0**
BRG-TIMKEN-15123	**Bearing, Cone, Tapered, Timken 15123**		
		Part Inventory in 1301.1	**2.0**
	BRG-TIMKEN-15123	Bearing, Cone, Tapered, Timken 15123	**2.0**
BRG-TIMKEN-15245	**Bearing, Cup, Tapered Timken 15245**		
		Part Inventory in 1301.1	**1.0**
	BRG-TIMKEN-15245	Bearing, Cup, Tapered Timken 15245	**1.0**

BRG-TIMKEN-G1203KRBB	**Bearing, Insert, Timken G1203KRBB + Col**		
		Part Inventory in 1301.1	**2.0**
	BRG-TIMKEN-G1203KRBB	Bearing, Insert, Timken G1203KRBB + Co	**2.0**
BRG-TIMKEN-JLM104910	**Bearing, Cup, Tapered, Timken JLM104910**		
		Part Inventory in 1301.1	**6.0**
	BRG-TIMKEN-JLM104910	Bearing, Cup, Tapered, Timken JLM10491	**6.0**
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BRG-TIMKEN-LM104949	**Bearing, Cone, Tapered, Timken LM104949**		
		Part Inventory in 1301.1	**6.0**
	BRG-TIMKEN-LM104949	Bearing, Cone, Tapered, Timken LM1049	**6.0**
BRG-TIMKEN-LM11910	**Bearing, Cup, Tapered, Timken LM11910**		
		Part Inventory in 1301.1	**4.0**
	BRG-TIMKEN-LM11910	Bearing, Cup, Tapered, Timken LM11910	**4.0**
BRG-TIMKEN-LM11949	**Bearing, Cone, Tapered, Timken LM11949**		
		Part Inventory in 1301.1	**6.0**
	BRG-TIMKEN-LM11949	Bearing, Cone, Tapered, Timken LM1194	**6.0**
BRG-TU900X-2.9375"EC	**Bearing, Eccentric, Browning, TU900X, 2 15/16"**		
		Part Inventory in 1301.1	**1.0**
	BRG-TU900X-2.9375"EC	Bearing, Eccentric, Browning, TU900X, 2 1	**1.0**
BRG-VF4S-232-2"	**Bearing Unit, Browning VF4S-232, 2" for Lime Screw Auger**		
		Part Inventory in 1301.1	**1.0**
	BRG-VF4S-232-2"	Bearing Unit, Browning VF4S-232, 2" for L	**1.0**
BRG-VPS23AH-BROWNING	**Bearing, Browning VPS-23 AH, for Chlorine Scrubber**		
		Part Inventory in 1301.1	**2.0**
	BRG-VPS23AH-BROWNING	Bearing, Browning VPS-23 AH, for Chlorin	**2.0**
CAB-3/8"STEEL	**Cable, Steel, 3/8"**		
		Part Inventory in 1301.1	**72.0**
	CAB-3/8"STEEL	Cable, Steel, 3/8"	**72.0**
CHL-FF-12D40A	**Dial, for Chlorine Scale, Force Flow P/N 12D40A**		
		Part Inventory in 1301.1	**0.0**
	CHL-FF-12D40A	Dial, for Chlorine Scale, Force Flow P/N 12	**0.0**
CHL-FITTING-SGFT-SS	**Fitting, Sight Glass for Flow Tube, Stainless Steel (Made @ KM**		
		Part Inventory in 1301.1	**2.0**
	CHL-FITTING-SGFT-SS	Fitting, Sight Glass for Flow Tube, Stainles	**2.0**
CHL-LCROL-1X1.5X.625	**Lock Collar for Chlorine Rollers, 1.000" X 1.486" X 0.625"**		
		Part Inventory in 1301.1	**8.0**
	CHL-LCROL-1X1.5X.625	Lock Collar for Chlorine Rollers, 1.000" X 1	**8.0**

CHL-OMNI-AVB-10-2	**Upper Body, for Chlorinator, Omni P/N AVB-10-2**		
		Part Inventory in 1301.1	**1.0**
	CHL-OMNI-AVB-10-2	Upper Body, for Chlorinator, Omni P/N AV	**1.0**
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CHL-POW-32004509001	**Spring Roll Pin, 3/16" X 3/4", Powell P/N 320-04509-001**		
		Part Inventory in 1301.1	**2.0**
	CHL-POW-32004509001	Spring Roll Pin, 3/16" X 3/4", Powell P/N 3	**2.0**
CHL-POW-85007208001	**Drive Coupler, 10 mm, Square, Powell P/N 850-07208-001**		
		Part Inventory in 1301.1	**2.0**
	CHL-POW-85007208001	Drive Coupler, 10 mm, Square, Powell P/N	**2.0**
CHL-ROTABASE-SS	**Rotameter Base, Injection Water, Stainless Steel**		
		Part Inventory in 1301.1	**3.0**
	CHL-ROTABASE-SS	Rotameter Base, Injection Water, Stainles	**3.0**
CHL-ROTATUBE-NPXA172	**Purge Tube, Injection Water Rotameter, Ace Glass P/N NPXA-1**		
		Part Inventory in 1301.1	**3.0**
	CHL-ROTATUBE-NPXA172	Purge Tube, Injection Water Rotameter, A	**3.0**
CHL-ROTOKIT	**Roto Kit**		
		Part Inventory in 1301.1	**1.0**
	CHL-ROTOKIT	Roto Kit	**1.0**
CHL-SIE-W2T10025	**AAB2270 Body, East, Dripleg**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T10025	AAB2270 Body, East, Dripleg	**1.0**
CHL-SIE-W2T10337	**ARMALON XT7550 1.57 (.062") TH, Siemens P/N W2T10337**		
		Part Inventory in 1301.1	**2.0**
	CHL-SIE-W2T10337	ARMALON XT7550 1.57 (.062") TH, Siem	**2.0**
CHL-SIE-W2T10478	**Diaphragm, 0.875", Siemens P/N W2T10478**		
		Part Inventory in 1301.1	**3.0**
	CHL-SIE-W2T10478	Diaphragm, 0.875", Siemens P/N W2T104	**3.0**
CHL-SIE-W2T11507	**Backing Plate, ASS-4538, Siemens P/N W2T11507**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W2T11507	Backing Plate, ASS-4538, Siemens P/N W	**0.0**
CHL-SIE-W2T11749	**Screen Vent, Siemens P/N W2T11749**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T11749	Screen Vent, Siemens P/N W2T11749	**1.0**
CHL-SIE-W2T11773	**Gasket Seal, Lead, 0.0625" Thick, Siemens P/N W2T11773**		
		Part Inventory in 1301.1	**25.0**
	CHL-SIE-W2T11773	Gasket Seal, Lead, 0.0625" Thick, Siemen	**25.0**
1300 Parts Warehouse 13 N P St			

CHL-SIE-W2T11991	**Diaphragm, Chlorine Injector, Siemens P/N W2T11991**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W2T11991	Diaphragm, Chlorine Injector, Siemens P/I	**0.0**
CHL-SIE-W2T12161	**Diaphragm, Chlorinator, Siemens P/N W2T12161, for V-2000**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W2T12161	Diaphragm, Chlorinator, Siemens P/N W2	**0.0**
CHL-SIE-W2T12186	**Gauge, 2.5" Chlorine, Vacuum, U Clamp Case, Siemens P/N W**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T12186	Gauge, 2.5" Chlorine, Vacuum, U Clamp C	**1.0**
CHL-SIE-W2T13607	**Washer, Siemens P/N W2T13607**		
		Part Inventory in 1301.1	**3.0**
	CHL-SIE-W2T13607	Washer, Siemens P/N W2T13607	**3.0**
CHL-SIE-W2T13900	**Sealant Compound, White Lead, Siemens P/N W2T13900**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T13900	Sealant Compound, White Lead, Siemens	**1.0**
CHL-SIE-W2T14146	**VLV, ACCY, Siemens P/N W2T14146**		
		Part Inventory in 1301.1	**2.0**
	CHL-SIE-W2T14146	VLV, ACCY, Siemens P/N W2T14146	**2.0**
CHL-SIE-W2T14151	**Vacuum Gauge, 30" Hg, Siemens P/N W2T14151**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T14151	Vacuum Gauge, 30" Hg, Siemens P/N W2	**1.0**
CHL-SIE-W2T15243	**Knob, Vac Reg, PVC, Siemens P/N W2T15243**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T15243	Knob, Vac Reg, PVC, Siemens P/N W2T1	**1.0**
CHL-SIE-W2T15253	**Diaphragm, Chlorinator, Siemens P/N W2T15253, for V500**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W2T15253	Diaphragm, Chlorinator, Siemens P/N W2	**0.0**
CHL-SIE-W2T15351	**Screw, Siemens P/N W2T15351**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T15351	Screw, Siemens P/N W2T15351	**1.0**
CHL-SIE-W2T15462	**Washer, Anti-Friction, Siemens P/N W2T15462**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T15462	Washer, Anti-Friction, Siemens P/N W2T1	**1.0**
1300 Parts Warehouse 13 N P St			
CHL-SIE-W2T15596	**Adjuster, SPG CHG OV CP, Siemens P/N W2T15596**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T15596	Adjuster, SPG CHG OV CP, Siemens P/N	**1.0**
CHL-SIE-W2T15841	**Guide Unit, for Float, Siemens P/N W2T15841**		

		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W2T15841	Guide Unit, for Float, Siemens P/N W2T15	**0.0**
CHL-SIE-W2T17738	**Glass Tube, Rotameter, Siemens P/N W2T17738**		
		Part Inventory in 1301.1	**2.0**
	CHL-SIE-W2T17738	Glass Tube, Rotameter, Siemens P/N W2	**2.0**
CHL-SIE-W2T18607	**Washer, Siemens P/N W2T18607**		
		Part Inventory in 1301.1	**3.0**
	CHL-SIE-W2T18607	Washer, Siemens P/N W2T18607	**3.0**
CHL-SIE-W2T19006	**Raw Stk, Machined; PVC Bar; SCRW-INJCTR, Seimens P/N W2**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T19006	Raw Stk, Machined; PVC Bar; SCRW-INJ	**1.0**
CHL-SIE-W2T19007	**Nut, 0.375" Dia, UNF-1B, PVC 24 P, Siemens P/N W2T19007**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T19007	Nut, 0.375" Dia, UNF-1B, PVC 24 P, Siem	**1.0**
CHL-SIE-W2T19731	**Backing Disc, Chlorinator, Siemens P/N W2T19731**		
		Part Inventory in 1301.1	**6.0**
	CHL-SIE-W2T19731	Backing Disc, Chlorinator, Siemens P/N W	**6.0**
CHL-SIE-W2T375552	**Retainer, Siemens P/N W2T375552**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W2T375552	Retainer, Siemens P/N W2T375552	**0.0**
CHL-SIE-W2T375610	**Ring, Siemens P/N W2T375610**		
		Part Inventory in 1301.1	**4.0**
	CHL-SIE-W2T375610	Ring, Siemens P/N W2T375610	**4.0**
CHL-SIE-W2T375955	**Gasket, Seal, Flat, 0.016" Thick, Vinylite, Siemens P/N W2T375**		
		Part Inventory in 1301.1	**14.0**
	CHL-SIE-W2T375955	Gasket, Seal, Flat, 0.016" Thick, Vinylite, S	**14.0**
CHL-SIE-W2T8317	**Seal, Gasket, Siemens P/N W2T8317**		
		Part Inventory in 1301.1	**6.0**
	CHL-SIE-W2T8317	Seal, Gasket, Siemens P/N W2T8317	**6.0**
1300 Parts Warehouse 13 N P St			
CHL-SIE-W2T9985	**Tool, Instruction, RMV, Seat, Siemens P/N W2T9985**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T9985	Tool, Instruction, RMV, Seat, Siemens P/N	**1.0**
CHL-SIE-W2T9986	**Tool, Removal, Seat, Housing, Siemens P/N W2T9986**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W2T9986	Tool, Removal, Seat, Housing, Siemens P	**1.0**
CHL-SIE-W2T9987	**Tool, Instruction, Seat, Housing, Siemens P/N W2T9987**		
		Part Inventory in 1301.1	**1.0**

	CHL-SIE-W2T9987	Tool, Instruction, Seat, Housing, Siemens	**1.0**
CHL-SIE-W3T107696	**Diaphragm, Siemens P/N W3T107696**		
		Part Inventory in 1301.1	**3.0**
	CHL-SIE-W3T107696	Diaphragm, Siemens P/N W3T107696	**3.0**
CHL-SIE-W3T107698	**Holder, Stem and Post Assembly, Siemens P/N W3T107698**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W3T107698	Holder, Stem and Post Assembly, Siemen	**1.0**
CHL-SIE-W3T107727	**Yoke, Chlorine Institute Type, Siemens P/N W3T107727**		
		Part Inventory in 1301.1	**2.0**
	CHL-SIE-W3T107727	Yoke, Chlorine Institute Type, Siemens P/I	**2.0**
CHL-SIE-W3T107920	**Diaphragm Assembly, Siemens P/N W3T107920**		
		Part Inventory in 1301.1	**2.0**
	CHL-SIE-W3T107920	Diaphragm Assembly, Siemens P/N W3T1	**2.0**
CHL-SIE-W3T108083	**Diaphragm Backing, Replacement for AAA4487, Siemens P/N**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W3T108083	Diaphragm Backing, Replacement for AAA	**0.0**
CHL-SIE-W3T108256	**Chlorinator Rebuild Kits, Siemens (AAC1937) W3T108256**		
		Part Inventory in 1301.1	**0.0**
	CHL-SIE-W3T108256	Chlorinator Rebuild Kits, Siemens (AAC19	**0.0**
CHL-SIE-W3T108940	**Kit, Valve, PVC, 0.25P TFE Ball, Vit, Siemens P/N W3T108940**		
		Part Inventory in 1301.1	**6.0**
	CHL-SIE-W3T108940	Kit, Valve, PVC, 0.25P TFE Ball, Vit, Siem	**6.0**
CHL-SIE-W3T108956	**Kit, Valve, PVC, 0.25P TFE Ball, Hyp, Siemens P/N W3T108956**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W3T108956	Kit, Valve, PVC, 0.25P TFE Ball, Hyp, Sier	**1.0**
1300 Parts Warehouse 13 N P St			
CHL-SIE-W3T99090	**Chlorine Vacuum Regulator PM Kit, Siemens W3T99090 (AAA**		
		Part Inventory in 1301.1	**9.0**
	CHL-SIE-W3T99090	Chlorine Vacuum Regulator PM Kit, Sieme	**9.0**
CHL-SIE-W3T99880	**PM Kit, V10K, Siemens P/N W3T99880**		
		Part Inventory in 1301.1	**1.0**
	CHL-SIE-W3T99880	PM Kit, V10K, Siemens P/N W3T99880	**1.0**
CKA-ARM-MUELLER175WP	**Arm, Clapper, Mueller Check Valve 175WP**		
		Part Inventory in 1301.1	**1.0**
	CKA-ARM-MUELLER175WP	Arm, Clapper, Mueller Check Valve 175WI	**1.0**
CKA-CLAPPER-BR-5	**Clapper, Brass Face, 5" (Unknown Manufacturer), 1/2" Bore**		
		Part Inventory in 1301.1	**2.0**
	CKA-CLAPPER-BR-5	Clapper, Brass Face, 5" (Unknown Manufa	**2.0**

CKA-SC-0.500	**Collar, Shaft, 0.500", for Check Arms**		
		Part Inventory in 1301.1	**7.0**
	CKA-SC-0.500	Collar, Shaft, 0.500", for Check Arms	**7.0**
CKA-SHAFT-1.125X31	**Shaft, Check Valve, 1.125" X 31"**		
		Part Inventory in 1301.1	**1.0**
	CKA-SHAFT-1.125X31	Shaft, Check Valve, 1.125" X 31"	**1.0**
CKA-SHAFT-1.25X24.5	**Shaft, Check Valve, 1.25" X 24.5"**		
		Part Inventory in 1301.1	**2.0**
	CKA-SHAFT-1.25X24.5	Shaft, Check Valve, 1.25" X 24.5"	**2.0**
CKA-SHFT-188.5SS	**Shaft, Check Arm, 1"-8 Threads, 8.5" Long, Stainless Steel**		
		Part Inventory in 1301.1	**2.0**
	CKA-SHFT-188.5SS	Shaft, Check Arm, 1"-8 Threads, 8.5" Long	**2.0**
CKA-SLEEVE-MULR175WP	**Sleeve, Brass, Mueller Check Valve 175WP**		
		Part Inventory in 1301.1	**2.0**
	CKA-SLEEVE-MULR175WP	Sleeve, Brass, Mueller Check Valve 175W	**2.0**
CKA-STUD-MUELLR175WP	**Disc Stud, Mueller 175WP Check Arm**		
		Part Inventory in 1301.1	**2.0**
	CKA-STUD-MUELLR175WP	Disc Stud, Mueller 175WP Check Arm	**2.0**
CLN-ABSORBENT	**Absorbent (Floor Dry)**		
		Part Inventory in 1301.1	**1.0**
	CLN-ABSORBENT	Absorbent (Floor Dry)	**1.0**
1300 Parts Warehouse 13 N P St			
CLN-AD-CITRUS	**Metered Air, Citrus**		
		Part Inventory in 1301.1	**3.0**
	CLN-AD-CITRUS	Metered Air, Citrus	**3.0**
CLN-AD-LINEN	**Metered Air, Linen**		
		Part Inventory in 1301.1	**0.0**
	CLN-AD-LINEN	Metered Air, Linen	**0.0**
CLN-AD-MANGO	**Metered Air, Mango**		
		Part Inventory in 1301.1	**0.0**
	CLN-AD-MANGO	Metered Air, Mango	**0.0**
CLN-AMMONIA	**Ammonia, Gallon**		
		Part Inventory in 1301.1	**1.0**
	CLN-AMMONIA	Ammonia, Gallon	**1.0**
CLN-BATHDISINFECT	**Disinfectant Bathroom Cleaner**		
		Part Inventory in 1301.1	**2.0**
	CLN-BATHDISINFECT	Disinfectant Bathroom Cleaner	**2.0**

CLN-BLEACH **Bleach, Gallon**

Part Inventory in 1301.1 **2.0**

CLN-BLEACH Bleach, Gallon **2.0**

CLN-BROOMPANSET **Broom/Dust Pan Set**

Part Inventory in 1301.1 **0.0**

CLN-BROOMPANSET Broom/Dust Pan Set **0.0**

CLN-BUGREPELLENT **Bug Repellent**

Part Inventory in 1301.1 **0.0**

CLN-BUGREPELLENT Bug Repellent **0.0**

CLN-CARBCLNR **Carburetor Cleaner**

Part Inventory in 1301.1 **0.0**

CLN-CARBCLNR Carburetor Cleaner **0.0**

CLN-COMET **Comet Deodorizing Cleanser**

Part Inventory in 1301.1 **7.0**

CLN-COMET Comet Deodorizing Cleanser **7.0**

CLN-DEGREASERCLEANER **All-Purpose Cleaner/Degreaser**

Part Inventory in 1301.1 **0.0**

CLN-DEGREASERCLEANER All-Purpose Cleaner/Degreaser **0.0**

1300 Parts Warehouse 13 N P St

CLN-DEGREASER-GAL **Degreaser, Gallon**

Part Inventory in 1301.1 **3.0**

CLN-DEGREASER-GAL Degreaser, Gallon **3.0**

CLN-DENALCOHOL **Denatured Alcohol, Gallon**

Part Inventory in 1301.1 **0.0**

CLN-DENALCOHOL Denatured Alcohol, Gallon **0.0**

CLN-DERMACOATHANDCRM **Dermacoat Hand Cream**

Part Inventory in 1301.1 **10.0**

CLN-DERMACOATHANDCRM Dermacoat Hand Cream **10.0**

CLN-DISHSOAP **Dish Soap**

Part Inventory in 1301.1 **0.0**

CLN-DISHSOAP Dish Soap **0.0**

CLN-DISHSOAP-GAL **Dish Soap, Gallon**

Part Inventory in 1301.1 **0.0**

CLN-DISHSOAP-GAL Dish Soap, Gallon **0.0**

CLN-DISINFECTANTSPRY **Disinfectant Deodorant Spray**

Part Inventory in 1301.1 **6.0**

CLN-DISINFECTANTSPRY Disinfectant Deodorant Spray **6.0**

CLN-DRAINOPENER **Drain Opener**

		Part Inventory in 1301.1	**4.0**
	CLN-DRAINOPENER	Drain Opener	**4.0**
CLN-FEBREZE	**Febreze Extra Strength Spray**		
		Part Inventory in 1301.1	**2.0**
	CLN-FEBREZE	Febreze Extra Strength Spray	**2.0**
CLN-FLOORSHINE	**Floor Cleaner and Shine Restorer, Gallon**		
		Part Inventory in 1301.1	**4.0**
	CLN-FLOORSHINE	Floor Cleaner and Shine Restorer, Gallon	**4.0**
CLN-FOAMANTIMICROB	**Foaming Antimicrobial Cleanser**		
		Part Inventory in 1301.1	**1.0**
	CLN-FOAMANTIMICROB	Foaming Antimicrobial Cleanser	**1.0**
CLN-FOGGER-INDOOR	**Indoor Fogger, Bug**		
		Part Inventory in 1301.1	**0.0**
	CLN-FOGGER-INDOOR	Indoor Fogger, Bug	**0.0**
1300 Parts Warehouse 13 N P St			
CLN-FREE-RELEASEAGEN	**Free Release Agent**		
		Part Inventory in 1301.1	**18.0**
	CLN-FREE-RELEASEAGEN	Free Release Agent	**18.0**
CLN-GLASSCLNAEROSOL	**Glass Cleaner, Aerosol**		
		Part Inventory in 1301.1	**4.0**
	CLN-GLASSCLNAEROSOL	Glass Cleaner, Aerosol	**4.0**
CLN-GRITSOAP-22OZ	**Upper Hand Heavy Duty Soap with Grit (22 Ounce)**		
		Part Inventory in 1301.1	**1.0**
	CLN-GRITSOAP-22OZ	Upper Hand Heavy Duty Soap with Grit (2	**1.0**
CLN-GRITSOAP-GAL	**Upper Hand Heavy Duty Soap with Grit (1 Gallon)**		
		Part Inventory in 1301.1	**1.0**
	CLN-GRITSOAP-GAL	Upper Hand Heavy Duty Soap with Grit (1	**1.0**
CLN-GRNSCOTCHPAD	**3M Green Scotch Pad**		
		Part Inventory in 1301.1	**8.0**
	CLN-GRNSCOTCHPAD	3M Green Scotch Pad	**8.0**
CLN-HAIRBODYWASH	**Hair and Body Shampoo, Gallon**		
		Part Inventory in 1301.1	**1.0**
	CLN-HAIRBODYWASH	Hair and Body Shampoo, Gallon	**1.0**
CLN-HANDCLEANER	**Hand Cleaner, Aerosol**		
		Part Inventory in 1301.1	**10.0**
	CLN-HANDCLEANER	Hand Cleaner, Aerosol	**10.0**
CLN-ICEMELT	**Ice Melt**		
		Part Inventory in 1301.1	**1.0**

	CLN-ICEMELT	Ice Melt	**1.0**
CLN-KITCHENROLLTOWEL	**Kitchen Roll Towels (Paper Towel Roll)**		
		Part Inventory in 1301.1	**25.0**
	CLN-KITCHENROLLTOWEL	Kitchen Roll Towels (Paper Towel Roll)	**25.0**
CLN-LGYELKITCHENGLV	**Yellow Kitchen Rubber Gloves, Large**		
		Part Inventory in 1301.1	**9.0**
	CLN-LGYELKITCHENGLV	Yellow Kitchen Rubber Gloves, Large	**9.0**
CLN-MICROPROTECTSHLD	**Microscopic Protective Shield, Aerosol**		
		Part Inventory in 1301.1	**7.0**
	CLN-MICROPROTECTSHLD	Microscopic Protective Shield, Aerosol	**7.0**
1300 Parts Warehouse 13 N P St			
CLN-NITGLOVE-L	**Gloves, Nitrile, Large**		
		Part Inventory in 1301.1	**0.0**
	CLN-NITGLOVE-L	Gloves, Nitrile, Large	**0.0**
CLN-NITGLOVE-XL	**Gloves, Nitrile, XL**		
		Part Inventory in 1301.1	**4.0**
	CLN-NITGLOVE-XL	Gloves, Nitrile, XL	**4.0**
CLN-NITGLOVE-XXL	**Gloves, Nitrile, XXL**		
		Part Inventory in 1301.1	**0.0**
	CLN-NITGLOVE-XXL	Gloves, Nitrile, XXL	**0.0**
CLN-OILPAD	**Oil Absorbent Pad, 15" X 19"**		
		Part Inventory in 1301.1	**196.0**
	CLN-OILPAD	Oil Absorbent Pad, 15" X 19"	**196.0**
CLN-OVENCLEANER	**Oven Cleaner**		
		Part Inventory in 1301.1	**1.0**
	CLN-OVENCLEANER	Oven Cleaner	**1.0**
CLN-PAPERTOWELS-WHIT	**White Paper Towels (for Continuous Roll Dispensers)**		
		Part Inventory in 1301.1	**4.0**
	CLN-PAPERTOWELS-WHIT	White Paper Towels (for Continuous Roll D	**4.0**
CLN-SCRUBS	**Scrubs Hand Towels**		
		Part Inventory in 1301.1	**6.0**
	CLN-SCRUBS	Scrubs Hand Towels	**6.0**
CLN-SHOPTOWELSBLUE	**Blue Shop Towels**		
		Part Inventory in 1301.1	**0.0**
	CLN-SHOPTOWELSBLUE	Blue Shop Towels	**0.0**
CLN-SOAPDISP-DV	**Soap Dispenser, Duraview Regal**		
		Part Inventory in 1301.1	**0.0**
	CLN-SOAPDISP-DV	Soap Dispenser, Duraview Regal	**0.0**

CLN-SOAPDISP-FOAM	**Soap Dispenser, Foaming Soap**		
		Part Inventory in 1301.1	**0.0**
	CLN-SOAPDISP-FOAM	Soap Dispenser, Foaming Soap	**0.0**
CLN-SOAPDISP-WHISK	**Soap Dispenser, Whisk Power 270 Scrub Soap**		
		Part Inventory in 1301.1	**1.0**
	CLN-SOAPDISP-WHISK	Soap Dispenser, Whisk Power 270 Scrub	**1.0**
1300 Parts Warehouse 13 N P St			
CLN-SOAP-DURAVIEW	**Soap, Duraview Regal (2 Liter)**		
		Part Inventory in 1301.1	**0.0**
	CLN-SOAP-DURAVIEW	Soap, Duraview Regal (2 Liter)	**0.0**
CLN-SOAP-FOAMAB	**Foaming Antibacterial Hand Soap**		
		Part Inventory in 1301.1	**6.0**
	CLN-SOAP-FOAMAB	Foaming Antibacterial Hand Soap	**6.0**
CLN-SOFTSOAP	**Soft Soap**		
		Part Inventory in 1301.1	**0.0**
	CLN-SOFTSOAP	Soft Soap	**0.0**
CLN-SOILREPELCOAT	**Soil Repellent Coating, Aerosol**		
		Part Inventory in 1301.1	**1.0**
	CLN-SOILREPELCOAT	Soil Repellent Coating, Aerosol	**1.0**
CLN-SPIDERKILLER	**Spider Killer**		
		Part Inventory in 1301.1	**0.0**
	CLN-SPIDERKILLER	Spider Killer	**0.0**
CLN-SPRAYBOTTLE	**Spray Bottle**		
		Part Inventory in 1301.1	**8.0**
	CLN-SPRAYBOTTLE	Spray Bottle	**8.0**
CLN-SPRAYNOZZLE	**Spray Nozzle**		
		Part Inventory in 1301.1	**5.0**
	CLN-SPRAYNOZZLE	Spray Nozzle	**5.0**
CLN-STEELWOOL	**Steel Wool Pads**		
		Part Inventory in 1301.1	**20.0**
	CLN-STEELWOOL	Steel Wool Pads	**20.0**
CLN-TBRUSHSET	**Toilet Brush and Holder**		
		Part Inventory in 1301.1	**0.0**
	CLN-TBRUSHSET	Toilet Brush and Holder	**0.0**
CLN-TISSUE	**Facial Tissue**		
		Part Inventory in 1301.1	**13.0**
	CLN-TISSUE	Facial Tissue	**13.0**

CLN-TOILETPAPER	**Toilet Paper**		
		Part Inventory in 1301.1	**71.0**
	CLN-TOILETPAPER	Toilet Paper	**71.0**
1300 Parts Warehouse 13 N P St			
CLN-TOWELS-FANFOLD	**Towels, Fan Folded (Tri-Fold)**		
		Part Inventory in 1301.1	**11.0**
	CLN-TOWELS-FANFOLD	Towels, Fan Folded (Tri-Fold)	**11.0**
CLN-TOWELS-POPUP	**Pop-Up Towels**		
		Part Inventory in 1301.1	**3.0**
	CLN-TOWELS-POPUP	Pop-Up Towels	**3.0**
CLN-TPLUNGER	**Plunger, Toilet**		
		Part Inventory in 1301.1	**0.0**
	CLN-TPLUNGER	Plunger, Toilet	**0.0**
CLN-TRASH-23X31	**Trash Bag, 23" X 31"**		
		Part Inventory in 1301.1	**4.0**
	CLN-TRASH-23X31	Trash Bag, 23" X 31"	**4.0**
CLN-TRASH-23X71	**Trash Bag, 23" X 71"**		
		Part Inventory in 1301.1	**11.0**
	CLN-TRASH-23X71	Trash Bag, 23" X 71"	**11.0**
CLN-TRASH-38X60	**Trash Bag, 38" X 60"**		
		Part Inventory in 1301.1	**7.0**
	CLN-TRASH-38X60	Trash Bag, 38" X 60"	**7.0**
CLN-WASPSPRAY	**Wasp and Hornet Spray**		
		Part Inventory in 1301.1	**0.0**
	CLN-WASPSPRAY	Wasp and Hornet Spray	**0.0**
CLN-WINDEX	**Windex, Gallon**		
		Part Inventory in 1301.1	**2.0**
	CLN-WINDEX	Windex, Gallon	**2.0**
CLN-WP270SCRUBSOAP	**Whisk Power 270 Scrub Soap**		
		Part Inventory in 1301.1	**2.0**
	CLN-WP270SCRUBSOAP	Whisk Power 270 Scrub Soap	**2.0**
CLN-XLYELKITCHENGLV	**Yellow Kitchen Rubber Glove, Extra Large**		
		Part Inventory in 1301.1	**8.0**
	CLN-XLYELKITCHENGLV	Yellow Kitchen Rubber Glove, Extra Large	**8.0**
CLR-BRUSH-SCUM	**Brush to go on flight arm (Scum)**		
		Part Inventory in 1301.1	**4.0**
	CLR-BRUSH-SCUM	Brush to go on flight arm (Scum)	**4.0**
1300 Parts Warehouse 13 N P St			

CLR-COVEBASE-4	**Cove Base, 4", for Clarifier Seals**		
		Part Inventory in 1301.1	**72.0**
	CLR-COVEBASE-4	Cove Base, 4", for Clarifier Seals	**72.0**
CLR-CYCLO-INTSHFTRLR	**Intermediate Shaft Roller, for S-M Cyclo Speed Reducer, P Stre**		
		Part Inventory in 1301.1	**5.0**
	CLR-CYCLO-INTSHFTRLR	Intermediate Shaft Roller, for S-M Cyclo S	**5.0**
CLR-ENV-B-46323	**Skimmer Squeegee for 6'-0" Scum Box, Envirodyne P/N B-463**		
		Part Inventory in 1301.1	**2.0**
	CLR-ENV-B-46323	Skimmer Squeegee for 6'-0" Scum Box, E	**2.0**
CLR-ENV-B-46324	**Skimmer End Wiper, Envirodyne P/N B-46324**		
		Part Inventory in 1301.1	**4.0**
	CLR-ENV-B-46324	Skimmer End Wiper, Envirodyne P/N B-46	**4.0**
CLR-ENV-B-62219	**Scum Shelf Gasket #1, 4'-3", Envirodyne P/N B-62219**		
		Part Inventory in 1301.1	**1.0**
	CLR-ENV-B-62219	Scum Shelf Gasket #1, 4'-3", Envirodyne F	**1.0**
CLR-ENV-B-62220	**Scum Shelf Gasket #2, 4'-10", Envirodyne P/N B-62220**		
		Part Inventory in 1301.1	**1.0**
	CLR-ENV-B-62220	Scum Shelf Gasket #2, 4'-10", Envirodyne	**1.0**
CLR-ENV-B-62258	**Cover Plate Gasket, Envirodyne P/N B-62258**		
		Part Inventory in 1301.1	**2.0**
	CLR-ENV-B-62258	Cover Plate Gasket, Envirodyne P/N B-62	**2.0**
CLR-ENV-B-62289	**Manifold Hand Hole Cover Gasket, Envirodyne P/N B-62289**		
		Part Inventory in 1301.1	**4.0**
	CLR-ENV-B-62289	Manifold Hand Hole Cover Gasket, Enviro	**4.0**
CLR-MTLSCRPR-120X6	**Scraper, Metal, 120" X 6", for P Street Secondary Clarifiers**		
		Part Inventory in 1301.1	**10.0**
	CLR-MTLSCRPR-120X6	Scraper, Metal, 120" X 6", for P Street Sec	**10.0**
CLR-MTLSCRPR-48X6	**Scraper, Metal, 48" X 6", for P Street Secondary Clarifiers**		
		Part Inventory in 1301.1	**20.0**
	CLR-MTLSCRPR-48X6	Scraper, Metal, 48" X 6", for P Street Secc	**20.0**
CLR-MTLSCRPR-57X4.5	**Scraper, Metal, 57" X 4 1/2", for P Street Secondary Clarifiers**		
		Part Inventory in 1301.1	**2.0**
	CLR-MTLSCRPR-57X4.5	Scraper, Metal, 57" X 4 1/2", for P Street S	**2.0**
1300 Parts Warehouse 13 N P St			
CLR-WT-B-62286	**Outside Neoprene Seal, Westech P/N B-62286, for Clarifiers #1**		
		Part Inventory in 1301.1	**8.0**
	CLR-WT-B-62286	Outside Neoprene Seal, Westech P/N B-6	**8.0**
CLR-WT-B-62287	**Inside Neoprene Seal, Westech P/N B-62287, for Clarifiers #1, #**		

		Part Inventory in 1301.1	**8.0**
	CLR-WT-B-62287	Inside Neoprene Seal, Westech P/N B-622	**8.0**
CLR-WT-B-63017	**Inside Neoprene Seal, Westech P/N B-63017, for Clarifiers #5, #**		
		Part Inventory in 1301.1	**8.0**
	CLR-WT-B-63017	Inside Neoprene Seal, Westech P/N B-630	**8.0**
CLR-WT-B-63018	**Outside Neoprene Seal, Westech P/N B-63018, for Clarifiers #5**		
		Part Inventory in 1301.1	**8.0**
	CLR-WT-B-63018	Outside Neoprene Seal, Westech P/N B-6	**8.0**
CNV-BELT-30"X117.5'	**Belt, Conveyor, 30" X 117' 6"**		
		Part Inventory in 1301.1	**1.0**
	CNV-BELT-30"X117.5'	Belt, Conveyor, 30" X 117' 6"	**1.0**
CNV-LACING-.059X96	**Lacing Wire, for Sludge Belts, .059" X 8'**		
		Part Inventory in 1301.1	**2.0**
	CNV-LACING-.059X96	Lacing Wire, for Sludge Belts, .059" X 8'	**2.0**
CNV-LACING-NC-24-1	**Lacing, NC-24-1 (for Massard Conveyor Belt)**		
		Part Inventory in 1301.1	**0.0**
	CNV-LACING-NC-24-1	Lacing, NC-24-1 (for Massard Conveyor B	**0.0**
CNV-REPAIRCLEAT	**Cleat, Repair, for Conveyor Belts**		
		Part Inventory in 1301.1	**250.0**
	CNV-REPAIRCLEAT	Cleat, Repair, for Conveyor Belts	**250.0**
CPL-4FLEXSLEEVE-H	**Flex Sleeve, 4", Type H**		
		Part Inventory in 1301.1	**1.0**
	CPL-4FLEXSLEEVE-H	Flex Sleeve, 4", Type H	**1.0**
CPL-BRWNG-JS4U-SPIDE	**Coupling, Jaw, Flexible, Browning JS4U Spider**		
		Part Inventory in 1301.1	**2.0**
	CPL-BRWNG-JS4U-SPIDE	Coupling, Jaw, Flexible, Browning JS4U S	**2.0**
CPL-EUR1657313SPIDER	**Rubber Spyder, EUR1657313**		
		Part Inventory in 1301.1	**1.0**
	CPL-EUR1657313SPIDER	Rubber Spyder, EUR1657313	**1.0**
1300 Parts Warehouse 13 N P St			
CPL-FALK-0360573	**Cover, Nylon, 20R, Falk Wrapflex P/N 0360573**		
		Part Inventory in 1301.1	**2.0**
	CPL-FALK-0360573	Cover, Nylon, 20R, Falk Wrapflex P/N 036	**2.0**
CPL-FALK-0789008	**Element, 20R, Falk Wrapflex P/N 0789008**		
		Part Inventory in 1301.1	**1.0**
	CPL-FALK-0789008	Element, 20R, Falk Wrapflex P/N 0789008	**1.0**
CPL-FALK-0789452	**Hub, 20R10, 1.85" Bore, 1/2" X 1/4" Keyway, Falk Wrapflex P/N**		
		Part Inventory in 1301.1	**4.0**

	CPL-FALK-0789452	Hub, 20R10, 1.85" Bore, 1/2" X 1/4" Keyw	**4.0**
CPL-FALK-1060WA	**Flex Element Assembly, Falk P/N 1060WA**		
		Part Inventory in 1301.1	**1.0**
	CPL-FALK-1060WA	Flex Element Assembly, Falk P/N 1060WA	**1.0**
CPL-FLEX-SL-6JE	**Sleeve, Lovejoy, 6JE**		
		Part Inventory in 1301.1	**1.0**
	CPL-FLEX-SL-6JE	Sleeve, Lovejoy, 6JE	**1.0**
CPL-L050SPIDER	**Coupling, Jaw, Flexible, L050 Spider**		
		Part Inventory in 1301.1	**4.0**
	CPL-L050SPIDER	Coupling, Jaw, Flexible, L050 Spider	**4.0**
CPL-L075HUB-0.875"	**Coupling, Jaw, Flexible, 0.875", L075 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L075HUB-0.875"	Coupling, Jaw, Flexible, 0.875", L075 Hub	**1.0**
CPL-L075SPIDER	**Coupling, Jaw, Flexible, L075 Spider**		
		Part Inventory in 1301.1	**3.0**
	CPL-L075SPIDER	Coupling, Jaw, Flexible, L075 Spider	**3.0**
CPL-L090HUB-0.750"	**Coupling, Jaw, Flexible, 0.750", L090 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L090HUB-0.750"	Coupling, Jaw, Flexible, 0.750", L090 Hub	**1.0**
CPL-L090HUB-0.875"	**Coupling, Jaw, Flexible, 0.875", L090 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L090HUB-0.875"	Coupling, Jaw, Flexible, 0.875", L090 Hub	**1.0**
CPL-L090-L095-SPIDER	**Coupling, Jaw, Flexible, L090-L095 Spider**		
		Part Inventory in 1301.1	**9.0**
	CPL-L090-L095-SPIDER	Coupling, Jaw, Flexible, L090-L095 Spider	**9.0**
1300 Parts Warehouse 13 N P St			
CPL-L095HUB-1.000"	**Coupling, Jaw, Flexible, 1.000", L095 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L095HUB-1.000"	Coupling, Jaw, Flexible, 1.000", L095 Hub	**1.0**
CPL-L095HUB-1.125"	**Coupling, Jaw, Flexible, 1.125", L095 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L095HUB-1.125"	Coupling, Jaw, Flexible, 1.125", L095 Hub	**1.0**
CPL-L099-L100-SPIDER	**Coupling, Jaw, Flexible, L099-L100 Spider**		
		Part Inventory in 1301.1	**3.0**
	CPL-L099-L100-SPIDER	Coupling, Jaw, Flexible, L099-L100 Spider	**3.0**
CPL-L110HUB-0.875"	**Coupling, Jaw, Flexible, 0.875", L110 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L110HUB-0.875"	Coupling, Jaw, Flexible, 0.875", L110 Hub	**1.0**

CPL-L110HUB-1.500"	**Coupling, Jaw, Flexible, 1.500", L110 Hub**		
		Part Inventory in 1301.1	**1.0**
	CPL-L110HUB-1.500"	Coupling, Jaw, Flexible, 1.500", L110 Hub	**1.0**
CPL-L110-SPIDER	**Coupling, Jaw, Flexible, L110 Spider**		
		Part Inventory in 1301.1	**1.0**
	CPL-L110-SPIDER	Coupling, Jaw, Flexible, L110 Spider	**1.0**
CPL-L150-L160-SPIDER	**Coupling, Jaw, Flexible, L150-l160 Spider**		
		Part Inventory in 1301.1	**2.0**
	CPL-L150-L160-SPIDER	Coupling, Jaw, Flexible, L150-l160 Spider	**2.0**
CPL-MARTIN-7EM-QUAD	**Coupling Sleeve, Quadra Flex, Martin P/N 7EM**		
		Part Inventory in 1301.1	**3.0**
	CPL-MARTIN-7EM-QUAD	Coupling Sleeve, Quadra Flex, Martin P/N	**3.0**
CPL-MUFFINMONSTERDRV	**Drive Coupling for Muffin Monster**		
		Part Inventory in 1301.1	**6.0**
	CPL-MUFFINMONSTERDRV	Drive Coupling for Muffin Monster	**6.0**
CPL-SFLEX-10INS	**Flexible Coupling, Insert, Lovejoy S-Flex, Size 10**		
		Part Inventory in 1301.1	**2.0**
	CPL-SFLEX-10INS	Flexible Coupling, Insert, Lovejoy S-Flex, S	**2.0**
CPL-SFLEX-3INS	**Flexible Coupling, Insert, Lovejoy S-Flex, Size 3**		
		Part Inventory in 1301.1	**1.0**
	CPL-SFLEX-3INS	Flexible Coupling, Insert, Lovejoy S-Flex, S	**1.0**
1300 Parts Warehouse 13 N P St			
CPL-SFLEX-7INS	**Flexible Coupling, Insert, Lovejoy S-Flex, Size 7**		
		Part Inventory in 1301.1	**1.0**
	CPL-SFLEX-7INS	Flexible Coupling, Insert, Lovejoy S-Flex, S	**1.0**
CTR-AMETEK-40190220	**Analog Input Rate/Totalizer, 115 vac, 10 va Max., Ametek P/N 4**		
		Part Inventory in 1301.1	**1.0**
	CTR-AMETEK-40190220	Analog Input Rate/Totalizer, 115 vac, 10 v	**1.0**
CTR-B/W-F44500LA-8	**Meter, Flow, Blue-White Model # F44500LA-8**		
		Part Inventory in 1301.1	**5.0**
	CTR-B/W-F44500LA-8	Meter, Flow, Blue-White Model # F44500L	**5.0**
CTR-B/W-F45750LE-12	**Meter, Flow, Blue-White Model # F45750LE-12**		
		Part Inventory in 1301.1	**6.0**
	CTR-B/W-F45750LE-12	Meter, Flow, Blue-White Model # F45750L	**6.0**
CTR-BROOKS-16X864	**Flowmeter, Water, 1 - 10 GPH, Brooks (Grainger) P/N 16X864**		
		Part Inventory in 1301.1	**0.0**
	CTR-BROOKS-16X864	Flowmeter, Water, 1 - 10 GPH, Brooks (Gr	**0.0**

CTR-CALKIT-METHANE	**Calibration Kit (Methane)**	
	Part Inventory in 1301.1	**1.0**
CTR-CALKIT-METHANE	Calibration Kit (Methane)	**1.0**
CTR-DWYER-RMC143SSV	**Flow Meter (Rotameter), Dwyer Cat. # RMC-143-SSV**	
	Part Inventory in 1301.1	**2.0**
CTR-DWYER-RMC143SSV	Flow Meter (Rotameter), Dwyer Cat. # RM	**2.0**
CTR-HACH-6028P025	**Sensor, pH, Encapsulated, Hach P/N 6028P025, with 25' Cable**	
	Part Inventory in 1301.1	**1.0**
CTR-HACH-6028P025	Sensor, pH, Encapsulated, Hach P/N 602	**1.0**
CTR-HEATER-AIRSCRUB	**Heater Controller for Air Scrubber**	
	Part Inventory in 1301.1	**1.0**
CTR-HEATER-AIRSCRUB	Heater Controller for Air Scrubber	**1.0**
CTR-KEYPAD-MILLTRONI	**Key Pad Assembly, Milltronics CompU Weight Scale**	
	Part Inventory in 1301.1	**1.0**
CTR-KEYPAD-MILLTRONI	Key Pad Assembly, Milltronics CompU We	**1.0**
CTR-MERC-PBLT20060	**Level Transducer, Submersible, Mercoid P/N PBLT-20-060**	
	Part Inventory in 1301.1	**0.0**
CTR-MERC-PBLT20060	Level Transducer, Submersible, Mercoid F	**0.0**
1300 Parts Warehouse 13 N P St		
CTR-MERC-PBLT210060	**Level Transducer, Submersible, Mercoid P/N PBLT2-10-060**	
	Part Inventory in 1301.1	**0.0**
CTR-MERC-PBLT210060	Level Transducer, Submersible, Mercoid F	**0.0**
CTR-MERC-PBLT21020	**Level Transducer, Submersible, Mercoid P/N PBLT2-10-20**	
	Part Inventory in 1301.1	**0.0**
CTR-MERC-PBLT21020	Level Transducer, Submersible, Mercoid F	**0.0**
CTR-MERC-PBLT220040	**Level Transducer, Submersible, Mercoid P/N PBLT2-20-040**	
	Part Inventory in 1301.1	**0.0**
CTR-MERC-PBLT220040	Level Transducer, Submersible, Mercoid F	**0.0**
CTR-METHANE-3.6CUFT	**Methane, 3.6 Cu. Ft., for Calibration**	
	Part Inventory in 1301.1	**2.0**
CTR-METHANE-3.6CUFT	Methane, 3.6 Cu. Ft., for Calibration	**2.0**
CTR-PLT&BRKTASSY	**Pilot & Bracket Assembly, for Massard ClaVal (Conditioning Ta**	
	Part Inventory in 1301.1	**4.0**
CTR-PLT&BRKTASSY	Pilot & Bracket Assembly, for Massard Cla	**4.0**
CTR-WATLOW-CVC1KH000	**Controller, Temperature, Watlow P/N CVC1KH00002000D**	
	Part Inventory in 1301.1	**1.0**
CTR-WATLOW-CVC1KH000	Controller, Temperature, Watlow P/N CVC	**1.0**
CYL-ASH-031038	**Cylinder, Tension, Hydraulic, 3 1/4" X 6"Ashbrook Simon-Hartl**	

		Part Inventory in 1301.1	**2.0**
	CYL-ASH-031038	Cylinder, Tension, Hydraulic, 3 1/4" X 6"As	**2.0**
CYL-FRANKLIN-SR062R	**Cylinder, Air w/Spring Return, Franklin Automation P/N SR-062**		
		Part Inventory in 1301.1	**1.0**
	CYL-FRANKLIN-SR062R	Cylinder, Air w/Spring Return, Franklin Aut	**1.0**
DCL-SIE-W2T12873	**Diaphragm, T.B., 0.875" HATD Pmp, Siemens P/N W2T12873**		
		Part Inventory in 1301.1	**1.0**
	DCL-SIE-W2T12873	Diaphragm, T.B., 0.875" HATD Pmp, Siem	**1.0**
DCL-VAL-8500312S1439	**Calibration Column (Draw Down Tube), Valcom P/N 85003-12/S**		
		Part Inventory in 1301.1	**1.0**
	DCL-VAL-8500312S1439	Calibration Column (Draw Down Tube), Va	**1.0**
ELE-AB-802T-W3A	**Spring Lever Arm, Limit Switch, Allen-Bradley P/N 802T-W3A**		
		Part Inventory in 1301.1	**4.0**
	ELE-AB-802T-W3A	Spring Lever Arm, Limit Switch, Allen-Brad	**4.0**
1300 Parts Warehouse 13 N P St			
ELE-AB-872CD15NE30A2	**Proximity Switch, Allen-Bradley P/N 872C-D15NE30-A2**		
		Part Inventory in 1301.1	**5.0**
	ELE-AB-872CD15NE30A2	Proximity Switch, Allen-Bradley P/N 872C-	**5.0**
ELE-AB-STARTER1	**Starter, Size 1, Allen-Bradley, 3 Phase, 120 V. Coil**		
		Part Inventory in 1301.1	**1.0**
	ELE-AB-STARTER1	Starter, Size 1, Allen-Bradley, 3 Phase, 12	**1.0**
ELE-AUTOBAT-SSB78-72	**Auto Battery, SSB 78-72**		
		Part Inventory in 1301.1	**4.0**
	ELE-AUTOBAT-SSB78-72	Auto Battery, SSB 78-72	**4.0**
ELE-AUTOBATTERYCABLE	**Battery Cable, Auto, Positive (Red), 24" long**		
		Part Inventory in 1301.1	**1.0**
	ELE-AUTOBATTERYCABLE	Battery Cable, Auto, Positive (Red), 24" lo	**1.0**
ELE-AUTOLIGHT-MARKER	**Marker Light**		
		Part Inventory in 1301.1	**0.0**
	ELE-AUTOLIGHT-MARKER	Marker Light	**0.0**
ELE-BATTERY-"AA"	**Battery, Alkaline, AA**		
		Part Inventory in 1301.1	**11.0**
	ELE-BATTERY-"AA"	Battery, Alkaline, AA	**11.0**
ELE-BATTERY-"AAA"	**Battery, Alkaline, AAA**		
		Part Inventory in 1301.1	**49.0**
	ELE-BATTERY-"AAA"	Battery, Alkaline, AAA	**49.0**
ELE-BATTERY-"C"CELL	**"C" Cell Battery**		
		Part Inventory in 1301.1	**4.0**

	ELE-BATTERY-"C"CELL	"C" Cell Battery	**4.0**
ELE-BATTERY-"D"CELL	**Battery, Alkaline, D Cell**		
		Part Inventory in 1301.1	**5.0**
	ELE-BATTERY-"D"CELL	Battery, Alkaline, D Cell	**5.0**
ELE-BATTERY-9VOLT	**Battery, Alkaline, 9 Volt**		
		Part Inventory in 1301.1	**4.0**
	ELE-BATTERY-9VOLT	Battery, Alkaline, 9 Volt	**4.0**
ELE-BAT-UL357-WATCH	**Battery, Watch/Electronics, UL357, for micrometers**		
		Part Inventory in 1301.1	**3.0**
	ELE-BAT-UL357-WATCH	Battery, Watch/Electronics, UL357, for mic	**3.0**
1300 Parts Warehouse 13 N P St			
ELE-CCPF-230/2015/3	**Receptacle (Cord Cap), 3 Wire, 20/15 Amp Combination, 230 V**		
		Part Inventory in 1301.1	**0.0**
	ELE-CCPF-230/2015/3	Receptacle (Cord Cap), 3 Wire, 20/15 Amp	**0.0**
ELE-CCPM-120/15/3	**Plug (Cord Cap), 3 Wire, 15 amp, 120 volt**		
		Part Inventory in 1301.1	**0.0**
	ELE-CCPM-120/15/3	Plug (Cord Cap), 3 Wire, 15 amp, 120 volt	**0.0**
ELE-COND90-AL-1.50	**90° Elbow, Aluminum Conduit, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	ELE-COND90-AL-1.50	90° Elbow, Aluminum Conduit, 1 1/2"	**0.0**
ELE-CONDUIT-AL-1.50	**Conduit, Rigid, Aluminum, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	ELE-CONDUIT-AL-1.50	Conduit, Rigid, Aluminum, 1 1/2"	**0.0**
ELE-CORDCON-1.25"	**Cord Connector, 1 1/4", for cord 1.00"-1.125"**		
		Part Inventory in 1301.1	**1.0**
	ELE-CORDCON-1.25"	Cord Connector, 1 1/4", for cord 1.00"-1.12	**1.0**
ELE-CORDCON-SS-0.5	**Cord Connector, Stainless Steel, 1/2", for 0.375" - 0.500" Cord**		
		Part Inventory in 1301.1	**1.0**
	ELE-CORDCON-SS-0.5	Cord Connector, Stainless Steel, 1/2", for (	**1.0**
ELE-CORDCON-SS-1.25	**Cord Connector, Stainless Steel, 1 1/4" for 1.00" - 1.25" Cord**		
		Part Inventory in 1301.1	**1.0**
	ELE-CORDCON-SS-1.25	Cord Connector, Stainless Steel, 1 1/4" for	**1.0**
ELE-COUP-AL-1.50	**Coupling, Aluminum, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	ELE-COUP-AL-1.50	Coupling, Aluminum, 1 1/2"	**0.0**
ELE-DCDRIVE-MASSCRUB	**Drive, D.C., for Massard Scrubber**		
		Part Inventory in 1301.1	**1.0**
	ELE-DCDRIVE-MASSCRUB	Drive, D.C., for Massard Scrubber	**1.0**

ELE-DUCTSEAL	**Duct Seal Compound**		
		Part Inventory in 1301.1	**0.0**
	ELE-DUCTSEAL	Duct Seal Compound	**0.0**
ELE-EPOXY-JBOXSEALNT	**Epoxy for Sealing Motor Leads in Peckerhead**		
		Part Inventory in 1301.1	**2.0**
	ELE-EPOXY-JBOXSEALNT	Epoxy for Sealing Motor Leads in Peckerh	**2.0**
1300 Parts Warehouse 13 N P St			
ELE-FESTCAB/HOSECAR	**Festoon Cable/Hose Car for Round Cable**		
		Part Inventory in 1301.1	**2.0**
	ELE-FESTCAB/HOSECAR	Festoon Cable/Hose Car for Round Cable	**2.0**
ELE-FLYGTCAS14407129	**Mini-CAS Unit, Flygt P/N 14-407129**		
		Part Inventory in 1301.1	**2.0**
	ELE-FLYGTCAS14407129	Mini-CAS Unit, Flygt P/N 14-407129	**2.0**
ELE-FUSE-AGC1/2	**Fuse, AGC 1/2**		
		Part Inventory in 1301.1	**10.0**
	ELE-FUSE-AGC1/2	Fuse, AGC 1/2	**10.0**
ELE-FUSE-AGC1/4	**Fuse, AGC 1/4**		
		Part Inventory in 1301.1	**9.0**
	ELE-FUSE-AGC1/4	Fuse, AGC 1/4	**9.0**
ELE-FUSE-AGC5	**Fuse, AGC-5**		
		Part Inventory in 1301.1	**1.0**
	ELE-FUSE-AGC5	Fuse, AGC-5	**1.0**
ELE-FUSE-ATC25	**Fuse, ATC-25**		
		Part Inventory in 1301.1	**4.0**
	ELE-FUSE-ATC25	Fuse, ATC-25	**4.0**
ELE-FUSE-ATC7 1/2	**Fuse, ATC 7 1/2**		
		Part Inventory in 1301.1	**4.0**
	ELE-FUSE-ATC7 1/2	Fuse, ATC 7 1/2	**4.0**
ELE-FUSE-ATDR10	**Fuse, ATDR-10**		
		Part Inventory in 1301.1	**12.0**
	ELE-FUSE-ATDR10	Fuse, ATDR-10	**12.0**
ELE-FUSE-ATDR5	**Fuse, ATDR-5**		
		Part Inventory in 1301.1	**12.0**
	ELE-FUSE-ATDR5	Fuse, ATDR-5	**12.0**
ELE-FUSE-ATM2	**Fuse, ATM-2**		
		Part Inventory in 1301.1	**3.0**
	ELE-FUSE-ATM2	Fuse, ATM-2	**3.0**

ELE-FUSE-ATM7 1/2	**Fuse, ATM-7-1/2**	
	Part Inventory in 1301.1	**2.0**
ELE-FUSE-ATM7 1/2	Fuse, ATM-7-1/2	**2.0**
1300 Parts Warehouse 13 N P St		
ELE-FUSE-ATO15	**Fuse, ATO 15**	
	Part Inventory in 1301.1	**0.0**
ELE-FUSE-ATO15	Fuse, ATO 15	**0.0**
ELE-FUSE-ATO25	**Fuse, ATO 25**	
	Part Inventory in 1301.1	**5.0**
ELE-FUSE-ATO25	Fuse, ATO 25	**5.0**
ELE-FUSE-ATO30	**Fuse, ATO 30**	
	Part Inventory in 1301.1	**7.0**
ELE-FUSE-ATO30	Fuse, ATO 30	**7.0**
ELE-FUSE-ATO5	**Fuse, ATO 5**	
	Part Inventory in 1301.1	**2.0**
ELE-FUSE-ATO5	Fuse, ATO 5	**2.0**
ELE-FUSE-GGC2	**Fuse, GGC-2**	
	Part Inventory in 1301.1	**12.0**
ELE-FUSE-GGC2	Fuse, GGC-2	**12.0**
ELE-FUSE-GMA1/2	**Fuse, GMA 1/2**	
	Part Inventory in 1301.1	**2.0**
ELE-FUSE-GMA1/2	Fuse, GMA 1/2	**2.0**
ELE-FUSEHOLD-REG10	**Fuse Holder, Regular, 10 Gauge**	
	Part Inventory in 1301.1	**0.0**
ELE-FUSEHOLD-REG10	Fuse Holder, Regular, 10 Gauge	**0.0**
ELE-GALVDUCTPIPE-10"	**Duct Pipe, Galvanized, 10"**	
	Part Inventory in 1301.1	**0.0**
ELE-GALVDUCTPIPE-10"	Duct Pipe, Galvanized, 10"	**0.0**
ELE-HVAC-COILCLEANER	**Coil Cleaner, Aerosol Can**	
	Part Inventory in 1301.1	**5.0**
ELE-HVAC-COILCLEANER	Coil Cleaner, Aerosol Can	**5.0**
ELE-HVAC-DAYTON2MDV6	**Capacitor, 7.5 MFD, 370 VAC, Oval (Run), Dayton P/N 2MDV6**	
	Part Inventory in 1301.1	**1.0**
ELE-HVAC-DAYTON2MDV6	Capacitor, 7.5 MFD, 370 VAC, Oval (Run)	**1.0**
ELE-HVAC-ELBOW-24	**Elbow, 24" Adjustable, HVAC**	
	Part Inventory in 1301.1	**0.0**
ELE-HVAC-ELBOW-24	Elbow, 24" Adjustable, HVAC	**0.0**

ELE-HVAC-FANLIMIT11	**Fan and Limit Controller, 11" Kit**		
		Part Inventory in 1301.1	**2.0**
	ELE-HVAC-FANLIMIT11	Fan and Limit Controller, 11" Kit	**2.0**
ELE-HVAC-HUMIDISTAT	**Humidistat, 7 1/2", Honeywell P/N H49A 1019**		
		Part Inventory in 1301.1	**1.0**
	ELE-HVAC-HUMIDISTAT	Humidistat, 7 1/2", Honeywell P/N H49A 1(	**1.0**
ELE-HVAC-HWQ390A1061	**Thermocouple, 36" Universal, Honeywell P/N Q390A1061**		
		Part Inventory in 1301.1	**1.0**
	ELE-HVAC-HWQ390A1061	Thermocouple, 36" Universal, Honeywell F	**1.0**
ELE-HVAC-THERMCPL-24	**Thermocouple, 24"**		
		Part Inventory in 1301.1	**0.0**
	ELE-HVAC-THERMCPL-24	Thermocouple, 24"	**0.0**
ELE-HVAC-WR3LO5-1	**Limit Control, Adjustable Snap Disc, White-Rodgers P/N 3LO5**		
		Part Inventory in 1301.1	**1.0**
	ELE-HVAC-WR3LO5-1	Limit Control, Adjustable Snap Disc, White	**1.0**
ELE-HVAC-WRHO6E-48	**Thermocouple, 48" Univ., Gas Pilot Light Cont., White-Rodgers**		
		Part Inventory in 1301.1	**1.0**
	ELE-HVAC-WRHO6E-48	Thermocouple, 48" Univ., Gas Pilot Light C	**1.0**
ELE-LIT400WP	**Light, 400 Watt Metal Halide Wall Pack**		
		Part Inventory in 1301.1	**1.0**
	ELE-LIT400WP	Light, 400 Watt Metal Halide Wall Pack	**1.0**
ELE-LS-SPRINGARM12	**Lever Arm Steel Spring Rod, 12" Long, Square D 9007 FA-3**		
		Part Inventory in 1301.1	**3.0**
	ELE-LS-SPRINGARM12	Lever Arm Steel Spring Rod, 12" Long, Sq	**3.0**
ELE-MOISTUREDISPLACE	**Moisture Displacer for Electrical Equipment, Aerosol**		
		Part Inventory in 1301.1	**13.0**
	ELE-MOISTUREDISPLACE	Moisture Displacer for Electrical Equipmen	**13.0**
ELE-OL-AB-W31	**Overload, Heater, Allen-Bradley W31**		
		Part Inventory in 1301.1	**3.0**
	ELE-OL-AB-W31	Overload, Heater, Allen-Bradley W31	**3.0**
ELE-OL-AB-W36	**Overload, Heater, Allen-Bradley W36**		
		Part Inventory in 1301.1	**1.0**
	ELE-OL-AB-W36	Overload, Heater, Allen-Bradley W36	**1.0**
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ELE-OL-AB-W38	**Overload, Heater, Allen-Bradley W38**		
		Part Inventory in 1301.1	**3.0**
	ELE-OL-AB-W38	Overload, Heater, Allen-Bradley W38	**3.0**
ELE-RESISTR-BR0015SP	**Resistor, with Fuse, P/N BR0015SP (for Air Scrubber)**		

		Part Inventory in 1301.1	**2.0**
	ELE-RESISTR-BR0015SP	Resistor, with Fuse, P/N BR0015SP (for A	**2.0**
ELE-RINGTERM-BL-1/4	**Ring Terminal, Blue (14-16 Gauge), 1/4" Hole**		
		Part Inventory in 1301.1	**0.0**
	ELE-RINGTERM-BL-1/4	Ring Terminal, Blue (14-16 Gauge), 1/4" H	**0.0**
ELE-RINGTERM-BL-5/16	**Ring Terminal, Blue (14-16 Gauge), 5/16" Hole**		
		Part Inventory in 1301.1	**0.0**
	ELE-RINGTERM-BL-5/16	Ring Terminal, Blue (14-16 Gauge), 5/16"	**0.0**
ELE-RINGTERM-YE-1/4	**Ring Terminal, Yellow (10-12 Gauge), 1/4" Hole**		
		Part Inventory in 1301.1	**0.0**
	ELE-RINGTERM-YE-1/4	Ring Terminal, Yellow (10-12 Gauge), 1/4"	**0.0**
ELE-SQD-9007BTURRET	**Turret Head, for 9007B Limit Switch**		
		Part Inventory in 1301.1	**0.0**
	ELE-SQD-9007BTURRET	Turret Head, for 9007B Limit Switch	**0.0**
ELE-TAPCUBE-1M3F	**Tapcube, 1 Male, 3 Female**		
		Part Inventory in 1301.1	**0.0**
	ELE-TAPCUBE-1M3F	Tapcube, 1 Male, 3 Female	**0.0**
ELE-TIEWRAP-4.00X0.1	**Tie Wrap, 4.00" X 0.100"**		
		Part Inventory in 1301.1	**9.0**
	ELE-TIEWRAP-4.00X0.1	Tie Wrap, 4.00" X 0.100"	**9.0**
ELE-TIEWRAP-7.75X0.1	**Tie Wrap, 7 3/4" X 0.100"**		
		Part Inventory in 1301.1	**0.0**
	ELE-TIEWRAP-7.75X0.1	Tie Wrap, 7 3/4" X 0.100"	**0.0**
ELE-TRAILERCONN-6PIN	**Trailer Connector, 6 Pin**		
		Part Inventory in 1301.1	**0.0**
	ELE-TRAILERCONN-6PIN	Trailer Connector, 6 Pin	**0.0**
ELE-TRLRPLUGEXT	**Trailer Plug Extension**		
		Part Inventory in 1301.1	**0.0**
	ELE-TRLRPLUGEXT	Trailer Plug Extension	**0.0**
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FIL-AIR-42487	**Filter, Air, Wix P/N 42487**		
		Part Inventory in 1301.1	**0.0**
	FIL-AIR-42487	Filter, Air, Wix P/N 42487	**0.0**
FIL-AP-HOUS-3/8	**Housing, Slim Line, 3/8", American Plumbing**		
		Part Inventory in 1301.1	**1.0**
	FIL-AP-HOUS-3/8	Housing, Slim Line, 3/8", American Plumbi	**1.0**
FIL-AP-W20CLA-SED	**Filter, Sediment Cartridge, 20 M, American Plumber P/N W20C**		
		Part Inventory in 1301.1	**0.0**

	FIL-AP-W20CLA-SED	Filter, Sediment Cartridge, 20 M, Americar	**0.0**
FIL-AP-W5CIP-CARBON	**Filter Cartridge, Undersink, Carbon, American Plumber W5CIP**		
		Part Inventory in 1301.1	**1.0**
	FIL-AP-W5CIP-CARBON	Filter Cartridge, Undersink, Carbon, Ameri	**1.0**
FIL-AP-W5CP-POLYSED	**Filter, 5M Poly Sediment Cartridge, American Plumber P/N W5**		
		Part Inventory in 1301.1	**26.0**
	FIL-AP-W5CP-POLYSED	Filter, 5M Poly Sediment Cartridge, Americ	**26.0**
FIL-CABIN	**Filter, Cabin**		
		Part Inventory in 1301.1	**0.0**
	FIL-CABIN	Filter, Cabin	**0.0**
FIL-FUEL-1258143012	**Filter, Fuel, Kubota P/N 12581-43012**		
		Part Inventory in 1301.1	**0.0**
	FIL-FUEL-1258143012	Filter, Fuel, Kubota P/N 12581-43012	**0.0**
FIL-FUEL-1878042C93	**Filter, Fuel, 1878042C93**		
		Part Inventory in 1301.1	**0.0**
	FIL-FUEL-1878042C93	Filter, Fuel, 1878042C93	**0.0**
FIL-FUEL-33481	**Filter, Fuel, Wix P/N 33481**		
		Part Inventory in 1301.1	**0.0**
	FIL-FUEL-33481	Filter, Fuel, Wix P/N 33481	**0.0**
FIL-HVAC-24X24X1	**Filter, HVAC, 24" X 24" X 1"**		
		Part Inventory in 1301.1	**0.0**
	FIL-HVAC-24X24X1	Filter, HVAC, 24" X 24" X 1"	**0.0**
FIL-HVAC-25X25X1	**Filter, HVAC, 25" X 25" X 1"**		
		Part Inventory in 1301.1	**8.0**
	FIL-HVAC-25X25X1	Filter, HVAC, 25" X 25" X 1"	**8.0**
1300 Parts Warehouse 13 N P St			
FIL-OIL-WIX51551	**Filter, Oil, Wix 51551**		
		Part Inventory in 1301.1	**4.0**
	FIL-OIL-WIX51551	Filter, Oil, Wix 51551	**4.0**
FIL-PURAFIL-PK12-PCB	**Filter, Carbon, Module, Puracarb Media, Purafil P/N PK12-PCB**		
		Part Inventory in 1301.1	**1.0**
	FIL-PURAFIL-PK12-PCB	Filter, Carbon, Module, Puracarb Media, P	**1.0**
GAG-PRESS-2"-0-160	**Pressure Gauge, 2", 0 - 160#**		
		Part Inventory in 1301.1	**0.0**
	GAG-PRESS-2"-0-160	Pressure Gauge, 2", 0 - 160#	**0.0**
GAG-PRESS-2.5"-0-100	**Pressure Gauge, 2 1/2", 0# - 100#**		
		Part Inventory in 1301.1	**0.0**
	GAG-PRESS-2.5"-0-100	Pressure Gauge, 2 1/2", 0# - 100#	**0.0**

GAG-PRESS-2.5"-0-160	**Pressure Gauge, 2 1/2", 0 - 160#**		
		Part Inventory in 1301.1	**0.0**
	GAG-PRESS-2.5"-0-160	Pressure Gauge, 2 1/2", 0 - 160#	**0.0**
GAG-PRESS-2.5"-0-30L	**Pressure Gauge, Liquid Filled, 0 - 30 psi, 2 1/2"**		
		Part Inventory in 1301.1	**0.0**
	GAG-PRESS-2.5"-0-30L	Pressure Gauge, Liquid Filled, 0 - 30 psi, 2	**0.0**
GAG-PRESS-2.5"-0-60	**Gauge, Pressure, 2 1/2", 0 - 60 psi**		
		Part Inventory in 1301.1	**0.0**
	GAG-PRESS-2.5"-0-60	Gauge, Pressure, 2 1/2", 0 - 60 psi	**0.0**
GAG-PRESS-4"-0-100	**Gauge, Pressure, 4", 0 - 100 psi**		
		Part Inventory in 1301.1	**0.0**
	GAG-PRESS-4"-0-100	Gauge, Pressure, 4", 0 - 100 psi	**0.0**
GAG-SIE-W2T18260	**Gauge, Chlorine, 160#, Siemens P/N W2T18260**		
		Part Inventory in 1301.1	**1.0**
	GAG-SIE-W2T18260	Gauge, Chlorine, 160#, Siemens P/N W2T	**1.0**
GAG-VACUUM-2.5"	**Gauge, Vacuum, 30", 2.5" Diameter**		
		Part Inventory in 1301.1	**2.0**
	GAG-VACUUM-2.5"	Gauge, Vacuum, 30", 2.5" Diameter	**2.0**
GAG-VACUUM-4"	**Gauge, Vacuum, 4" Ashcroft Type 10.0**		
		Part Inventory in 1301.1	**1.0**
	GAG-VACUUM-4"	Gauge, Vacuum, 4" Ashcroft Type 10.0	**1.0**

1300 Parts Warehouse 13 N P St

GAG-WATER-1/8"150	**Water Pressure Gauge, 150 psi, 1/8"**		
		Part Inventory in 1301.1	**2.0**
	GAG-WATER-1/8"150	Water Pressure Gauge, 150 psi, 1/8"	**2.0**
GAG-WINTERS-30PSI-PR	**Gauge, Pressure, Winters, 30 PSI (for Air Scrubbers)**		
		Part Inventory in 1301.1	**1.0**
	GAG-WINTERS-30PSI-PR	Gauge, Pressure, Winters, 30 PSI (for Air	**1.0**
GER-CYCLO6000	**Top Drive Gear Reducer, Cyclo 6000, for P Street #3 Gravity Th**		
		Part Inventory in 1301.1	**1.0**
	GER-CYCLO6000	Top Drive Gear Reducer, Cyclo 6000, for I	**1.0**
GER-SUM-998DC4135087	**2 Disc Set, Gear, Sumitomo P/N 998DC4135087G, for Clarifier G**		
		Part Inventory in 1301.1	**0.0**
	GER-SUM-998DC4135087	2 Disc Set, Gear, Sumitomo P/N 998DC41	**0.0**
GER-SUM-AU2507B	**Spacer Ring, Sumitomo P/N AU2507B, for Clarifier Gear Box**		
		Part Inventory in 1301.1	**0.0**
	GER-SUM-AU2507B	Spacer Ring, Sumitomo P/N AU2507B, for	**0.0**

GND-JWC-30018-0001	**Drive Shaft, 2" Hex, 8" Long, 4140 Steel, JWC P/N 30018-0001**		
		Part Inventory in 1301.1	**0.0**
	GND-JWC-30018-0001	Drive Shaft, 2" Hex, 8" Long, 4140 Steel, J	**0.0**
GND-JWC-30018-0003	**Driven Shaft, 2" Hex X 8", 4140 Steel, JWC P/N 30018-0003**		
		Part Inventory in 1301.1	**0.0**
	GND-JWC-30018-0003	Driven Shaft, 2" Hex X 8", 4140 Steel, JW(	**0.0**
GND-JWC-30024-FB/E	**Spacer, FB, .319, 4130 Steel, JWC P/N 30024-FB/E**		
		Part Inventory in 1301.1	**22.0**
	GND-JWC-30024-FB/E	Spacer, FB, .319, 4130 Steel, JWC P/N 3(	**22.0**
GND-JWC-310160000019	**Spacer Shim, .193/.193 Alloy Steel, JWC P/N 31016-0000-0192-(**		
		Part Inventory in 1301.1	**0.0**
	GND-JWC-310160000019	Spacer Shim, .193/.193 Alloy Steel, JWC I	**0.0**
GND-JWC-310170011FB	**Cutter, 11T, Cam, .310, 4130 Steel, JWC P/N 31017-0011-FB**		
		Part Inventory in 1301.1	**0.0**
	GND-JWC-310170011FB	Cutter, 11T, Cam, .310, 4130 Steel, JWC I	**0.0**
GND-JWC-A30053TBSSB	**Bottom Seal Kit, Buna/Tungsten, JWC P/N A30053-TB-SS-B**		
		Part Inventory in 1301.1	**0.0**
	GND-JWC-A30053TBSSB	Bottom Seal Kit, Buna/Tungsten, JWC P/N	**0.0**
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GND-JWC-A30053TBSST	**Top Seal Kit, Buna/Tungsten, JWC P/N A30053-TB-SS-T**		
		Part Inventory in 1301.1	**0.0**
	GND-JWC-A30053TBSST	Top Seal Kit, Buna/Tungsten, JWC P/N A3	**0.0**
GRT-AUGSCRN-3/16PERF	**Screen Field, 3/16" Perferated, 24" X 36", For Massard Bar Scr**		
		Part Inventory in 1301.1	**0.0**
	GRT-AUGSCRN-3/16PERF	Screen Field, 3/16" Perferated, 24" X 36",	**0.0**
GRT-BOLT-IMPELLER	**Impeller Bolt for S & L PistaGrit System**		
		Part Inventory in 1301.1	**1.0**
	GRT-BOLT-IMPELLER	Impeller Bolt for S & L PistaGrit System	**1.0**
GRT-EPOXY-A	**Versapox Epoxy Coating Part A Aquamarine, S & L P/N 12L181**		
		Part Inventory in 1301.1	**1.0**
	GRT-EPOXY-A	Versapox Epoxy Coating Part A Aquamari	**1.0**
GRT-EPOXY-B	**Versapox Epoxy Coating, Part B Catalyst, S & L P/N 12L105A**		
		Part Inventory in 1301.1	**1.0**
	GRT-EPOXY-B	Versapox Epoxy Coating, Part B Catalyst,	**1.0**
GRT-KREBS-64C-CR	**Ceramic Liner, Cone, for Massard Degritter, Krebs P/N 64C-CR**		
		Part Inventory in 1301.1	**1.0**
	GRT-KREBS-64C-CR	Ceramic Liner, Cone, for Massard Degritte	**1.0**
GRT-KREBS-64-ST	**Cone, 6", for Massard Degritter, Krebs P/N 64-ST**		

		Part Inventory in 1301.1	**2.0**
	GRT-KREBS-64-ST	Cone, 6", for Massard Degritter, Krebs P/N	**2.0**
GRT-LKSD-BASKETASSY	**Basket Assembly, Lakeside Unit at Massard**		
		Part Inventory in 1301.1	**0.0**
	GRT-LKSD-BASKETASSY	Basket Assembly, Lakeside Unit at Massa	**0.0**
GRT-MARTIN-12CTA1012	**Trough, Degritter, Martin P/N 12CTA10-12, for Massard**		
		Part Inventory in 1301.1	**1.0**
	GRT-MARTIN-12CTA1012	Trough, Degritter, Martin P/N 12CTA10-12	**1.0**
GRT-RETRING4-MASSARD	**Retaining Ring, for Massard Degritter, 4"**		
		Part Inventory in 1301.1	**1.0**
	GRT-RETRING4-MASSARD	Retaining Ring, for Massard Degritter, 4"	**1.0**
GRT-S&L-87B133B	**Housing, Clear, Vacuum Priming, Smith &Loveless P/N 87B133**		
		Part Inventory in 1301.1	**2.0**
	GRT-S&L-87B133B	Housing, Clear, Vacuum Priming, Smith &l	**2.0**
1300 Parts Warehouse 13 N P St			
GRT-SWITCH&SIGHTGLAS	**Switch and Sight Glass for S & L Pista Grit System**		
		Part Inventory in 1301.1	**1.0**
	GRT-SWITCH&SIGHTGLAS	Switch and Sight Glass for S & L Pista Grit	**1.0**
GRT-VALVE-CYCLONE	**Valve, Solenoid, Cyclone for PistaGrit System P/N 744140115B**		
		Part Inventory in 1301.1	**2.0**
	GRT-VALVE-CYCLONE	Valve, Solenoid, Cyclone for PistaGrit Sys	**2.0**
GSK-1.5SPUMP2BFL	**Gasket, 1 1/2" Sump Pump 2 Bolt Flange**		
		Part Inventory in 1301.1	**2.0**
	GSK-1.5SPUMP2BFL	Gasket, 1 1/2" Sump Pump 2 Bolt Flange	**2.0**
GSK-12X12X1/8	**Gasket, for Muffin Monster Flange, 12" X 12" X 1/8"**		
		Part Inventory in 1301.1	**0.0**
	GSK-12X12X1/8	Gasket, for Muffin Monster Flange, 12" X 1	**0.0**
GSK-24FL20BLT	**Gasket, Face Flange, 24", 2 Bolt, 150#, 1/8"**		
		Part Inventory in 1301.1	**0.0**
	GSK-24FL20BLT	Gasket, Face Flange, 24", 2 Bolt, 150#, 1/8	**0.0**
GSK-36FL32BLT	**Gasket, 36" Flange, 32 Bolt**		
		Part Inventory in 1301.1	**1.0**
	GSK-36FL32BLT	Gasket, 36" Flange, 32 Bolt	**1.0**
GSK-6FIBER(HEAT)	**Gasket, 6" Fiber, for high temp applications**		
		Part Inventory in 1301.1	**1.0**
	GSK-6FIBER(HEAT)	Gasket, 6" Fiber, for high temp application	**1.0**
GSK-6FL4BLT	**Gasket, 6" Flange, 4 Bolt**		
		Part Inventory in 1301.1	**11.0**

	GSK-6FL4BLT	Gasket, 6" Flange, 4 Bolt	**11.0**
GSK-6FL8BLT	**Gasket, 6", 8 Bolt, Full Face Flange**		
		Part Inventory in 1301.1	**0.0**
	GSK-6FL8BLT	Gasket, 6", 8 Bolt, Full Face Flange	**0.0**
GSK-8FIBER(HEAT)	**Gasket, 8" Fiber, for high temp applications (Blowers)**		
		Part Inventory in 1301.1	**14.0**
	GSK-8FIBER(HEAT)	Gasket, 8" Fiber, for high temp application	**14.0**
GSK-8FL8BLT	**Gasket, 8" Flange, 8 Bolt**		
		Part Inventory in 1301.1	**0.0**
	GSK-8FL8BLT	Gasket, 8" Flange, 8 Bolt	**0.0**
1300 Parts Warehouse 13 N P St			
GSK-CANLIDSEAL	**Lid Seal, for Can Station Lids**		
		Part Inventory in 1301.1	**13.0**
	GSK-CANLIDSEAL	Lid Seal, for Can Station Lids	**13.0**
GSK-D-HYD-035440001	**Gasket, Diaphragm, 4" Neoprene, Hydromatic P/N 035440001**		
		Part Inventory in 1301.1	**1.0**
	GSK-D-HYD-035440001	Gasket, Diaphragm, 4" Neoprene, Hydrom	**1.0**
GSK-FIBER-.015	**Fiber Gasket Material, 1/64" Thick (Green)**		
		Part Inventory in 1301.1	**13.0**
	GSK-FIBER-.015	Fiber Gasket Material, 1/64" Thick (Green)	**13.0**
GSK-FM-CP29288380F	**Gasket, Paper, Volute, Fairbanks Morse P/N CP2928 8380F**		
		Part Inventory in 1301.1	**8.0**
	GSK-FM-CP29288380F	Gasket, Paper, Volute, Fairbanks Morse P	**8.0**
GSK-FM-TBGA467A7880F	**Gasket, Hand Hole Cover, Fairbanks Morse P/N TBGA467A 788**		
		Part Inventory in 1301.1	**4.0**
	GSK-FM-TBGA467A7880F	Gasket, Hand Hole Cover, Fairbanks Mors	**4.0**
GSK-GLD-52431816069	**Gasket, Suction Cover-Case, Gould P/N 52-431-816-069**		
		Part Inventory in 1301.1	**1.0**
	GSK-GLD-52431816069	Gasket, Suction Cover-Case, Gould P/N 5	**1.0**
GSK-GRINDERINSP	**Gasket, Grinder Inspection Plate**		
		Part Inventory in 1301.1	**3.0**
	GSK-GRINDERINSP	Gasket, Grinder Inspection Plate	**3.0**
GSK-GRTCONE-4"	**Gasket, 4", 150#, for Massard Degritter 6" Cone small end**		
		Part Inventory in 1301.1	**2.0**
	GSK-GRTCONE-4"	Gasket, 4", 150#, for Massard Degritter 6"	**2.0**
GSK-GRTCONE-6"	**Gasket, 6", 150#, for Massard Degritter 6" Cone large end**		
		Part Inventory in 1301.1	**2.0**
	GSK-GRTCONE-6"	Gasket, 6", 150#, for Massard Degritter 6"	**2.0**

GSK-PAPER-.030X36	**Gasket Paper, 0.030" X 36"**		
		Part Inventory in 1301.1	**498.5**
	GSK-PAPER-.030X36	Gasket Paper, 0.030" X 36"	**498.5**
GSK-PISTAGRITBOWL	**Gasket, for Bowl on Pista Grit Vacuum System**		
		Part Inventory in 1301.1	**3.0**
	GSK-PISTAGRITBOWL	Gasket, for Bowl on Pista Grit Vacuum Sy:	**3.0**
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GSK-PStMIXPUMP-12"P	**Gasket, for P Street Mixing Pump Housing, 12" ID Paper**		
		Part Inventory in 1301.1	**6.0**
	GSK-PStMIXPUMP-12"P	Gasket, for P Street Mixing Pump Housing	**6.0**
GSK-R-HYD-024070021	**Gasket, Ring, 4", Hydromatic P/N 024070021**		
		Part Inventory in 1301.1	**2.0**
	GSK-R-HYD-024070021	Gasket, Ring, 4", Hydromatic P/N 024070(	**2.0**
GSK-RUBBER-0.125"	**Rubber Gasket Material, 1/8" Thick**		
		Part Inventory in 1301.1	**2.5**
	GSK-RUBBER-0.125"	Rubber Gasket Material, 1/8" Thick	**2.5**
GSK-RUBBER-0.25"	**Gasket, Red Rubber, 0.25" Thick**		
		Part Inventory in 1301.1	**1.3**
	GSK-RUBBER-0.25"	Gasket, Red Rubber, 0.25" Thick	**1.3**
GSK-VLUT-WILO2710084	**Gasket, Volute, Wilo P/N 271 00 84**		
		Part Inventory in 1301.1	**1.0**
	GSK-VLUT-WILO2710084	Gasket, Volute, Wilo P/N 271 00 84	**1.0**
GSK-WAS-4FL4BLT-VEG	**Gasket, Green (Vegetable Fiber), 4" Flange 4 Bolt, for WAS pu**		
		Part Inventory in 1301.1	**5.0**
	GSK-WAS-4FL4BLT-VEG	Gasket, Green (Vegetable Fiber), 4" Flang	**5.0**
GSK-WAS-CP2930-8380F	**Gasket, Paper, 10", 8 Hole, for WAS Pump, P/N CP2930-8380F**		
		Part Inventory in 1301.1	**4.0**
	GSK-WAS-CP2930-8380F	Gasket, Paper, 10", 8 Hole, for WAS Pum	**4.0**
GSK-WAS-SPACER-VEG	**Gasket, Spacer, Green (Vegetable Fiber), for WAS Pump**		
		Part Inventory in 1301.1	**3.0**
	GSK-WAS-SPACER-VEG	Gasket, Spacer, Green (Vegetable Fiber),	**3.0**
HDW-1HSTRAP3/8MC	**Strap, 1 hole, MC Cable, 3/8"**		
		Part Inventory in 1301.1	**100.0**
	HDW-1HSTRAP3/8MC	Strap, 1 hole, MC Cable, 3/8"	**100.0**
HDW-ANCH-WE-3/4X5.5	**Anchor, Concrete, Wedge-All®, 3/4" X 5 1/2 Carbon**		
		Part Inventory in 1301.1	**0.0**
	HDW-ANCH-WE-3/4X5.5	Anchor, Concrete, Wedge-All®, 3/4" X 5 1/	**0.0**

HDW-ANCH-WE-3/8X3.75 **Anchor, Wedge-All®, Stainless Steel, 3/8" X 3 3/4"**

Part Inventory in 1301.1 **0.0**

HDW-ANCH-WE-3/8X3.75 Anchor, Wedge-All®, Stainless Steel, 3/8" **0.0**

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HDW-BOLT-1/2-13X1.50 **Bolt, 1/2"-13 X 1 1/2"**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-1/2-13X1.50 Bolt, 1/2"-13 X 1 1/2" **0.0**

HDW-BOLT-1/2-13X1.75 **Bolt, 1/2"-13 X 1 3/4"**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-1/2-13X1.75 Bolt, 1/2"-13 X 1 3/4" **0.0**

HDW-BOLT-1/2-13X2.0 **Bolt, 1/2"-13 X 2"**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-1/2-13X2.0 Bolt, 1/2"-13 X 2" **0.0**

HDW-BOLT-1/2-13X2.5 **Bolt, 1/2"-13 X 2 1/2"**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-1/2-13X2.5 Bolt, 1/2"-13 X 2 1/2" **0.0**

HDW-BOLT-10MX35X1.5 **Bolt, Metric, 10 mm X 35 mm X 1.5 Threads per mm**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-10MX35X1.5 Bolt, Metric, 10 mm X 35 mm X 1.5 Thread **0.0**

HDW-BOLT-16MX100X1.5 **Bolt, Metric, 16mm X 100 mm X 1.5 Thread Pitch**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-16MX100X1.5 Bolt, Metric, 16mm X 100 mm X 1.5 Threa **0.0**

HDW-BOLT-16MX150X1.5 **Bolt, Metric, 16 mm X 150 mm X 1.5 Thread Pitch**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-16MX150X1.5 Bolt, Metric, 16 mm X 150 mm X 1.5 Threa **0.0**

HDW-BOLT-20MX45X2.5 **Bolt, Metric, 20 mm X 45 mm X 2.5 Thread Pitch**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-20MX45X2.5 Bolt, Metric, 20 mm X 45 mm X 2.5 Thread **0.0**

HDW-BOLT-3/8-16X.50 **Bolt, 3/8"-16 X 1/2"**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-3/8-16X.50 Bolt, 3/8"-16 X 1/2" **0.0**

HDW-BOLT-7/8-9X2 **Bolt, 7/8"-9 X 2"**

Part Inventory in 1301.1 **0.0**

HDW-BOLT-7/8-9X2 Bolt, 7/8"-9 X 2" **0.0**

HDW-BOLTBR3/4-10X4 **Bolt, Brass, 3/4-10 X 4" Packing**

Part Inventory in 1301.1 **2.0**

HDW-BOLTBR3/4-10X4 Bolt, Brass, 3/4-10 X 4" Packing **2.0**

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HDW-BOLTBR3/4-10X4.5	**Bolt, Brass, 3/4-10 X 4 1/2" Packing**	
	Part Inventory in 1301.1	**3.0**
HDW-BOLTBR3/4-10X4.5	Bolt, Brass, 3/4-10 X 4 1/2" Packing	**3.0**
HDW-CASTLENUT-2.75	**Nut, Castellated, 2 3/4" x 18 TPI**	
	Part Inventory in 1301.1	**0.0**
HDW-CASTLENUT-2.75	Nut, Castellated, 2 3/4" x 18 TPI	**0.0**
HDW-CASTLEWASH-2.75	**Washer, for Castellated Nut, 2 3/4"**	
	Part Inventory in 1301.1	**0.0**
HDW-CASTLEWASH-2.75	Washer, for Castellated Nut, 2 3/4"	**0.0**
HDW-CHAIN-#2STRAIGHT	**Chain, Straight Coil, #2**	
	Part Inventory in 1301.1	**1.0**
HDW-CHAIN-#2STRAIGHT	Chain, Straight Coil, #2	**1.0**
HDW-CLEVISHANGER-1.5	**Clevis Hanger, 1 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-CLEVISHANGER-1.5	Clevis Hanger, 1 1/2"	**0.0**
HDW-CLEVISHANGER-2.0	**Hanger, Clevis, 2"**	
	Part Inventory in 1301.1	**0.0**
HDW-CLEVISHANGER-2.0	Hanger, Clevis, 2"	**0.0**
HDW-CRGBOLT-5/16X2.5	**Bolt, Carriage, 5/16" X 2 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-CRGBOLT-5/16X2.5	Bolt, Carriage, 5/16" X 2 1/2"	**0.0**
HDW-DOORCLOSER-HD	**Door Closer, Heavy Duty**	
	Part Inventory in 1301.1	**0.0**
HDW-DOORCLOSER-HD	Door Closer, Heavy Duty	**0.0**
HDW-DOWEL-3/16X36	**Dowel, 3/16" X 36"**	
	Part Inventory in 1301.1	**1.0**
HDW-DOWEL-3/16X36	Dowel, 3/16" X 36"	**1.0**
HDW-DWSCREW-6X2	**Screw, Drywall, #6 X 2"**	
	Part Inventory in 1301.1	**0.0**
HDW-DWSCREW-6X2	Screw, Drywall, #6 X 2"	**0.0**
HDW-FENDWASH-1/4X1	**Washer, Fender, 1/4" X 1"**	
	Part Inventory in 1301.1	**0.0**
HDW-FENDWASH-1/4X1	Washer, Fender, 1/4" X 1"	**0.0**

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HDW-FLYGT820312	**Hex Head Socket Screws, Stainless Steel, M8 X 115mm, Flygt I**	
	Part Inventory in 1301.1	**2.0**
HDW-FLYGT820312	Hex Head Socket Screws, Stainless Steel,	**2.0**
HDW-FW-1/2	**Washer, Flat, 1/2"**	

		Part Inventory in 1301.1	**0.0**
	HDW-FW-1/2	Washer, Flat, 1/2"	**0.0**
HDW-FW-1/4	**Washer, Flat, 1/4"**		
		Part Inventory in 1301.1	**16.0**
	HDW-FW-1/4	Washer, Flat, 1/4"	**16.0**
HDW-FW-3/8	**Washer, Flat, 3/8"**		
		Part Inventory in 1301.1	**0.0**
	HDW-FW-3/8	Washer, Flat, 3/8"	**0.0**
HDW-FW-5/8	**Washer, Flat, 5/8"**		
		Part Inventory in 1301.1	**0.0**
	HDW-FW-5/8	Washer, Flat, 5/8"	**0.0**
HDW-GROMMET-3/4"	**Grommet, 3/4"**		
		Part Inventory in 1301.1	**4.0**
	HDW-GROMMET-3/4"	Grommet, 3/4"	**4.0**
HDW-HCLAMP-.4375-1SS	**Hose Clamp, Stainless Steel, 7/16" - 1"**		
		Part Inventory in 1301.1	**0.0**
	HDW-HCLAMP-.4375-1SS	Hose Clamp, Stainless Steel, 7/16" - 1"	**0.0**
HDW-HCLAMP-1-2	**Hose, Clamp, 1" - 2"**		
		Part Inventory in 1301.1	**0.0**
	HDW-HCLAMP-1-2	Hose, Clamp, 1" - 2"	**0.0**
HDW-HCLAMP-2.0-2.5	**Hose Clamp, Stainless Steel, 2" - 2 1/2"**		
		Part Inventory in 1301.1	**0.0**
	HDW-HCLAMP-2.0-2.5	Hose Clamp, Stainless Steel, 2" - 2 1/2"	**0.0**
HDW-HCLAMP-3.50	**Hose Clamp, 3 1/2"**		
		Part Inventory in 1301.1	**2.0**
	HDW-HCLAMP-3.50	Hose Clamp, 3 1/2"	**2.0**
HDW-HCLAMP-64-254mm	**Clamp, Hose, 64mm - 254mm (2 1/2" - 10" Diameter)**		
		Part Inventory in 1301.1	**6.0**
	HDW-HCLAMP-64-254mm	Clamp, Hose, 64mm - 254mm (2 1/2" - 10'	**6.0**
1300 Parts Warehouse 13 N P St			
HDW-HELICOIL-3/8-16	**Heli Coil Kit, 3/8"-16**		
		Part Inventory in 1301.1	**0.0**
	HDW-HELICOIL-3/8-16	Heli Coil Kit, 3/8"-16	**0.0**
HDW-HELICOIL-M6X1	**Heli Coil Kit, M6 X 1**		
		Part Inventory in 1301.1	**1.0**
	HDW-HELICOIL-M6X1	Heli Coil Kit, M6 X 1	**1.0**
HDW-HINGESTRP-2"	**Hinge Strap, 2", Zinc**		
		Part Inventory in 1301.1	**1.0**

	HDW-HINGESTRP-2"	Hinge Strap, 2", Zinc	**1.0**
HDW-HINGEWELD-2.5"	**Weld Hinge, 2 1/2"**		
		Part Inventory in 1301.1	**8.0**
	HDW-HINGEWELD-2.5"	Weld Hinge, 2 1/2"	**8.0**
HDW-HINGEWELD-4.5"	**Hinge, Weld, 4 1/2"**		
		Part Inventory in 1301.1	**3.0**
	HDW-HINGEWELD-4.5"	Hinge, Weld, 4 1/2"	**3.0**
HDW-HITCHPIN-5/16	**Hitch Pin, 5/16"**		
		Part Inventory in 1301.1	**2.0**
	HDW-HITCHPIN-5/16	Hitch Pin, 5/16"	**2.0**
HDW-JACKCHAIN	**Jack Chain**		
		Part Inventory in 1301.1	**0.0**
	HDW-JACKCHAIN	Jack Chain	**0.0**
HDW-LETTERSNUMBERSTK	**Sticky Letters/Numbers**		
		Part Inventory in 1301.1	**0.0**
	HDW-LETTERSNUMBERSTK	Sticky Letters/Numbers	**0.0**
HDW-LW-1/2	**Washer, Lock, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	HDW-LW-1/2	Washer, Lock, 1/2"	**0.0**
HDW-LW-1/4	**Washer, Lock, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	HDW-LW-1/4	Washer, Lock, 1/4"	**0.0**
HDW-LW-3/8	**Lock Washer, 3/8"**		
		Part Inventory in 1301.1	**0.0**
	HDW-LW-3/8	Lock Washer, 3/8"	**0.0**
1300 Parts Warehouse 13 N P St			
HDW-LW-5/8	**Washer, Lock, 5/8"**		
		Part Inventory in 1301.1	**0.0**
	HDW-LW-5/8	Washer, Lock, 5/8"	**0.0**
HDW-MIRRORHOLDERKIT	**Mirror Holder Kit**		
		Part Inventory in 1301.1	**1.0**
	HDW-MIRRORHOLDERKIT	Mirror Holder Kit	**1.0**
HDW-NUT-1/2-13	**Nut, 1/2"-13**		
		Part Inventory in 1301.1	**0.0**
	HDW-NUT-1/2-13	Nut, 1/2"-13	**0.0**
HDW-NUT-1/4-20	**Nut, 1/4"-20**		
		Part Inventory in 1301.1	**0.0**
	HDW-NUT-1/4-20	Nut, 1/4"-20	**0.0**

HDW-NUT-3/4-10	**Nut, 3/4"-10**		
		Part Inventory in 1301.1	**0.0**
HDW-NUT-3/4-10	Nut, 3/4"-10		**0.0**
HDW-NUT-5/8-11	**Nut, 5/8"-11**		
		Part Inventory in 1301.1	**0.0**
HDW-NUT-5/8-11	Nut, 5/8"-11		**0.0**
HDW-NUTBR1/2-13	**Nut, Brass, 1/2"-13**		
		Part Inventory in 1301.1	**0.0**
HDW-NUTBR1/2-13	Nut, Brass, 1/2"-13		**0.0**
HDW-NUTBR3/4-10	**Nut, Brass 3/4-10 Packing**		
		Part Inventory in 1301.1	**4.0**
HDW-NUTBR3/4-10	Nut, Brass 3/4-10 Packing		**4.0**
HDW-PADLOCK-3	**Padlock, Combination, 3 Tumblers**		
		Part Inventory in 1301.1	**0.0**
HDW-PADLOCK-3	Padlock, Combination, 3 Tumblers		**0.0**
HDW-PADLOCK-4	**Padlock, Combination, 4 Tumblers**		
		Part Inventory in 1301.1	**0.0**
HDW-PADLOCK-4	Padlock, Combination, 4 Tumblers		**0.0**
HDW-PICTUREHANGER	**Picture Hanger**		
		Part Inventory in 1301.1	**0.0**
HDW-PICTUREHANGER	Picture Hanger		**0.0**

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HDW-PIN-WIRELOCK	**Pin, Wire Lock**		
		Part Inventory in 1301.1	**0.0**
HDW-PIN-WIRELOCK	Pin, Wire Lock		**0.0**
HDW-PLASTICANCH-#6	**Plastic Anchor, #6**		
		Part Inventory in 1301.1	**0.0**
HDW-PLASTICANCH-#6	Plastic Anchor, #6		**0.0**
HDW-SCREW-#6X1WOOD	**Screw, Wood, #6 X 1"**		
		Part Inventory in 1301.1	**0.0**
HDW-SCREW-#6X1WOOD	Screw, Wood, #6 X 1"		**0.0**
HDW-SCREW-#8X2WOOD	**Screw, Wood, #8 X 2"**		
		Part Inventory in 1301.1	**2.0**
HDW-SCREW-#8X2WOOD	Screw, Wood, #8 X 2"		**2.0**
HDW-SCREW-1/4-20X1	**Screw, Machine, 1/4"-20 X 1"**		
		Part Inventory in 1301.1	**0.0**
HDW-SCREW-1/4-20X1	Screw, Machine, 1/4"-20 X 1"		**0.0**

HDW-SCREW-1/4-20X2	**Screw, Machine, 1/4"-20 X 2"**	
	Part Inventory in 1301.1	**8.0**
HDW-SCREW-1/4-20X2	Screw, Machine, 1/4"-20 X 2"	**8.0**
HDW-SCRNDOORCLOSER	**Closer, Screen Door (for Station #2)**	
	Part Inventory in 1301.1	**2.0**
HDW-SCRNDOORCLOSER	Closer, Screen Door (for Station #2)	**2.0**
HDW-SHACK-SSANCH1/2	**Shackle, Screw Pin Anchor, Stainless Steel, 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-SHACK-SSANCH1/2	Shackle, Screw Pin Anchor, Stainless Ste	**0.0**
HDW-SHCS-1/2-13X2.00	**Socket Head Cap Screw, 1/2"-13 X 2"**	
	Part Inventory in 1301.1	**0.0**
HDW-SHCS-1/2-13X2.00	Socket Head Cap Screw, 1/2"-13 X 2"	**0.0**
HDW-SHCS-3/8-16X1.75	**Socket Head Cap Screw, 3/8"-16 X 1 3/4"**	
	Part Inventory in 1301.1	**0.0**
HDW-SHCS-3/8-16X1.75	Socket Head Cap Screw, 3/8"-16 X 1 3/4"	**0.0**
HDW-SHTMTLSCREW-#6	**Screw, Sheet Metal, #6**	
	Part Inventory in 1301.1	**0.0**
HDW-SHTMTLSCREW-#6	Screw, Sheet Metal, #6	**0.0**
1300 Parts Warehouse 13 N P St		
HDW-SIGN-STICKY-2X8	**Sign, Sticky, 2" X 8"**	
	Part Inventory in 1301.1	**0.0**
HDW-SIGN-STICKY-2X8	Sign, Sticky, 2" X 8"	**0.0**
HDW-SPRING-.438X1	**Spring, 0.332" I.D. X 0.438" O.D. X 1.00" Long, Compression, 0**	
	Part Inventory in 1301.1	**3.0**
HDW-SPRING-.438X1	Spring, 0.332" I.D. X 0.438" O.D. X 1.00" L	**3.0**
HDW-SPRING-C-325	**Spring, C-325**	
	Part Inventory in 1301.1	**1.0**
HDW-SPRING-C-325	Spring, C-325	**1.0**
HDW-SPRING-C-790	**Spring, C-790**	
	Part Inventory in 1301.1	**2.0**
HDW-SPRING-C-790	Spring, C-790	**2.0**
HDW-SPRING-SC-435	**Spring, SC-435**	
	Part Inventory in 1301.1	**2.0**
HDW-SPRING-SC-435	Spring, SC-435	**2.0**
HDW-SPRING-TRAILER	**Spring, Trailer, for assisting lifting ramps**	
	Part Inventory in 1301.1	**0.0**
HDW-SPRING-TRAILER	Spring, Trailer, for assisting lifting ramps	**0.0**
HDW-SPWSH-1.9X2.2X.1	**Washer, Spiral, 1.864" X 2.185" X 0.0615" Thick**	

	Part Inventory in 1301.1	**2.0**
HDW-SPWSH-1.9X2.2X.1	Washer, Spiral, 1.864" X 2.185" X 0.0615"	**2.0**
HDW-SS-BEAMCLAMP-3/8	**Beam Clamp, Stainless Steel, 3/8"**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-BEAMCLAMP-3/8	Beam Clamp, Stainless Steel, 3/8"	**0.0**
HDW-SS-BLT-1/2-13X5	**Bolt, Stainless Steel, 1/2"-13 X 5"**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-BLT-1/2-13X5	Bolt, Stainless Steel, 1/2"-13 X 5"	**0.0**
HDW-SS-FLANGEBLTP-6"	**Flange Bolt Pack, Stainless Steel, 6" (Eight 3/4"-10 X 3 1/4" Bo**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-FLANGEBLTP-6"	Flange Bolt Pack, Stainless Steel, 6" (Eigh	**0.0**
HDW-SS-FW-1/2	**Washer, Flat, Stainless Steel, 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-FW-1/2	Washer, Flat, Stainless Steel, 1/2"	**0.0**
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HDW-SS-LNUT-1/2-13	**Nut, Locking, Stainless Steel, 1/2"-13**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-LNUT-1/2-13	Nut, Locking, Stainless Steel, 1/2"-13	**0.0**
HDW-SS-LW-1/2	**Washer, Lock, Stainless Steel, 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-LW-1/2	Washer, Lock, Stainless Steel, 1/2"	**0.0**
HDW-SS-SRHANGAR-1.5	**Split Ring Hangar, Stainless Steel, 1 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-SS-SRHANGAR-1.5	Split Ring Hangar, Stainless Steel, 1 1/2"	**0.0**
HDW-STA2BRSCRN-TRNBK	**Turnbuckle, for Station #2 Bar Screens**	
	Part Inventory in 1301.1	**1.0**
HDW-STA2BRSCRN-TRNBK	Turnbuckle, for Station #2 Bar Screens	**1.0**
HDW-STRAP-2H-2.00	**Strap, 2 Hole, 2"**	
	Part Inventory in 1301.1	**0.0**
HDW-STRAP-2H-2.00	Strap, 2 Hole, 2"	**0.0**
HDW-STUD-1/2-13X3	**Stud, Socket Set, 1/2"-13 x 3"**	
	Part Inventory in 1301.1	**0.0**
HDW-STUD-1/2-13X3	Stud, Socket Set, 1/2"-13 x 3"	**0.0**
HDW-TBUCK-JJ5/8X6	**Turnbuckle, Jaw - Jaw, 5/8" X 6"**	
	Part Inventory in 1301.1	**0.0**
HDW-TBUCK-JJ5/8X6	Turnbuckle, Jaw - Jaw, 5/8" X 6"	**0.0**
HDW-TBUCK-JJ5/8X9	**Turnbuckle, Jaw - Jaw, 5/8" X 9"**	
	Part Inventory in 1301.1	**0.0**

HDW-TBUCK-JJ5/8X9	Turnbuckle, Jaw - Jaw, 5/8" X 9"	**0.0**
HDW-TCSCRW-5/16-18X2	**Screw, Thread-Cutting, 5/16"-18 X 2"**	
	Part Inventory in 1301.1	**80.0**
HDW-TCSCRW-5/16-18X2	Screw, Thread-Cutting, 5/16"-18 X 2"	**80.0**
HDW-TOGGLEBOLT-3	**Toggle Bolt, 3"**	
	Part Inventory in 1301.1	**0.0**
HDW-TOGGLEBOLT-3	Toggle Bolt, 3"	**0.0**
HDW-TPRPN-.33X.34X.8	**Pin, Taper, 0.327" X 0.344" X 1.85" Long**	
	Part Inventory in 1301.1	**4.0**
HDW-TPRPN-.33X.34X.8	Pin, Taper, 0.327" X 0.344" X 1.85" Long	**4.0**

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HDW-UNISTRUT-1.625SS	**Unistrut, 1 5/8" X 1 5/8" Stainless Steel**	
	Part Inventory in 1301.1	**0.0**
HDW-UNISTRUT-1.625SS	Unistrut, 1 5/8" X 1 5/8" Stainless Steel	**0.0**
HDW-UNISTRUTPOSTBASE	**Post Base, Single Unistrut, Tall**	
	Part Inventory in 1301.1	**0.0**
HDW-UNISTRUTPOSTBASE	Post Base, Single Unistrut, Tall	**0.0**
HDW-USSTRAP-1.00GA	**Unistrut Strap, Galvanized, 1"**	
	Part Inventory in 1301.1	**0.0**
HDW-USSTRAP-1.00GA	Unistrut Strap, Galvanized, 1"	**0.0**
HDW-USSTRAP-1.25GA	**Unistrut Strap, Galvanized, 1 1/4"**	
	Part Inventory in 1301.1	**0.0**
HDW-USSTRAP-1.25GA	Unistrut Strap, Galvanized, 1 1/4"	**0.0**
HDW-USSTRAP-1.50SS	**Unistrut Strap, Stainless Steel, 1 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-USSTRAP-1.50SS	Unistrut Strap, Stainless Steel, 1 1/2"	**0.0**
HDW-USSTRAP-2.00GA	**Unistrut Strap, Galvanized, 2"**	
	Part Inventory in 1301.1	**0.0**
HDW-USSTRAP-2.00GA	Unistrut Strap, Galvanized, 2"	**0.0**
HDW-WASH-.79X1.1X.08	**Washer, 0.794" X 1.093" X 0.077" Thick**	
	Part Inventory in 1301.1	**2.0**
HDW-WASH-.79X1.1X.08	Washer, 0.794" X 1.093" X 0.077" Thick	**2.0**
HDW-WASHER-1/2	**Washer, 1/2"**	
	Part Inventory in 1301.1	**0.0**
HDW-WASHER-1/2	Washer, 1/2"	**0.0**
HDW-WDSCREW-6X2	**Wood Screw, #6 X 2"**	
	Part Inventory in 1301.1	**0.0**
HDW-WDSCREW-6X2	Wood Screw, #6 X 2"	**0.0**

HET-ALUMINSJKT-11LB	**Insulation Jacket, Aluminum, #11 90* Elbow**	
	Part Inventory in 1301.1	**2.0**
HET-ALUMINSJKT-11LB	Insulation Jacket, Aluminum, #11 90* Elbo	**2.0**
HET-ALUMINSJKT-5LB	**Insulation Jacket, Aluminum, #5 90* Elbow**	
	Part Inventory in 1301.1	**6.0**
HET-ALUMINSJKT-5LB	Insulation Jacket, Aluminum, #5 90* Elbow	**6.0**
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HET-ALUMINSJKT-6LB	**Insulation Jacket, Aluminum, #6 90* Elbow**	
	Part Inventory in 1301.1	**1.0**
HET-ALUMINSJKT-6LB	Insulation Jacket, Aluminum, #6 90* Elbow	**1.0**
HET-CHROMALOX-382379	**PS-10 Pipe Strap, Chromalox P/N 382379**	
	Part Inventory in 1301.1	**2.0**
HET-CHROMALOX-382379	PS-10 Pipe Strap, Chromalox P/N 382379	**2.0**
HET-CHROMALOX-384294	**End Seal Fittings, Chromalox P/N 384294**	
	Part Inventory in 1301.1	**2.0**
HET-CHROMALOX-384294	End Seal Fittings, Chromalox P/N 384294	**2.0**
HET-CHROMALOX-386345	**Cable, Heating, Self-Regulating, Chromalox P/N 386345**	
	Part Inventory in 1301.1	**175.0**
HET-CHROMALOX-386345	Cable, Heating, Self-Regulating, Chromalc	**175.0**
HET-CRMLX-ARTM1000E2	**Heater, Chromalox, Cat. # ARTM-1000E2T8**	
	Part Inventory in 1301.1	**1.0**
HET-CRMLX-ARTM1000E2	Heater, Chromalox, Cat. # ARTM-1000E2T	**1.0**
HET-PVCINSJKT-5LB	**Insulation Jacket, PVC, 90* Elbow, #5 One Piece**	
	Part Inventory in 1301.1	**5.0**
HET-PVCINSJKT-5LB	Insulation Jacket, PVC, 90* Elbow, #5 One	**5.0**
HOS-1.25"-250PSI	**Hose, 1 1/4", 250 psi, Gates Duro Flex Multi Purpose**	
	Part Inventory in 1301.1	**20.0**
HOS-1.25"-250PSI	Hose, 1 1/4", 250 psi, Gates Duro Flex Mu	**20.0**
HOS-1/4"AIR-200PSI	**Hose, Air, 1/4", 200 psi WP**	
	Part Inventory in 1301.1	**37.0**
HOS-1/4"AIR-200PSI	Hose, Air, 1/4", 200 psi WP	**37.0**
HOS-ADAPTOR-2"	**Hose Adaptor, 2"**	
	Part Inventory in 1301.1	**1.0**
HOS-ADAPTOR-2"	Hose Adaptor, 2"	**1.0**
HOS-AGSPRAY-3/8	**3/8" Ag Spray Hose, 150 psi WP**	
	Part Inventory in 1301.1	**9.0**
HOS-AGSPRAY-3/8	3/8" Ag Spray Hose, 150 psi WP	**9.0**

HOS-AIR-DAYTON-4Z899	**Hose, Multi-purpose, 3/8" I.D. X 50', 3/8" MNPT each end, Dayt**	
	Part Inventory in 1301.1	**2.0**
HOS-AIR-DAYTON-4Z899	Hose, Multi-purpose, 3/8" I.D. X 50', 3/8" M	**2.0**

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HOS-BRAIDEDPVC-1"	**Braided PVC Hose, 1 3/8" O.D. X 1" I.D.**	
	Part Inventory in 1301.1	**7.0**
HOS-BRAIDEDPVC-1"	Braided PVC Hose, 1 3/8" O.D. X 1" I.D.	**7.0**
HOS-COMPUNION5/8X3/8	**Compression Union, 5/8" OD Tube X 3/8" OD Tube Rough Bras**	
	Part Inventory in 1301.1	**13.0**
HOS-COMPUNION5/8X3/8	Compression Union, 5/8" OD Tube X 3/8"	**13.0**
HOS-DELRINCOMPSLV1/4	**1/4" Delrin Compression Sleeve**	
	Part Inventory in 1301.1	**45.0**
HOS-DELRINCOMPSLV1/4	1/4" Delrin Compression Sleeve	**45.0**
HOS-HEATER-3/4"	**Hose, Heater, 3/4"**	
	Part Inventory in 1301.1	**2.0**
HOS-HEATER-3/4"	Hose, Heater, 3/4"	**2.0**
HOS-HOSPPVC-2	**Hosp PVC Hose, 2"**	
	Part Inventory in 1301.1	**0.0**
HOS-HOSPPVC-2	Hosp PVC Hose, 2"	**0.0**
HOS-NYLOBRAID-1.25ID	**Hose, Nylobraid, 1 1/4" I.D.**	
	Part Inventory in 1301.1	**0.0**
HOS-NYLOBRAID-1.25ID	Hose, Nylobraid, 1 1/4" I.D.	**0.0**
HOS-NYLON-1/4X.035	**Nylon Tubing, 1/4" O.D. X .035" Wall**	
	Part Inventory in 1301.1	**75.0**
HOS-NYLON-1/4X.035	Nylon Tubing, 1/4" O.D. X .035" Wall	**75.0**
HOS-POLY-1/2TUBING	**Tubing, Poly, 1/2" OD X 0.062" Wall (3/8" I.D.)**	
	Part Inventory in 1301.1	**227.0**
HOS-POLY-1/2TUBING	Tubing, Poly, 1/2" OD X 0.062" Wall (3/8" I	**227.0**
HOS-POLY-1/4"X0.170"	**Tubing, Polyethylene, 1/4" O.D. X 0.170" Wall**	
	Part Inventory in 1301.1	**97.0**
HOS-POLY-1/4"X0.170"	Tubing, Polyethylene, 1/4" O.D. X 0.170" W	**97.0**
HOS-POLY-3/8TUBING	**Tubing, Polyethylene, 3/8" O.D. X 0.062" Wall Thickness**	
	Part Inventory in 1301.1	**97.0**
HOS-POLY-3/8TUBING	Tubing, Polyethylene, 3/8" O.D. X 0.062" W	**97.0**
HOS-POLY-5/16X.062	**Tubing, Polyethylene, 5/16" O.D. X 0.062" Wall**	
	Part Inventory in 1301.1	**78.0**
HOS-POLY-5/16X.062	Tubing, Polyethylene, 5/16" O.D. X 0.062"	**78.0**

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HOS-POLY-5/8X.062	**Hose, Polypropylene, 5/8" O.D. X 1/2" I.D. (for Chlorine Rebuil**		
		Part Inventory in 1301.1	**0.0**
	HOS-POLY-5/8X.062	Hose, Polypropylene, 5/8" O.D. X 1/2" I.D.	**0.0**
HOS-POLY90-5/8X1/2	**Male Elbow, Poly P, 5/8" X 1/2", Tube to MPT**		
		Part Inventory in 1301.1	**17.0**
	HOS-POLY90-5/8X1/2	Male Elbow, Poly P, 5/8" X 1/2", Tube to M	**17.0**
HOS-POLYBRAID-3/4	**Poly Braid Hose, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	HOS-POLYBRAID-3/4	Poly Braid Hose, 3/4"	**0.0**
HOS-POLYMERASSY-38"	**Hose Assembly, 38" Long, with Part A Poly Pro Female Cams**		
		Part Inventory in 1301.1	**0.0**
	HOS-POLYMERASSY-38"	Hose Assembly, 38" Long, with Part A Poly	**0.0**
HOS-POLYTUBE1/4X.040	**Poly Tube, 1/4" X 0.040" Wall**		
		Part Inventory in 1301.1	**235.0**
	HOS-POLYTUBE1/4X.040	Poly Tube, 1/4" X 0.040" Wall	**235.0**
HOS-S&D-3.00	**Hose, Sewer & Drain, Green PVC, 3"**		
		Part Inventory in 1301.1	**10.0**
	HOS-S&D-3.00	Hose, Sewer & Drain, Green PVC, 3"	**10.0**
HOS-SANTOPRENE-10mm	**Tubing, Santoprene, 10mm**		
		Part Inventory in 1301.1	**0.0**
	HOS-SANTOPRENE-10mm	Tubing, Santoprene, 10mm	**0.0**
HOS-VACUUM-1.50	**Vacuum Hose, 1 1/2"**		
		Part Inventory in 1301.1	**12.0**
	HOS-VACUUM-1.50	Vacuum Hose, 1 1/2"	**12.0**
HOS-VINYL-3/4CLEAR	**Tubing, Clear Vinyl, 3/4", for tank sight glass**		
		Part Inventory in 1301.1	**0.0**
	HOS-VINYL-3/4CLEAR	Tubing, Clear Vinyl, 3/4", for tank sight gla	**0.0**
HOS-VINYL-4"BLUE	**Vinyl Hose, Blue, 4"**		
		Part Inventory in 1301.1	**0.0**
	HOS-VINYL-4"BLUE	Vinyl Hose, Blue, 4"	**0.0**
HOS-VINYL-6"BLUE	**6" Diameter Blue Vinyl Tubing (for compactor chutes, etc.)**		
		Part Inventory in 1301.1	**9.0**
	HOS-VINYL-6"BLUE	6" Diameter Blue Vinyl Tubing (for compac	**9.0**
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iaPMP-VAC-GAST-4TF24	**Pump, Vacuum, Gast brand, Grainger P/N 4TF24, for Pista Grit**		
		Part Inventory in 1301.1	**0.0**
	iaPMP-VAC-GAST-4TF24	Pump, Vacuum, Gast brand, Grainger P/N	**0.0**
iaSHF-MASSARDRSP	**Shaft, Massard Raw Sewage Pumps, Flygt P/N 3356-765-610 (2**		

		Part Inventory in 1301.1	**0.0**
	iaSHF-MASSARDRSP	Shaft, Massard Raw Sewage Pumps, Flyg	**0.0**
IMP-CORNELL-4414T	**Impeller, Cornell, for Pump # 4414T, 310 mm**		
		Part Inventory in 1301.1	**2.0**
	IMP-CORNELL-4414T	Impeller, Cornell, for Pump # 4414T, 310 r	**2.0**
IMP-FLYGT-189mm	**Impeller, Flygt, 1859 mm**		
		Part Inventory in 1301.1	**1.0**
	IMP-FLYGT-189mm	Impeller, Flygt, 1859 mm	**1.0**
IMP-FS-82436312	**Impeller, 12SKL/12KSL 8" Trimmed to 7.88", FlowServe P/N 82**		
		Part Inventory in 1301.1	**0.0**
	IMP-FS-82436312	Impeller, 12SKL/12KSL 8" Trimmed to 7.8	**0.0**
IMP-FS-88449554	**Impeller, 25AFV-P 15.5, Flowserve P/N 88449554**		
		Part Inventory in 1301.1	**1.0**
	IMP-FS-88449554	Impeller, 25AFV-P 15.5, Flowserve P/N 88	**1.0**
IMP-GRUPP-M174373	**Impeller, for Massard PistaGrit, 60D250-73, Gorman Rupp P/N**		
		Part Inventory in 1301.1	**1.0**
	IMP-GRUPP-M174373	Impeller, for Massard PistaGrit, 60D250-73	**1.0**
IMP-HYD-137200012	**Impeller, 12" Diameter, S4K, Hydromatic P/N 137 200 012**		
		Part Inventory in 1301.1	**0.0**
	IMP-HYD-137200012	Impeller, 12" Diameter, S4K, Hydromatic F	**0.0**
IMP-HYDROMATIC-11"	**Impeller, Hydromatic, 11"**		
		Part Inventory in 1301.1	**1.0**
	IMP-HYDROMATIC-11"	Impeller, Hydromatic, 11"	**1.0**
IMP-MINISCUMPIT	**Impeller, Mini Scum Pit, P Street, No other info available**		
		Part Inventory in 1301.1	**1.0**
	IMP-MINISCUMPIT	Impeller, Mini Scum Pit, P Street, No other	**1.0**
IMP-S&L-60B265B-97	**Impeller, CCW, 9 7/8", Smith & Loveless P/N 60B265B-97**		
		Part Inventory in 1301.1	**1.0**
	IMP-S&L-60B265B-97	Impeller, CCW, 9 7/8", Smith & Loveless F	**1.0**
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IMP-S&L-60C75-85	**Impeller, CCW, 8 5/8", Smith & Loveless P/N 60C75-85**		
		Part Inventory in 1301.1	**1.0**
	IMP-S&L-60C75-85	Impeller, CCW, 8 5/8", Smith & Loveless F	**1.0**
IMP-S&L-60C76-85	**Impeller, CW, 8 5/8", Smith & Loveless P/N 60C76-85**		
		Part Inventory in 1301.1	**1.0**
	IMP-S&L-60C76-85	Impeller, CW, 8 5/8", Smith & Loveless P/I	**1.0**
IMP-TC-1052811010	**Impeller, Tencarva P/N 10528 11010**		
		Part Inventory in 1301.1	**0.0**

	IMP-TC-1052811010	Impeller, Tencarva P/N 10528 11010	**0.0**
KST-1.25"X1.25"	**Key Stock, 1 1/4" X 1 1/4"**		
		Part Inventory in 1301.1	**8.0**
	KST-1.25"X1.25"	Key Stock, 1 1/4" X 1 1/4"	**8.0**
KST-1/2"-1/4"	**Key Stock, 1/2" - 1/4"**		
		Part Inventory in 1301.1	**100.0**
	KST-1/2"-1/4"	Key Stock, 1/2" - 1/4"	**100.0**
KST-1/2"-5/16"	**Key Stock, 1/2" X 5/16"**		
		Part Inventory in 1301.1	**3.0**
	KST-1/2"-5/16"	Key Stock, 1/2" X 5/16"	**3.0**
KST-1/2-1/2	**Key Stock, 1/2" - 1/2"**		
		Part Inventory in 1301.1	**30.0**
	KST-1/2-1/2	Key Stock, 1/2" - 1/2"	**30.0**
KST-1/2-3/4	**Key Stock, 1/2" - 3/4"**		
		Part Inventory in 1301.1	**3.0**
	KST-1/2-3/4	Key Stock, 1/2" - 3/4"	**3.0**
KST-1/4-1/4	**Key Stock, 1/4" - 1/4"**		
		Part Inventory in 1301.1	**198.0**
	KST-1/4-1/4	Key Stock, 1/4" - 1/4"	**198.0**
KST-15/32-1/2	**Key Stock, 15/32" - 1/2"**		
		Part Inventory in 1301.1	**3.3**
	KST-15/32-1/2	Key Stock, 15/32" - 1/2"	**3.3**
KST-3/16-3/16	**Key Stock, 3/16" - 3/16"**		
		Part Inventory in 1301.1	**42.0**
	KST-3/16-3/16	Key Stock, 3/16" - 3/16"	**42.0**
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KST-3/4-3/4	**Key Stock, 3/4" - 3/4"**		
		Part Inventory in 1301.1	**15.0**
	KST-3/4-3/4	Key Stock, 3/4" - 3/4"	**15.0**
KST-3/8"-1/4"	**Key Stock, 3/8" X 1/4"**		
		Part Inventory in 1301.1	**20.0**
	KST-3/8"-1/4"	Key Stock, 3/8" X 1/4"	**20.0**
KST-3/8"-3/8"	**Key Stock, 3/8" X 3/8"**		
		Part Inventory in 1301.1	**7.0**
	KST-3/8"-3/8"	Key Stock, 3/8" X 3/8"	**7.0**
KST-5/16-5/16	**Key Stock, 5/16" - 5/16"**		
		Part Inventory in 1301.1	**20.0**
	KST-5/16-5/16	Key Stock, 5/16" - 5/16"	**20.0**

KST-5/8"-5/8"	**Key Stock, 5/8" X 5/8"**		
		Part Inventory in 1301.1	**25.0**
	KST-5/8"-5/8"	Key Stock, 5/8" X 5/8"	**25.0**
KST-7/8-7/8	**Key Stock, 7/8" - 7/8"**		
		Part Inventory in 1301.1	**8.0**
	KST-7/8-7/8	Key Stock, 7/8" - 7/8"	**8.0**
KST-FM-16FM104S2138	**Key Stock, 3/8" X 3/8" X 1 3/8", Fairbanks Morse P/N 16FM104S**		
		Part Inventory in 1301.1	**1.0**
	KST-FM-16FM104S2138	Key Stock, 3/8" X 3/8" X 1 3/8", Fairbanks	**1.0**
LBR-1X6X6PICKET	**Dogear Picket, 1" X 6" X 6'**		
		Part Inventory in 1301.1	**3.0**
	LBR-1X6X6PICKET	Dogear Picket, 1" X 6" X 6'	**3.0**
LBR-2X4X8	**Board, #2, 2" X 4" X 8'**		
		Part Inventory in 1301.1	**0.0**
	LBR-2X4X8	Board, #2, 2" X 4" X 8'	**0.0**
LBR-2X6X10TR	**Board, Treated, 2" X 6" X 10'**		
		Part Inventory in 1301.1	**0.0**
	LBR-2X6X10TR	Board, Treated, 2" X 6" X 10'	**0.0**
LBR-2X6X12TR	**Board, Treated, 2" X 6" X 12'**		
		Part Inventory in 1301.1	**0.0**
	LBR-2X6X12TR	Board, Treated, 2" X 6" X 12'	**0.0**
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LBR-2X6X16	**Lumber, 2" X 6" X 16'**		
		Part Inventory in 1301.1	**0.0**
	LBR-2X6X16	Lumber, 2" X 6" X 16'	**0.0**
LBR-2X6X8	**Lumber, 2" X 6" X 8'**		
		Part Inventory in 1301.1	**0.0**
	LBR-2X6X8	Lumber, 2" X 6" X 8'	**0.0**
LBR-2X6X8TR	**Board, Treated, 2" X 6" X 8'**		
		Part Inventory in 1301.1	**0.0**
	LBR-2X6X8TR	Board, Treated, 2" X 6" X 8'	**0.0**
LBR-BLACKBOARD-4X0.5	**Black Board, 4" x 1/2" Fiber Expansion Joint**		
		Part Inventory in 1301.1	**0.0**
	LBR-BLACKBOARD-4X0.5	Black Board, 4" x 1/2" Fiber Expansion Joi	**0.0**
LBR-PLASTICROOFCEM	**Plastic Roof Cement**		
		Part Inventory in 1301.1	**6.0**
	LBR-PLASTICROOFCEM	Plastic Roof Cement	**6.0**

LBR-READYMIX-60#	**Ready Mix Concrete, 60# Bag**	
	Part Inventory in 1301.1	**0.0**
LBR-READYMIX-60#	Ready Mix Concrete, 60# Bag	**0.0**
LBR-REBAR-#3	**Rebar #3, (3/8")**	
	Part Inventory in 1301.1	**0.0**
LBR-REBAR-#3	Rebar #3, (3/8")	**0.0**
LBR-SANDPAPER-FINE	**Sandpaper, Fine Grit**	
	Part Inventory in 1301.1	**0.0**
LBR-SANDPAPER-FINE	Sandpaper, Fine Grit	**0.0**
LCT-272-HIGHTHRDLCKR	**Loctite 272, High Thread Locker (Red)**	
	Part Inventory in 1301.1	**1.0**
LCT-272-HIGHTHRDLCKR	Loctite 272, High Thread Locker (Red)	**1.0**
LCT-567THREADSEALANT	**Thread Sealant, Loctite 567**	
	Part Inventory in 1301.1	**1.0**
LCT-567THREADSEALANT	Thread Sealant, Loctite 567	**1.0**
LCT-609-RETAININGCMP	**Loctite 609, Retaining Compound**	
	Part Inventory in 1301.1	**1.0**
LCT-609-RETAININGCMP	Loctite 609, Retaining Compound	**1.0**

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LCT-BRUSHABLECERAMIC	**Loctite Nordbak Brushable Ceramic**	
	Part Inventory in 1301.1	**1.0**
LCT-BRUSHABLECERAMIC	Loctite Nordbak Brushable Ceramic	**1.0**
LCT-FORMATHREAD	**Form-A-Thread Stripped Thread Repair Kit, Loctite Brand**	
	Part Inventory in 1301.1	**2.0**
LCT-FORMATHREAD	Form-A-Thread Stripped Thread Repair Ki	**2.0**
LCT-NORDBACKBACKMAT	**Nordback Backing Material**	
	Part Inventory in 1301.1	**1.0**
LCT-NORDBACKBACKMAT	Nordback Backing Material	**1.0**
LCT-PIPEDOPE	**Pipe Dope, (Loctite Lok-Cease 20/20)**	
	Part Inventory in 1301.1	**0.0**
LCT-PIPEDOPE	Pipe Dope, (Loctite Lok-Cease 20/20)	**0.0**
LCT-PNEUWEARFASTCURE	**Fast Cure Pneu-Wear**	
	Part Inventory in 1301.1	**1.0**
LCT-PNEUWEARFASTCURE	Fast Cure Pneu-Wear	**1.0**
LIM-AUGERQUILL	**Quill for Lime Auger**	
	Part Inventory in 1301.1	**1.0**
LIM-AUGERQUILL	Quill for Lime Auger	**1.0**
LIM-DCDRIVE	**Drive, D.C. for Lime Feeder**	

		Part Inventory in 1301.1	**1.0**
	LIM-DCDRIVE	Drive, D.C. for Lime Feeder	**1.0**
LIM-DIAPHRAGM	**Diaphragm for Lime Silos**		
		Part Inventory in 1301.1	**9.0**
	LIM-DIAPHRAGM	Diaphragm for Lime Silos	**9.0**
LIM-MECHSEAL	**Mechanical Seal for Lime Augers**		
		Part Inventory in 1301.1	**1.0**
	LIM-MECHSEAL	Mechanical Seal for Lime Augers	**1.0**
LIM-MOTIONSW-CMS1X	**Switch, Motion, Conveyor Components Model # CMS1X (for Li**		
		Part Inventory in 1301.1	**1.0**
	LIM-MOTIONSW-CMS1X	Switch, Motion, Conveyor Components Mc	**1.0**
LIM-PIPECOUPLING-4"	**Coupling, Lime Pipe, 4"**		
		Part Inventory in 1301.1	**1.0**
	LIM-PIPECOUPLING-4"	Coupling, Lime Pipe, 4"	**1.0**
1300 Parts Warehouse 13 N P St			
LIM-SOLENOID-120V	**Solenoid, Electric, 120 V, for Lime Silos**		
		Part Inventory in 1301.1	**9.0**
	LIM-SOLENOID-120V	Solenoid, Electric, 120 V, for Lime Silos	**9.0**
LIM-TIMER-ELECTRONIC	**Timer, Electronic, for Lime Silos**		
		Part Inventory in 1301.1	**3.0**
	LIM-TIMER-ELECTRONIC	Timer, Electronic, for Lime Silos	**3.0**
LIM-WATLOW-988A-22FA	**Controlller, Lime Speed and Thermo-Blender, Watlow P/N 988A**		
		Part Inventory in 1301.1	**2.0**
	LIM-WATLOW-988A-22FA	Controlller, Lime Speed and Thermo-Blenc	**2.0**
LMI-4FV	**4 Function Valve**		
		Part Inventory in 1301.1	**4.0**
	LMI-4FV	4 Function Valve	**4.0**
LMI-LIQUIFRAM-31419	**Liquifram, 3.0 Fluorofilm, LMI P/N 31419**		
		Part Inventory in 1301.1	**1.0**
	LMI-LIQUIFRAM-31419	Liquifram, 3.0 Fluorofilm, LMI P/N 31419	**1.0**
LMI-PMKIT-K6PTT3	**Kit, PM, Electronic, Metering Pump, K6PTT3, Pulsafeeder**		
		Part Inventory in 1301.1	**3.0**
	LMI-PMKIT-K6PTT3	Kit, PM, Electronic, Metering Pump, K6PT	**3.0**
LMI-PUMP	**Pump, LMI, Chemical Metering, Model #C71-20PBA**		
		Part Inventory in 1301.1	**3.0**
	LMI-PUMP	Pump, LMI, Chemical Metering, Model #C	**3.0**
LMI-SPAREKIT	**Spare Parts Kit for LMI Pumps, P/N SP-25HV**		
		Part Inventory in 1301.1	**2.0**

	LMI-SPAREKIT	Spare Parts Kit for LMI Pumps, P/N SP-25	**2.0**
LMI-WALCHEM-EHE30E1V	**Pump, Metering, Walchem P/N EHE30E1-VC**		
		Part Inventory in 1301.1	**1.0**
	LMI-WALCHEM-EHE30E1V	Pump, Metering, Walchem P/N EHE30E1-	**1.0**
LMP-100W-120V	**Lamp, 100 Watt, 120 Volt**		
		Part Inventory in 1301.1	**5.0**
	LMP-100W-120V	Lamp, 100 Watt, 120 Volt	**5.0**
LMP-11S14/Y	**Lamp, 11 Watt, 130 Volt, 11S14/Y**		
		Part Inventory in 1301.1	**11.0**
	LMP-11S14/Y	Lamp, 11 Watt, 130 Volt, 11S14/Y	**11.0**
1300 Parts Warehouse 13 N P St			
LMP-25T8DC	**Lamp, T8 Incandescent, 25 Watt, 130 Volt**		
		Part Inventory in 1301.1	**7.0**
	LMP-25T8DC	Lamp, T8 Incandescent, 25 Watt, 130 Volt	**7.0**
LMP-A21-150W-120V	**Lamp, 150 Watt, 120 Volt, A21 Incandescent**		
		Part Inventory in 1301.1	**24.0**
	LMP-A21-150W-120V	Lamp, 150 Watt, 120 Volt, A21 Incandesce	**24.0**
LMP-AB-800T-N320A	**Lamp, Amber, Allen-Bradley P/N 800T-N320A**		
		Part Inventory in 1301.1	**12.0**
	LMP-AB-800T-N320A	Lamp, Amber, Allen-Bradley P/N 800T-N3	**12.0**
LMP-AB-800T-N320B	**Lamp, Blue, Allen-Bradley P/N 800T-N320B**		
		Part Inventory in 1301.1	**12.0**
	LMP-AB-800T-N320B	Lamp, Blue, Allen-Bradley P/N 800T-N320	**12.0**
LMP-AB-800T-N320W	**Lamp, White, Allen-Bradley P/N 800T-N320W**		
		Part Inventory in 1301.1	**12.0**
	LMP-AB-800T-N320W	Lamp, White, Allen-Bradley P/N 800T-N32	**12.0**
LMP-AUTO1156	**Auto Lamp, 1156**		
		Part Inventory in 1301.1	**8.0**
	LMP-AUTO1156	Auto Lamp, 1156	**8.0**
LMP-AUTO1157	**Auto Lamp, 1157**		
		Part Inventory in 1301.1	**4.0**
	LMP-AUTO1157	Auto Lamp, 1157	**4.0**
LMP-AUTO194	**Auto Lamp, 194**		
		Part Inventory in 1301.1	**1.0**
	LMP-AUTO194	Auto Lamp, 194	**1.0**
LMP-AUTO-3357/3457	**Lamp, Auto, 3357/3457**		
		Part Inventory in 1301.1	**0.0**
	LMP-AUTO-3357/3457	Lamp, Auto, 3357/3457	**0.0**

LMP-AUTO431R	**Auto Lamp, 431R, Stop and Tail Light**		
		Part Inventory in 1301.1	**1.0**
	LMP-AUTO431R	Auto Lamp, 431R, Stop and Tail Light	**1.0**
LMP-AUTO880	**Auto Lamp. 880**		
		Part Inventory in 1301.1	**1.0**
	LMP-AUTO880	Auto Lamp. 880	**1.0**
1300 Parts Warehouse 13 N P St			
LMP-AUTO9006	**Auto Lamp, 9006**		
		Part Inventory in 1301.1	**1.0**
	LMP-AUTO9006	Auto Lamp, 9006	**1.0**
LMP-AUTOV162KR	**Auto Lamp, V162KR, 2 1/2" Red Clrnc/Side Marker Lamp w/Mtg**		
		Part Inventory in 1301.1	**1.0**
	LMP-AUTOV162KR	Auto Lamp, V162KR, 2 1/2" Red Clrnc/Sid	**1.0**
LMP-BUGLITE-100W	**Lamp, Buglite, 100 Watt, 120 Volt**		
		Part Inventory in 1301.1	**5.0**
	LMP-BUGLITE-100W	Lamp, Buglite, 100 Watt, 120 Volt	**5.0**
LMP-F20T12/CW	**Lamp, F20T12/CW**		
		Part Inventory in 1301.1	**2.0**
	LMP-F20T12/CW	Lamp, F20T12/CW	**2.0**
LMP-F32T8/SP41/ECO	**Lamp, Flourescent, F32T8/SP41/ECO**		
		Part Inventory in 1301.1	**25.0**
	LMP-F32T8/SP41/ECO	Lamp, Flourescent, F32T8/SP41/ECO	**25.0**
LMP-FC12T9/CW/RS	**Lamp, Circline 12", FC12T9/CW/RS**		
		Part Inventory in 1301.1	**2.0**
	LMP-FC12T9/CW/RS	Lamp, Circline 12", FC12T9/CW/RS	**2.0**
LMP-FC8T9/CW/RS	**Lamp, Circline 8", FC8T9/CW/RS**		
		Part Inventory in 1301.1	**1.0**
	LMP-FC8T9/CW/RS	Lamp, Circline 8", FC8T9/CW/RS	**1.0**
LMP-LU70ECO	**Lamp, 70 Watt, Mogul Base, LU70ECO**		
		Part Inventory in 1301.1	**9.0**
	LMP-LU70ECO	Lamp, 70 Watt, Mogul Base, LU70ECO	**9.0**
LMP-M400/U	**Lamp, M400/U**		
		Part Inventory in 1301.1	**1.0**
	LMP-M400/U	Lamp, M400/U	**1.0**
LMP-MP100/U/MED	**Lamp, 100 Watt Metal Halide, MP100/U/MED**		
		Part Inventory in 1301.1	**3.0**
	LMP-MP100/U/MED	Lamp, 100 Watt Metal Halide, MP100/U/M	**3.0**

LMP-SPOT-PAR38-50W	**Lamp, Spot Light, Par 38, 50 Watt**	
	Part Inventory in 1301.1	**1.0**
LMP-SPOT-PAR38-50W	Lamp, Spot Light, Par 38, 50 Watt	**1.0**

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LMP-WORKLITE-300W	**Lamp,Quartz Halogen, 300 Watt, 120 Volt**	
	Part Inventory in 1301.1	**5.0**
LMP-WORKLITE-300W	Lamp,Quartz Halogen, 300 Watt, 120 Volt	**5.0**
LPS-SQD-9007MS05S030	**Limit Switch, Compact Enclosed, Square D P/N 9007MS05S03(**	
	Part Inventory in 1301.1	**1.0**
LPS-SQD-9007MS05S030	Limit Switch, Compact Enclosed, Square [	**1.0**
LUB-2CYCLEOIL	**Oil, 2 Cycle**	
	Part Inventory in 1301.1	**1.0**
LUB-2CYCLEOIL	Oil, 2 Cycle	**1.0**
LUB-ALUMCOMPLEXGREAS	**Aluminum Complex Grease, Aerosol**	
	Part Inventory in 1301.1	**14.0**
LUB-ALUMCOMPLEXGREAS	Aluminum Complex Grease, Aerosol	**14.0**
LUB-ANTIFREEZEBLUE	**Antifreeze Coolant, Blue**	
	Part Inventory in 1301.1	**0.0**
LUB-ANTIFREEZEBLUE	Antifreeze Coolant, Blue	**0.0**
LUB-ANTISEIZE-AEROSO	**Anti Seize, Aerosol**	
	Part Inventory in 1301.1	**2.0**
LUB-ANTISEIZE-AEROSO	Anti Seize, Aerosol	**2.0**
LUB-ARMOURALL	**Armour All**	
	Part Inventory in 1301.1	**1.0**
LUB-ARMOURALL	Armour All	**1.0**
LUB-AW068HYDOIL	**Hydraulic Oil, Superfilm, AW 068**	
	Part Inventory in 1301.1	**4.0**
LUB-AW068HYDOIL	Hydraulic Oil, Superfilm, AW 068	**4.0**
LUB-BARCHAINOIL	**Bar & Chain Oil**	
	Part Inventory in 1301.1	**1.0**
LUB-BARCHAINOIL	Bar & Chain Oil	**1.0**
LUB-BRAKEFLUID	**Brake Fluid**	
	Part Inventory in 1301.1	**0.0**
LUB-BRAKEFLUID	Brake Fluid	**0.0**
LUB-CHAIN&CABLELUBE	**Chain and Cable Lubricant**	
	Part Inventory in 1301.1	**2.0**
LUB-CHAIN&CABLELUBE	Chain and Cable Lubricant	**2.0**

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LUB-CITGO-AW32	**AW-32, Citgo**	
	Part Inventory in 1301.1	**5.0**
LUB-CITGO-AW32	AW-32, Citgo	**5.0**
LUB-CONOCO-LEP00	**Grease, 00, Conoco LEP00**	
	Part Inventory in 1301.1	**15.0**
LUB-CONOCO-LEP00	Grease, 00, Conoco LEP00	**15.0**
LUB-COOLANT-CUTFLUID	**Cutting Fluid, Coolant, 1 gallon**	
	Part Inventory in 1301.1	**0.0**
LUB-COOLANT-CUTFLUID	Cutting Fluid, Coolant, 1 gallon	**0.0**
LUB-CUTTINGFLUID	**Cutting Fluid, Aerosol**	
	Part Inventory in 1301.1	**1.0**
LUB-CUTTINGFLUID	Cutting Fluid, Aerosol	**1.0**
LUB-DRYMOLYLUBE	**Dry Moly Lubricant, Aerosol**	
	Part Inventory in 1301.1	**8.0**
LUB-DRYMOLYLUBE	Dry Moly Lubricant, Aerosol	**8.0**
LUB-FLUSHINGOIL	**Equipment Flushing Oil**	
	Part Inventory in 1301.1	**2.0**
LUB-FLUSHINGOIL	Equipment Flushing Oil	**2.0**
LUB-FOODGRADEGREASE	**Food Grade Grease, White, Aerosol**	
	Part Inventory in 1301.1	**12.0**
LUB-FOODGRADEGREASE	Food Grade Grease, White, Aerosol	**12.0**
LUB-FUELADDITIVE	**Fuel Additive,Diesel**	
	Part Inventory in 1301.1	**0.0**
LUB-FUELADDITIVE	Fuel Additive,Diesel	**0.0**
LUB-FUELINJECTORCLNR	**Fuel Injector Cleaner, 12 oz.**	
	Part Inventory in 1301.1	**0.0**
LUB-FUELINJECTORCLNR	Fuel Injector Cleaner, 12 oz.	**0.0**
LUB-FUELSTABILIZER	**Fuel Stabilizer**	
	Part Inventory in 1301.1	**1.0**
LUB-FUELSTABILIZER	Fuel Stabilizer	**1.0**
LUB-GEAR/BRNGOILIMPR	**Gear and Bearing Oil Improver**	
	Part Inventory in 1301.1	**13.0**
LUB-GEAR/BRNGOILIMPR	Gear and Bearing Oil Improver	**13.0**

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LUB-GREASE-GP	**Grease, General Purpose, in tube for grease gun**	
	Part Inventory in 1301.1	**0.0**
LUB-GREASE-GP	Grease, General Purpose, in tube for grea	**0.0**
LUB-GREASEZERK-1/8	**Grease Zerk, 1/8"**	

		Part Inventory in 1301.1	**30.0**
	LUB-GREASEZERK-1/8	Grease Zerk, 1/8"	**30.0**
LUB-HITMPGREASE	**High Temperature Grease**		
		Part Inventory in 1301.1	**0.0**
	LUB-HITMPGREASE	High Temperature Grease	**0.0**
LUB-LUBENG-CMP/TRB30	**SAE 30 Compressor/Turbine Oil, Lubrication Engineers**		
		Part Inventory in 1301.1	**5.0**
	LUB-LUBENG-CMP/TRB30	SAE 30 Compressor/Turbine Oil, Lubricati	**5.0**
LUB-LUBSOIL-150	**Lubsoil 150 Gear Oil**		
		Part Inventory in 1301.1	**22.8**
	LUB-LUBSOIL-150	Lubsoil 150 Gear Oil	**22.8**
LUB-LUBSOIL-220	**Lubsoil 220 Gear Oil**		
		Part Inventory in 1301.1	**15.0**
	LUB-LUBSOIL-220	Lubsoil 220 Gear Oil	**15.0**
LUB-LUBSOIL-4220	**Lubsoil 4220 Synthetic Gear Oil**		
		Part Inventory in 1301.1	**4.0**
	LUB-LUBSOIL-4220	Lubsoil 4220 Synthetic Gear Oil	**4.0**
LUB-LUBSOIL-460	**Gear Oil, ISO 460**		
		Part Inventory in 1301.1	**5.0**
	LUB-LUBSOIL-460	Gear Oil, ISO 460	**5.0**
LUB-LUBSOIL-4680	**Lubsoil 4680 Synthetic Gear Oil**		
		Part Inventory in 1301.1	**10.0**
	LUB-LUBSOIL-4680	Lubsoil 4680 Synthetic Gear Oil	**10.0**
LUB-LUBSOIL680	**Lubsoil Industrial Gear Oil 680**		
		Part Inventory in 1301.1	**0.0**
	LUB-LUBSOIL680	Lubsoil Industrial Gear Oil 680	**0.0**
LUB-LUBSOIL-DTURBO10	**Diesel Turbo 10, Lubsoil**		
		Part Inventory in 1301.1	**2.5**
	LUB-LUBSOIL-DTURBO10	Diesel Turbo 10, Lubsoil	**2.5**
1300 Parts Warehouse 13 N P St			
LUB-LUBSOIL-EP00	**Grease, 00, Lubsoil EP00**		
		Part Inventory in 1301.1	**20.0**
	LUB-LUBSOIL-EP00	Grease, 00, Lubsoil EP00	**20.0**
LUB-LUBSOIL-TECH80	**Lubsoil Tech 80**		
		Part Inventory in 1301.1	**4.5**
	LUB-LUBSOIL-TECH80	Lubsoil Tech 80	**4.5**
LUB-LUBSOIL-XFORMER	**Transformer Oil, Lubsoil**		
		Part Inventory in 1301.1	**60.5**

	LUB-LUBSOIL-XFORMER	Transformer Oil, Lubsoil	**60.5**
LUB-MOBIL-DT32	**DT 32 Light Hydraulic Oil, Mobil**		
		Part Inventory in 1301.1	**7.5**
	LUB-MOBIL-DT32	DT 32 Light Hydraulic Oil, Mobil	**7.5**
LUB-MOBIL-DT68	**DT 68 Heavy Hydraulic Oil, Mobil**		
		Part Inventory in 1301.1	**2.5**
	LUB-MOBIL-DT68	DT 68 Heavy Hydraulic Oil, Mobil	**2.5**
LUB-OIL-10W30	**Oil, 10W30 Quart**		
		Part Inventory in 1301.1	**0.0**
	LUB-OIL-10W30	Oil, 10W30 Quart	**0.0**
LUB-OIL-10W40	**Oil, 10W40**		
		Part Inventory in 1301.1	**0.0**
	LUB-OIL-10W40	Oil, 10W40	**0.0**
LUB-PENETRATINGOIL	**Penetrating Oil, Aerosol**		
		Part Inventory in 1301.1	**4.0**
	LUB-PENETRATINGOIL	Penetrating Oil, Aerosol	**4.0**
LUB-PIPEJOINTLUBE	**Pipe Joint Lubricant (for Pipe Joint Gaskets, not Pipe Dope.)**		
		Part Inventory in 1301.1	**1.0**
	LUB-PIPEJOINTLUBE	Pipe Joint Lubricant (for Pipe Joint Gasket	**1.0**
LUB-POWERSTEERINGFLD	**Power Steering Fluid**		
		Part Inventory in 1301.1	**1.0**
	LUB-POWERSTEERINGFLD	Power Steering Fluid	**1.0**
LUB-PROPYLENEGLYCOL	**Propylene Glycol**		
		Part Inventory in 1301.1	**0.0**
	LUB-PROPYLENEGLYCOL	Propylene Glycol	**0.0**
1300 Parts Warehouse 13 N P St			
LUB-RAINX	**RainX**		
		Part Inventory in 1301.1	**0.0**
	LUB-RAINX	RainX	**0.0**
LUB-ROTELLA	**Rotella Motor Oil**		
		Part Inventory in 1301.1	**5.0**
	LUB-ROTELLA	Rotella Motor Oil	**5.0**
LUB-ROTELLA-BULK	**Rotella Motor Oil, Bulk 55 gal. drum**		
		Part Inventory in 1301.1	**62.5**
	LUB-ROTELLA-BULK	Rotella Motor Oil, Bulk 55 gal. drum	**62.5**
LUB-STOPLEAK-INT/RAD	**Stop Leak, Intake/Radiator Repair**		
		Part Inventory in 1301.1	**1.0**
	LUB-STOPLEAK-INT/RAD	Stop Leak, Intake/Radiator Repair	**1.0**

LUB-TECHSEL-TRCTRHYD	**Tractor Hydraulic Oil, Tech Select**	
	Part Inventory in 1301.1	**4.0**
LUB-TECHSEL-TRCTRHYD	Tractor Hydraulic Oil, Tech Select	**4.0**
LUB-TRANSMISSIONFLD	**Transmission Fluid, Quart**	
	Part Inventory in 1301.1	**7.0**
LUB-TRANSMISSIONFLD	Transmission Fluid, Quart	**7.0**
LUB-WHITELITHIUMGR	**Grease, White Lithium**	
	Part Inventory in 1301.1	**1.0**
LUB-WHITELITHIUMGR	Grease, White Lithium	**1.0**
LUB-WHITEOIL#090	**White Oil, # 090**	
	Part Inventory in 1301.1	**23.5**
LUB-WHITEOIL#090	White Oil, # 090	**23.5**
MTL-MS-.75X.125FLST	**Flat Strap, Mild Steel, 3/4" X 1/8"**	
	Part Inventory in 1301.1	**0.0**
MTL-MS-.75X.125FLST	Flat Strap, Mild Steel, 3/4" X 1/8"	**0.0**
MTL-MS-.75X.25FLST	**Flat Strap, Mild Steel, 3/4" x 1/4"**	
	Part Inventory in 1301.1	**0.0**
MTL-MS-.75X.25FLST	Flat Strap, Mild Steel, 3/4" x 1/4"	**0.0**
MTL-MS-1.0X.25FLST	**Flat Strap, Mild Steel, 1" X 1/4"**	
	Part Inventory in 1301.1	**20.0**
MTL-MS-1.0X.25FLST	Flat Strap, Mild Steel, 1" X 1/4"	**20.0**

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MTL-MS-1.25X.375FLST	**Flat Strap, Mild Steel, 1 1/4" X 3/8"**	
	Part Inventory in 1301.1	**0.0**
MTL-MS-1.25X.375FLST	Flat Strap, Mild Steel, 1 1/4" X 3/8"	**0.0**
MTL-MS-1.5X1.5X.18AN	**Metal, Mild Steel, Angle, 1 1/2" X 1 1/2" X 3/16"**	
	Part Inventory in 1301.1	**0.0**
MTL-MS-1.5X1.5X.18AN	Metal, Mild Steel, Angle, 1 1/2" X 1 1/2" X	**0.0**
MTL-MS-2.0X.25FLST	**Metal, Mild Steel, Flat Strap, 2" X 1/4"**	
	Part Inventory in 1301.1	**0.0**
MTL-MS-2.0X.25FLST	Metal, Mild Steel, Flat Strap, 2" X 1/4"	**0.0**
MTL-MS-3.0CHAN	**Metal, Mild Steel, Channel, 3"**	
	Part Inventory in 1301.1	**10.0**
MTL-MS-3.0CHAN	Metal, Mild Steel, Channel, 3"	**10.0**
MTL-MS-3.0X3.0X.31AN	**Angle Iron, Mild Steel, 3" X 3" X 3/8"**	
	Part Inventory in 1301.1	**20.0**
MTL-MS-3.0X3.0X.31AN	Angle Iron, Mild Steel, 3" X 3" X 3/8"	**20.0**

MTL-SS-1.0SQBAR	**Square Bar, Stainless Steel, 1"**		
		Part Inventory in 1301.1	**15.3**
	MTL-SS-1.0SQBAR	Square Bar, Stainless Steel, 1"	**15.3**
MTL-SS-1.0X1.0X.12AN	**Angle, Stainless Steel, 1" X 1" X 1/8"**		
		Part Inventory in 1301.1	**0.0**
	MTL-SS-1.0X1.0X.12AN	Angle, Stainless Steel, 1" X 1" X 1/8"	**0.0**
MTL-SS-1.5X1.5X.12AN	**Angle, Stainless Steel, 1 1/2" X 1 1/2" X 1/8"**		
		Part Inventory in 1301.1	**0.0**
	MTL-SS-1.5X1.5X.12AN	Angle, Stainless Steel, 1 1/2" X 1 1/2" X 1/	**0.0**
MTL-SS-1/8X1.5FLST	**Metal, Stainless Steel, Flat Strap, 1/8" X 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	MTL-SS-1/8X1.5FLST	Metal, Stainless Steel, Flat Strap, 1/8" X 1	**0.0**
MTL-SS-48"X20GA	**Metal, Stainless Steel, 48" X 20 Gauge**		
		Part Inventory in 1301.1	**0.0**
	MTL-SS-48"X20GA	Metal, Stainless Steel, 48" X 20 Gauge	**0.0**
MTR-AOSMITH-4UU94	**Motor, A.O. Smith, P/N4UU94, 1/15 HP, 1050 RPM, 115 V, 1 Ph,**		
		Part Inventory in 1301.1	**2.0**
	MTR-AOSMITH-4UU94	Motor, A.O. Smith, P/N4UU94, 1/15 HP, 1(	**2.0**
1300 Parts Warehouse 13 N P St			
MTR-BALDOR-CL3503	**Motor, Baldor 1/2 hp, 3450 rpm, 1 ph., 115/230 volt, 56C frame,**		
		Part Inventory in 1301.1	**1.0**
	MTR-BALDOR-CL3503	Motor, Baldor 1/2 hp, 3450 rpm, 1 ph., 115	**1.0**
MTR-BALDOR-CWDM3545	**Motor, Baldor, 1 ph, 3450 rpm, 3 ph, 230/460 volt, 56C frame, P**		
		Part Inventory in 1301.1	**1.0**
	MTR-BALDOR-CWDM3545	Motor, Baldor, 1 ph, 3450 rpm, 3 ph, 230/4	**1.0**
MTR-BALDOR-IDXM7144T	**Motor, Baldor P/N IDXM7144T, 5 hp, 1750 rpm, 3 ph, 184TC fr.,**		
		Part Inventory in 1301.1	**1.0**
	MTR-BALDOR-IDXM7144T	Motor, Baldor P/N IDXM7144T, 5 hp, 1750	**1.0**
MTR-BALDOR-L1200	**Motor, Baldor Cat #l1200, 1/6 HP, 1725 RPM, 1 Ph., 115/208-230**		
		Part Inventory in 1301.1	**5.0**
	MTR-BALDOR-L1200	Motor, Baldor Cat #l1200, 1/6 HP, 1725 RI	**5.0**
MTR-BALDOR-L1307A	**Motor, Baldor Cat # L1307A, 3/4 HP, 1725 RPM, 1 Phase, 115/23**		
		Part Inventory in 1301.1	**0.0**
	MTR-BALDOR-L1307A	Motor, Baldor Cat # L1307A, 3/4 HP, 1725	**0.0**
MTR-BALDOR-L3510	**Motor, Baldor Cat #L3510, 1 HP, 1725 RPM, 1 Phase, 115/230 V**		
		Part Inventory in 1301.1	**1.0**
	MTR-BALDOR-L3510	Motor, Baldor Cat #L3510, 1 HP, 1725 RP	**1.0**
MTR-BALDOR-M3545	**Motor, 1 HP, 3450 RPM, 230/460 Volt, 3 Phase, 56 Frame, Baldo**		

		Part Inventory in 1301.1	**0.0**
	MTR-BALDOR-M3545	Motor, 1 HP, 3450 RPM, 230/460 Volt, 3 P	**0.0**
MTR-BALDOR-VL3503	**Motor, Baldor Cat # VL3503, 1/2 HP, 3450 RPM, 1 Ph, 120/240 V**		
		Part Inventory in 1301.1	**1.0**
	MTR-BALDOR-VL3503	Motor, Baldor Cat # VL3503, 1/2 HP, 3450	**1.0**
MTR-BALDOR-VM8002	**Motor, Baldor Cat #VM8002, 3/4 hp, 1725 rpm, 3 Phase, 230/46(**		
		Part Inventory in 1301.1	**1.0**
	MTR-BALDOR-VM8002	Motor, Baldor Cat #VM8002, 3/4 hp, 1725	**1.0**
MTR-BALDOR-VM8003T	**Motor, Baldor P/N VM8003T, 1 HP, 1728 RPM, 3 Ph, 208-230/46(**		
		Part Inventory in 1301.1	**2.0**
	MTR-BALDOR-VM8003T	Motor, Baldor P/N VM8003T, 1 HP, 1728 F	**2.0**
MTR-DAY-3M777A	**Motor, Dayton P/N 3M777A, 1/30 HP, 3000 RPM, 115 V, 1 Ph, fo**		
		Part Inventory in 1301.1	**2.0**
	MTR-DAY-3M777A	Motor, Dayton P/N 3M777A, 1/30 HP, 300	**2.0**
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MTR-DAYTON-5K258	**Motor, 1/2 HP, 1725 RPM, 1 Ph., 115 V., 56Z Frame, Dayton P/N**		
		Part Inventory in 1301.1	**0.0**
	MTR-DAYTON-5K258	Motor, 1/2 HP, 1725 RPM, 1 Ph., 115 V., 5	**0.0**
MTR-FASCO-P4847B	**Motor, Fasco P/N P4847B, 1/4 HP, 3200 RPM, 460V, 1 Ph**		
		Part Inventory in 1301.1	**2.0**
	MTR-FASCO-P4847B	Motor, Fasco P/N P4847B, 1/4 HP, 3200 F	**2.0**
MTR-GE-6K566	**Motor, 1/6 Hp, 1725 rpm, 115 v., 48 Fr., GE P/N 6K566**		
		Part Inventory in 1301.1	**1.0**
	MTR-GE-6K566	Motor, 1/6 Hp, 1725 rpm, 115 v., 48 Fr., G	**1.0**
MTR-ROTOR-SUMPPUMP	**Rotor, Sump Pump, for Massard Operations Bldg Basement**		
		Part Inventory in 1301.1	**3.0**
	MTR-ROTOR-SUMPPUMP	Rotor, Sump Pump, for Massard Operatior	**3.0**
MWR-CLEVIS-92973	**Clevis, for Brush Hog, Gray Brothers P/N 92973**		
		Part Inventory in 1301.1	**0.0**
	MWR-CLEVIS-92973	Clevis, for Brush Hog, Gray Brothers P/N 9	**0.0**
MWR-COVERAUTO25	**Cover, Weedeater, Auto Feed, 25**		
		Part Inventory in 1301.1	**0.0**
	MWR-COVERAUTO25	Cover, Weedeater, Auto Feed, 25	**0.0**
MWR-DEBRISSHIELD	**Debris Shield, for weedeater**		
		Part Inventory in 1301.1	**0.0**
	MWR-DEBRISSHIELD	Debris Shield, for weedeater	**0.0**
MWR-GRASSSEED	**Grass Seed**		
		Part Inventory in 1301.1	**0.0**

	MWR-GRASSSEED	Grass Seed	**0.0**
MWR-HITCHPIN-.37X4.2	**Hitch Pin, 3/8" X 4 1/4"**		
		Part Inventory in 1301.1	**0.0**
	MWR-HITCHPIN-.37X4.2	Hitch Pin, 3/8" X 4 1/4"	**0.0**
MWR-HITCHPIN-.75X4.2	**Hitch Pin, 3/4" X 4 1/4"**		
		Part Inventory in 1301.1	**0.0**
	MWR-HITCHPIN-.75X4.2	Hitch Pin, 3/4" X 4 1/4"	**0.0**
MWR-HYDFITTING-3/8	**Fitting, Hydraulic, 3/8"**		
		Part Inventory in 1301.1	**0.0**
	MWR-HYDFITTING-3/8	Fitting, Hydraulic, 3/8"	**0.0**
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MWR-HYDFTNGADAPT-3/8	**Adapter, Hydraulic, 3/8" Flare to 3/8" NPT**		
		Part Inventory in 1301.1	**0.0**
	MWR-HYDFTNGADAPT-3/8	Adapter, Hydraulic, 3/8" Flare to 3/8" NPT	**0.0**
MWR-KBT-01133-51090	**Bolt, 10mm-1.25 X 88mm, Kubota P/N 01133-51090**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-01133-51090	Bolt, 10mm-1.25 X 88mm, Kubota P/N 011	**0.0**
MWR-KBT-02074-50160	**Nut, 4T, Kubota P/N 02074-50160**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-02074-50160	Nut, 4T, Kubota P/N 02074-50160	**0.0**
MWR-KBT-02574-50100	**Nut, Self-Locking, 10mm-1.25, Kubota P/N 02574-50100**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-02574-50100	Nut, Self-Locking, 10mm-1.25, Kubota P/N	**0.0**
MWR-KBT-04015-70100	**Washer, Lock, 10mm, Kubota P/N 04015-70100**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-04015-70100	Washer, Lock, 10mm, Kubota P/N 04015-7	**0.0**
MWR-KBT-05712-00722	**Key, Feather, Kubota P/N 05712-00722**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-05712-00722	Key, Feather, Kubota P/N 05712-00722	**0.0**
MWR-KBT-08101-06205	**Bearing, Ball, Kubota P/N 08101-06205**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-08101-06205	Bearing, Ball, Kubota P/N 08101-06205	**0.0**
MWR-KBT-09230-35475	**Seal, Oil, Kubota P/N 09230-35475**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-09230-35475	Seal, Oil, Kubota P/N 09230-35475	**0.0**
MWR-KBT-11150	**Blade, Cutter, for 15' Batwing Left Side, Kubota P/N 11150**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-11150	Blade, Cutter, for 15' Batwing Left Side, Ku	**0.0**

MWR-KBT-70722-34120	**Seal, Oil, Kubota P/N 70722-34120**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-70722-34120	Seal, Oil, Kubota P/N 70722-34120	**0.0**
MWR-KBT-70725-34162	**Seal, Oil, Kubota P/N 70725-34162**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-70725-34162	Seal, Oil, Kubota P/N 70725-34162	**0.0**
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MWR-KBT-7555BH	**Blade, 5 Ft., for 15' Bat Wing Right Side, Kubota P/N 7555BH**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-7555BH	Blade, 5 Ft., for 15' Bat Wing Right Side, K	**0.0**
MWR-KBT-7556BH	**Blade, 6 Ft., for 15' Batwing Center, Kubota P/N 7556BH**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-7556BH	Blade, 6 Ft., for 15' Batwing Center, Kubot	**0.0**
MWR-KBT-HH150-32094	**Assy. Cartridge, Oil Filters (2), Kubota P/N HH150-32094**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-HH150-32094	Assy. Cartridge, Oil Filters (2), Kubota P/N	**0.0**
MWR-KBT-K3181-24492	**Valve, Fuel, Kubota P/N K3181-24492**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-K3181-24492	Valve, Fuel, Kubota P/N K3181-24492	**0.0**
MWR-KBT-K3181-65212	**Lens, Light, Kubota P/N K3181-65212**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-K3181-65212	Lens, Light, Kubota P/N K3181-65212	**0.0**
MWR-KBT-K5371-42110	**Gauge, Wheel (Rear Wheel), Kubota P/N K5371-42110**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-K5371-42110	Gauge, Wheel (Rear Wheel), Kubota P/N I	**0.0**
MWR-KBT-K5617-72660	**Boss, Gauge Wheel, Kubota P/N K5617-72660**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-K5617-72660	Boss, Gauge Wheel, Kubota P/N K5617-7	**0.0**
MWR-KBT-K5647-34312	**Dust Cover, Kubota P/N K5647-34312**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-K5647-34312	Dust Cover, Kubota P/N K5647-34312	**0.0**
MWR-KBT-K5647-34340	**Blade, H30, Kubota P/N K5647-34340**		
		Part Inventory in 1301.1	**0.0**
	MWR-KBT-K5647-34340	Blade, H30, Kubota P/N K5647-34340	**0.0**
MWR-KBT-K5647-34710	**Belt, Kubota P/N K5647-34710**		
		Part Inventory in 1301.1	**1.0**
	MWR-KBT-K5647-34710	Belt, Kubota P/N K5647-34710	**1.0**

MWR-KBT-K5647-43150 **Collar, (Bushing for Deck on Mowers), Kubota P/N K5647-4315**

Part Inventory in 1301.1 **0.0**

MWR-KBT-K5647-43150 Collar, (Bushing for Deck on Mowers), Kut **0.0**

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MWR-KBT-K5651-34352 **Washer, for mower blade, Kubota P/N K5651-34352**

Part Inventory in 1301.1 **0.0**

MWR-KBT-K5651-34352 Washer, for mower blade, Kubota P/N K5(**0.0**

MWR-KBT-K5651-34372 **Bolt, for Mower Blade, Kubota P/N K5651-34372**

Part Inventory in 1301.1 **0.0**

MWR-KBT-K5651-34372 Bolt, for Mower Blade, Kubota P/N K5651- **0.0**

MWR-KBT-K5668-34540 **Shaft, Spindle, Kubota P/N K5668-34540**

Part Inventory in 1301.1 **0.0**

MWR-KBT-K5668-34540 Shaft, Spindle, Kubota P/N K5668-34540 **0.0**

MWR-KBT-K5668-42100 **Assembly Roller (Front Wheel), Kubota P/N K5668-42100**

Part Inventory in 1301.1 **0.0**

MWR-KBT-K5668-42100 Assembly Roller (Front Wheel), Kubota P/I **0.0**

MWR-NEWHOL-47124892 **Seat Back, New Holland P/N 47124892**

Part Inventory in 1301.1 **0.0**

MWR-NEWHOL-47124892 Seat Back, New Holland P/N 47124892 **0.0**

MWR-NEWHOL-47124893 **Seat Cushion, New Holland P/N 47124893**

Part Inventory in 1301.1 **0.0**

MWR-NEWHOL-47124893 Seat Cushion, New Holland P/N 4712489(**0.0**

MWR-NEWHOL-84224148 **Glass, Back, for Tractor, New Holland P/N 84224148**

Part Inventory in 1301.1 **0.0**

MWR-NEWHOL-84224148 Glass, Back, for Tractor, New Holland P/N **0.0**

MWR-NH-00759338P **Blade, CW, New Holland, for 15' Batwing**

Part Inventory in 1301.1 **0.0**

MWR-NH-00759338P Blade, CW, New Holland, for 15' Batwing **0.0**

MWR-NH-00759339P **Blade, CCW, New Holland, for 15' Batwing**

Part Inventory in 1301.1 **0.0**

MWR-NH-00759339P Blade, CCW, New Holland, for 15' Batwing **0.0**

MWR-NH-0582010330P **Blade, CCW, New Holland, for 15' Batwing**

Part Inventory in 1301.1 **0.0**

MWR-NH-0582010330P Blade, CCW, New Holland, for 15' Batwing **0.0**

MWR-NH-RHIB571044 **Bolt, BDL, for 15' Batwing Brush Hog Blades, New Holland P/N**

Part Inventory in 1301.1 **0.0**

MWR-NH-RHIB571044 Bolt, BDL, for 15' Batwing Brush Hog Blad **0.0**

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MWR-POLYCUT-BLADES **Blades, Polycut**

Part Inventory in 1301.1 **0.0**

MWR-POLYCUT-BLADES Blades, Polycut **0.0**

MWR-POLYCUT-HEAD **Head, Polycut 2, Spin-on**

Part Inventory in 1301.1 **0.0**

MWR-POLYCUT-HEAD Head, Polycut 2, Spin-on **0.0**

MWR-PTOLOCKINGPIN **PTO Locking Pin**

Part Inventory in 1301.1 **0.0**

MWR-PTOLOCKINGPIN PTO Locking Pin **0.0**

MWR-SPARKPLUG-2CYCLE **Spark Plug, for 2 Cycle Engines**

Part Inventory in 1301.1 **0.0**

MWR-SPARKPLUG-2CYCLE Spark Plug, for 2 Cycle Engines **0.0**

MWR-SPRAYGUN **Spray Gun for the Spray Rig**

Part Inventory in 1301.1 **0.0**

MWR-SPRAYGUN Spray Gun for the Spray Rig **0.0**

MWR-STRAWBALE **Straw, Bale**

Part Inventory in 1301.1 **0.0**

MWR-STRAWBALE Straw, Bale **0.0**

MWR-TRIMMERHEAD-25-2 **Trimmer Head, for Stihl Weedeater, 25-2**

Part Inventory in 1301.1 **0.0**

MWR-TRIMMERHEAD-25-2 Trimmer Head, for Stihl Weedeater, 25-2 **0.0**

MWR-TRMMRSTRAP **Strap, Weedeater**

Part Inventory in 1301.1 **0.0**

MWR-TRMMRSTRAP Strap, Weedeater **0.0**

MWR-WDTRSNAPRING **Ring Key Snap Bolt Brass for Weedeater**

Part Inventory in 1301.1 **0.0**

MWR-WDTRSNAPRING Ring Key Snap Bolt Brass for Weedeater **0.0**

MWR-WEEDEATER-240B **Weedeater, 240B**

Part Inventory in 1301.1 **1.0**

MWR-WEEDEATER-240B Weedeater, 240B **1.0**

MWR-WEEDEATERLINE095 **Weedeater Line, 0.095", 5 lb. Bulk Spool**

Part Inventory in 1301.1 **0.0**

MWR-WEEDEATERLINE095 Weedeater Line, 0.095", 5 lb. Bulk Spool **0.0**

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MWR-WEEDEATERLINE252 **Weedeater Spool with Line, 25-2**

Part Inventory in 1301.1 **0.0**

MWR-WEEDEATERLINE252 Weedeater Spool with Line, 25-2 **0.0**

MWR-WEEDEATERLINE540 **Weedeater Line, 540'**

		Part Inventory in 1301.1	**0.0**
	MWR-WEEDEATERLINE540	Weedeater Line, 540'	**0.0**
OFF-BLACKMARKER-KS	**Marker, Black, King Size**		
		Part Inventory in 1301.1	**1.0**
	OFF-BLACKMARKER-KS	Marker, Black, King Size	**1.0**
OFF-SHOPTICKETHOLDER	**Shop Ticket Holders**		
		Part Inventory in 1301.1	**24.0**
	OFF-SHOPTICKETHOLDER	Shop Ticket Holders	**24.0**
ORG-.210MATERIAL	**O-Ring Material, .210**		
		Part Inventory in 1301.1	**72.0**
	ORG-.210MATERIAL	O-Ring Material, .210	**72.0**
ORG-AS568A-006	**O-Ring, AS568A-006**		
		Part Inventory in 1301.1	**20.0**
	ORG-AS568A-006	O-Ring, AS568A-006	**20.0**
ORG-AS568A-007	**O-Ring, AS568A-007**		
		Part Inventory in 1301.1	**24.0**
	ORG-AS568A-007	O-Ring, AS568A-007	**24.0**
ORG-AS568A-008	**O-Ring, AS568A-008**		
		Part Inventory in 1301.1	**17.0**
	ORG-AS568A-008	O-Ring, AS568A-008	**17.0**
ORG-AS568A-009	**O-Ring, AS568A-009**		
		Part Inventory in 1301.1	**15.0**
	ORG-AS568A-009	O-Ring, AS568A-009	**15.0**
ORG-AS568A-010VITON	**O-Ring, AS568A-010, Viton**		
		Part Inventory in 1301.1	**19.0**
	ORG-AS568A-010VITON	O-Ring, AS568A-010, Viton	**19.0**
ORG-AS568A-013	**O-Ring, AS568A-013**		
		Part Inventory in 1301.1	**16.0**
	ORG-AS568A-013	O-Ring, AS568A-013	**16.0**
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ORG-AS568A-015	**O-Ring, AS568A-015**		
		Part Inventory in 1301.1	**73.0**
	ORG-AS568A-015	O-Ring, AS568A-015	**73.0**
ORG-AS568A-016	**O-Ring, AS568A-016**		
		Part Inventory in 1301.1	**38.0**
	ORG-AS568A-016	O-Ring, AS568A-016	**38.0**
ORG-AS568A-022	**O-Ring, AS568A-022**		
		Part Inventory in 1301.1	**4.0**

	ORG-AS568A-022	O-Ring, AS568A-022	**4.0**
ORG-AS568A-023	**O-Ring, AS568A-023**		
		Part Inventory in 1301.1	**12.0**
	ORG-AS568A-023	O-Ring, AS568A-023	**12.0**
ORG-AS568A-024	**O-Ring, AS568A-024**		
		Part Inventory in 1301.1	**13.0**
	ORG-AS568A-024	O-Ring, AS568A-024	**13.0**
ORG-AS568A-033	**O-Ring, AS568A-033**		
		Part Inventory in 1301.1	**10.0**
	ORG-AS568A-033	O-Ring, AS568A-033	**10.0**
ORG-AS568A-110	**O-Ring, AS568A-110 Buna N**		
		Part Inventory in 1301.1	**34.0**
	ORG-AS568A-110	O-Ring, AS568A-110 Buna N	**34.0**
ORG-AS568A-110VITON	**O-Ring, AS568A-110, VITON**		
		Part Inventory in 1301.1	**12.0**
	ORG-AS568A-110VITON	O-Ring, AS568A-110, VITON	**12.0**
ORG-AS568A-112	**O-Ring, AS568A-112**		
		Part Inventory in 1301.1	**33.0**
	ORG-AS568A-112	O-Ring, AS568A-112	**33.0**
ORG-AS568A-112VITON	**O-Ring, AS568A-112, Viton**		
		Part Inventory in 1301.1	**8.0**
	ORG-AS568A-112VITON	O-Ring, AS568A-112, Viton	**8.0**
ORG-AS568A-113	**O-Ring, AS568A-113**		
		Part Inventory in 1301.1	**25.0**
	ORG-AS568A-113	O-Ring, AS568A-113	**25.0**
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ORG-AS568A-114VITON	**O-Ring, AS568A-114, Viton**		
		Part Inventory in 1301.1	**51.0**
	ORG-AS568A-114VITON	O-Ring, AS568A-114, Viton	**51.0**
ORG-AS568A-115	**O-Ring, AS568A-115**		
		Part Inventory in 1301.1	**6.0**
	ORG-AS568A-115	O-Ring, AS568A-115	**6.0**
ORG-AS568A-117	**O-Ring, AS568A-117**		
		Part Inventory in 1301.1	**4.0**
	ORG-AS568A-117	O-Ring, AS568A-117	**4.0**
ORG-AS568A-121	**O-Ring, AS568A-121**		
		Part Inventory in 1301.1	**6.0**
	ORG-AS568A-121	O-Ring, AS568A-121	**6.0**

ORG-AS568A-122-VITON **O-Rings, Viton, AS568A-122**

Part Inventory in 1301.1 **24.0**

ORG-AS568A-122-VITON O-Rings, Viton, AS568A-122 **24.0**

ORG-AS568A-124 **O-Ring, AS568A-124**

Part Inventory in 1301.1 **8.0**

ORG-AS568A-124 O-Ring, AS568A-124 **8.0**

ORG-AS568A-126 **O-Ring, AS568A-126**

Part Inventory in 1301.1 **29.0**

ORG-AS568A-126 O-Ring, AS568A-126 **29.0**

ORG-AS568A-129 **O-Ring, AS568A-129**

Part Inventory in 1301.1 **3.0**

ORG-AS568A-129 O-Ring, AS568A-129 **3.0**

ORG-AS568A-131 **O-Ring, AS568A-131**

Part Inventory in 1301.1 **3.0**

ORG-AS568A-131 O-Ring, AS568A-131 **3.0**

ORG-AS568A-140 **O-Ring, AS568A-140**

Part Inventory in 1301.1 **2.0**

ORG-AS568A-140 O-Ring, AS568A-140 **2.0**

ORG-AS568A-141 **O-Ring, AS568A-141**

Part Inventory in 1301.1 **1.0**

ORG-AS568A-141 O-Ring, AS568A-141 **1.0**

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ORG-AS568A-143 **O-Ring, AS568A-143**

Part Inventory in 1301.1 **5.0**

ORG-AS568A-143 O-Ring, AS568A-143 **5.0**

ORG-AS568A-145 **O-Ring, AS568A-145**

Part Inventory in 1301.1 **2.0**

ORG-AS568A-145 O-Ring, AS568A-145 **2.0**

ORG-AS568A-148-VITON **O-Ring, Viton, AS568A-148**

Part Inventory in 1301.1 **11.0**

ORG-AS568A-148-VITON O-Ring, Viton, AS568A-148 **11.0**

ORG-AS568A-149 **O-Ring, AS568A-149**

Part Inventory in 1301.1 **2.0**

ORG-AS568A-149 O-Ring, AS568A-149 **2.0**

ORG-AS568A-157-VITON **O-Ring, Viton, AS568A-157**

Part Inventory in 1301.1 **9.0**

ORG-AS568A-157-VITON O-Ring, Viton, AS568A-157 **9.0**

ORG-AS568A-160	**O-Ring, AS568A-160**	
	Part Inventory in 1301.1	**3.0**
ORG-AS568A-160	O-Ring, AS568A-160	**3.0**
ORG-AS568A-161	**O-Ring, AS568A-161**	
	Part Inventory in 1301.1	**14.0**
ORG-AS568A-161	O-Ring, AS568A-161	**14.0**
ORG-AS568A-170	**O-Ring, AS568A-170**	
	Part Inventory in 1301.1	**2.0**
ORG-AS568A-170	O-Ring, AS568A-170	**2.0**
ORG-AS568A-207	**O-Ring, AS568A-207**	
	Part Inventory in 1301.1	**23.0**
ORG-AS568A-207	O-Ring, AS568A-207	**23.0**
ORG-AS568A-210KALREZ	**O-Ring, AS568A-210, Kalrez**	
	Part Inventory in 1301.1	**9.0**
ORG-AS568A-210KALREZ	O-Ring, AS568A-210, Kalrez	**9.0**
ORG-AS568A-212	**O-Ring, AS568A-212**	
	Part Inventory in 1301.1	**46.0**
ORG-AS568A-212	O-Ring, AS568A-212	**46.0**

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ORG-AS568A-214	**O-Ring, AS568A-214**	
	Part Inventory in 1301.1	**42.0**
ORG-AS568A-214	O-Ring, AS568A-214	**42.0**
ORG-AS568A-215-VITON	**O-Ring, Viton, AS568A-215**	
	Part Inventory in 1301.1	**12.0**
ORG-AS568A-215-VITON	O-Ring, Viton, AS568A-215	**12.0**
ORG-AS568A-216	**O-Ring, AS568A-216**	
	Part Inventory in 1301.1	**25.0**
ORG-AS568A-216	O-Ring, AS568A-216	**25.0**
ORG-AS568A-217	**O-Ring, AS568A-217**	
	Part Inventory in 1301.1	**5.0**
ORG-AS568A-217	O-Ring, AS568A-217	**5.0**
ORG-AS568A-218	**O-Ring, AS568A-218**	
	Part Inventory in 1301.1	**20.0**
ORG-AS568A-218	O-Ring, AS568A-218	**20.0**
ORG-AS568A-218-VITON	**O-Ring, Viton, AS568A-218**	
	Part Inventory in 1301.1	**12.0**
ORG-AS568A-218-VITON	O-Ring, Viton, AS568A-218	**12.0**
ORG-AS568A-219	**O-Ring, AS568A-219**	

	Part Inventory in 1301.1	**5.0**
ORG-AS568A-219	O-Ring, AS568A-219	**5.0**
ORG-AS568A-222	**O-Ring, AS568A-222**	
	Part Inventory in 1301.1	**38.0**
ORG-AS568A-222	O-Ring, AS568A-222	**38.0**
ORG-AS568A-222-VITON	**O-Ring, Viton, AS568A-222**	
	Part Inventory in 1301.1	**12.0**
ORG-AS568A-222-VITON	O-Ring, Viton, AS568A-222	**12.0**
ORG-AS568A-225	**O-Ring, AS568A-225**	
	Part Inventory in 1301.1	**20.0**
ORG-AS568A-225	O-Ring, AS568A-225	**20.0**
ORG-AS568A-226	**O-Ring, AS568A-226**	
	Part Inventory in 1301.1	**3.0**
ORG-AS568A-226	O-Ring, AS568A-226	**3.0**

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ORG-AS568A-228	**O-Ring, AS568A-228**	
	Part Inventory in 1301.1	**12.0**
ORG-AS568A-228	O-Ring, AS568A-228	**12.0**
ORG-AS568A-228-VITON	**O-Ring, Viton, AS568A-228**	
	Part Inventory in 1301.1	**0.0**
ORG-AS568A-228-VITON	O-Ring, Viton, AS568A-228	**0.0**
ORG-AS568A-229	**O-Ring, AS568A-229**	
	Part Inventory in 1301.1	**1.0**
ORG-AS568A-229	O-Ring, AS568A-229	**1.0**
ORG-AS568A-231	**O-Ring, AS568A-231**	
	Part Inventory in 1301.1	**2.0**
ORG-AS568A-231	O-Ring, AS568A-231	**2.0**
ORG-AS568A-233	**O-Ring, AS568A-233**	
	Part Inventory in 1301.1	**7.0**
ORG-AS568A-233	O-Ring, AS568A-233	**7.0**
ORG-AS568A-234	**O-Ring, AS568A-234**	
	Part Inventory in 1301.1	**4.0**
ORG-AS568A-234	O-Ring, AS568A-234	**4.0**
ORG-AS568A-235	**O-Ring, AS568A-235**	
	Part Inventory in 1301.1	**4.0**
ORG-AS568A-235	O-Ring, AS568A-235	**4.0**
ORG-AS568A-237	**O-Ring, AS568A-237**	
	Part Inventory in 1301.1	**7.0**

	ORG-AS568A-237 O-Ring, AS568A-237	**7.0**
ORG-AS568A-238	**O-Ring, AS568A-238**	
	Part Inventory in 1301.1	**12.0**
	ORG-AS568A-238 O-Ring, AS568A-238	**12.0**
ORG-AS568A-239	**O-Ring, AS568A-239**	
	Part Inventory in 1301.1	**5.0**
	ORG-AS568A-239 O-Ring, AS568A-239	**5.0**
ORG-AS568A-240	**O-Ring, AS568A-240**	
	Part Inventory in 1301.1	**2.0**
	ORG-AS568A-240 O-Ring, AS568A-240	**2.0**
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ORG-AS568A-242-VITON	**O-Rings, Viton, AS568A-242**	
	Part Inventory in 1301.1	**0.0**
	ORG-AS568A-242-VITON O-Rings, Viton, AS568A-242	**0.0**
ORG-AS568A-243	**O-Ring, AS568A-243**	
	Part Inventory in 1301.1	**5.0**
	ORG-AS568A-243 O-Ring, AS568A-243	**5.0**
ORG-AS568A-248	**O-Ring, AS568A-248**	
	Part Inventory in 1301.1	**1.0**
	ORG-AS568A-248 O-Ring, AS568A-248	**1.0**
ORG-AS568A-250	**O-Ring, AS568A-250**	
	Part Inventory in 1301.1	**1.0**
	ORG-AS568A-250 O-Ring, AS568A-250	**1.0**
ORG-AS568A-251	**O Ring, AS568A-251**	
	Part Inventory in 1301.1	**4.0**
	ORG-AS568A-251 O Ring, AS568A-251	**4.0**
ORG-AS568A-258	**O-Ring, AS568A-258**	
	Part Inventory in 1301.1	**2.0**
	ORG-AS568A-258 O-Ring, AS568A-258	**2.0**
ORG-AS568A-260	**O-Ring, AS568A-260**	
	Part Inventory in 1301.1	**1.0**
	ORG-AS568A-260 O-Ring, AS568A-260	**1.0**
ORG-AS568A-264	**O-Ring, AS568A-264**	
	Part Inventory in 1301.1	**11.0**
	ORG-AS568A-264 O-Ring, AS568A-264	**11.0**
ORG-AS568A-265	**O-Ring, AS568A-265**	
	Part Inventory in 1301.1	**25.0**
	ORG-AS568A-265 O-Ring, AS568A-265	**25.0**

ORG-AS568A-268	**O-Ring, AS568A-268**	
	Part Inventory in 1301.1	**4.0**
ORG-AS568A-268	O-Ring, AS568A-268	**4.0**
ORG-AS568A-270	**O-Ring, AS568A-270**	
	Part Inventory in 1301.1	**3.0**
ORG-AS568A-270	O-Ring, AS568A-270	**3.0**

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ORG-AS568A-272	**O-Ring, AS568A-272**	
	Part Inventory in 1301.1	**2.0**
ORG-AS568A-272	O-Ring, AS568A-272	**2.0**
ORG-AS568A-274	**O-Ring, AS568A-274**	
	Part Inventory in 1301.1	**1.0**
ORG-AS568A-274	O-Ring, AS568A-274	**1.0**
ORG-AS568A-275	**O-Ring, AS568A-275**	
	Part Inventory in 1301.1	**1.0**
ORG-AS568A-275	O-Ring, AS568A-275	**1.0**
ORG-AS568A-277	**O-Ring, AS568A-277**	
	Part Inventory in 1301.1	**3.0**
ORG-AS568A-277	O-Ring, AS568A-277	**3.0**
ORG-AS568A-278	**O-Ring, AS568A-278**	
	Part Inventory in 1301.1	**13.0**
ORG-AS568A-278	O-Ring, AS568A-278	**13.0**
ORG-AS568A-321	**O-Ring, AS568A-321**	
	Part Inventory in 1301.1	**12.0**
ORG-AS568A-321	O-Ring, AS568A-321	**12.0**
ORG-AS568A-325	**O-Ring, AS568A-325**	
	Part Inventory in 1301.1	**2.0**
ORG-AS568A-325	O-Ring, AS568A-325	**2.0**
ORG-AS568A-326	**O-Ring, AS568A-326**	
	Part Inventory in 1301.1	**16.0**
ORG-AS568A-326	O-Ring, AS568A-326	**16.0**
ORG-AS568A-327	**O-Ring, AS568A-327**	
	Part Inventory in 1301.1	**21.0**
ORG-AS568A-327	O-Ring, AS568A-327	**21.0**
ORG-AS568A-328	**O-Ring, AS568A-328, Buna 70**	
	Part Inventory in 1301.1	**7.0**
ORG-AS568A-328	O-Ring, AS568A-328, Buna 70	**7.0**

ORG-AS568A-330 **O-Ring, AS568A-330**

Part Inventory in 1301.1 **4.0**

ORG-AS568A-330 O-Ring, AS568A-330 **4.0**

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ORG-AS568A-333 **O-Ring, AS568A-333**

Part Inventory in 1301.1 **4.0**

ORG-AS568A-333 O-Ring, AS568A-333 **4.0**

ORG-AS568A-335 **O-Ring, AS568A-335 Buna 70**

Part Inventory in 1301.1 **0.0**

ORG-AS568A-335 O-Ring, AS568A-335 Buna 70 **0.0**

ORG-AS568A-336 **O-Ring, AS568A-336**

Part Inventory in 1301.1 **7.0**

ORG-AS568A-336 O-Ring, AS568A-336 **7.0**

ORG-AS568A-337 **O-Ring, AS568A-337**

Part Inventory in 1301.1 **4.0**

ORG-AS568A-337 O-Ring, AS568A-337 **4.0**

ORG-AS568A-366 **O-Ring, AS568A-366**

Part Inventory in 1301.1 **1.0**

ORG-AS568A-366 O-Ring, AS568A-366 **1.0**

ORG-AS568A-368 **O-Ring, AS568A-368**

Part Inventory in 1301.1 **1.0**

ORG-AS568A-368 O-Ring, AS568A-368 **1.0**

ORG-AS568A-370 **O-Ring, AS568A-370**

Part Inventory in 1301.1 **1.0**

ORG-AS568A-370 O-Ring, AS568A-370 **1.0**

ORG-AS568A-384 **O-Ring, AS568A-384**

Part Inventory in 1301.1 **4.0**

ORG-AS568A-384 O-Ring, AS568A-384 **4.0**

ORG-AS568A-402 **O-Ring, AS568A-402**

Part Inventory in 1301.1 **10.0**

ORG-AS568A-402 O-Ring, AS568A-402 **10.0**

ORG-AS568A-433 **O-Ring, AS568A-433**

Part Inventory in 1301.1 **4.0**

ORG-AS568A-433 O-Ring, AS568A-433 **4.0**

ORG-AS568A-438 **O-Ring, AS568A-438**

Part Inventory in 1301.1 **1.0**

ORG-AS568A-438 O-Ring, AS568A-438 **1.0**

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ORG-AS568A-440	**O-Ring, AS568A-440**		
		Part Inventory in 1301.1	**1.0**
	ORG-AS568A-440	O-Ring, AS568A-440	**1.0**
ORG-AS568A-443	**O-Ring, AS568A-443**		
		Part Inventory in 1301.1	**2.0**
	ORG-AS568A-443	O-Ring, AS568A-443	**2.0**
ORG-AS568A-449	**O-Ring, AS568A-449**		
		Part Inventory in 1301.1	**2.0**
	ORG-AS568A-449	O-Ring, AS568A-449	**2.0**
ORG-AS568A-466	**O Ring, AS568A-466**		
		Part Inventory in 1301.1	**4.0**
	ORG-AS568A-466	O Ring, AS568A-466	**4.0**
ORG-AS568A-469	**O-Ring, AS568A-469**		
		Part Inventory in 1301.1	**4.0**
	ORG-AS568A-469	O-Ring, AS568A-469	**4.0**
ORG-FLAT-6.234IDX.14	**O-Ring, Flat 6.234" I.D. X .140" X .140"**		
		Part Inventory in 1301.1	**3.0**
	ORG-FLAT-6.234IDX.14	O-Ring, Flat 6.234" I.D. X .140" X .140"	**3.0**
ORG-FLYGT-827407	**O-Ring, 74.5 mm X 5.7 mm, Flygt P/N 82 74 07**		
		Part Inventory in 1301.1	**0.0**
	ORG-FLYGT-827407	O-Ring, 74.5 mm X 5.7 mm, Flygt P/N 82 7	**0.0**
ORG-H3X115BUNA70	**O-Ring, Metric, H3 X 115 Buna 70**		
		Part Inventory in 1301.1	**2.0**
	ORG-H3X115BUNA70	O-Ring, Metric, H3 X 115 Buna 70	**2.0**
ORG-H3X131BUNA70	**O-Ring, Metric, H3 X 131, Buna 70**		
		Part Inventory in 1301.1	**1.0**
	ORG-H3X131BUNA70	O-Ring, Metric, H3 X 131, Buna 70	**1.0**
ORG-H3X175BUNA70	**O-Ring, Metric, H3 X 175, Buna 70**		
		Part Inventory in 1301.1	**6.0**
	ORG-H3X175BUNA70	O-Ring, Metric, H3 X 175, Buna 70	**6.0**
ORG-H3X204BUNA70	**O-Ring, Metric, H3 X 204 Buna 70**		
		Part Inventory in 1301.1	**1.0**
	ORG-H3X204BUNA70	O-Ring, Metric, H3 X 204 Buna 70	**1.0**
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ORG-H3X230BUNA70	**O-Ring, Metric, H3X230, Buna 70**		
		Part Inventory in 1301.1	**1.0**
	ORG-H3X230BUNA70	O-Ring, Metric, H3X230, Buna 70	**1.0**
ORG-H3X40BUNA70	**O-Ring, Metric, H3 X 40 Buna 70**		

		Part Inventory in 1301.1	**14.0**
	ORG-H3X40BUNA70	O-Ring, Metric, H3 X 40 Buna 70	**14.0**
ORG-H3X60BUNA70	**O-Ring, Metric, H3 X 60 Buna 70**		
		Part Inventory in 1301.1	**9.0**
	ORG-H3X60BUNA70	O-Ring, Metric, H3 X 60 Buna 70	**9.0**
ORG-H3X84BUNA70	**O-Ring, Metric, H3 X 84 Buna 70**		
		Part Inventory in 1301.1	**5.0**
	ORG-H3X84BUNA70	O-Ring, Metric, H3 X 84 Buna 70	**5.0**
ORG-H3X85BUNA70	**O-Ring, Metric, H3 X 85, Buna 70**		
		Part Inventory in 1301.1	**3.0**
	ORG-H3X85BUNA70	O-Ring, Metric, H3 X 85, Buna 70	**3.0**
ORG-H4X129BUNA70	**O-Ring, Metric, H4 X 129 Buna 70**		
		Part Inventory in 1301.1	**1.0**
	ORG-H4X129BUNA70	O-Ring, Metric, H4 X 129 Buna 70	**1.0**
ORG-H4X12BUNA70	**O-Ring, Metric, H4 X 12 Buna 70**		
		Part Inventory in 1301.1	**48.0**
	ORG-H4X12BUNA70	O-Ring, Metric, H4 X 12 Buna 70	**48.0**
ORG-H4X172BUNA70	**O-Ring, Metric, H4 X 172 Buna 70**		
		Part Inventory in 1301.1	**1.0**
	ORG-H4X172BUNA70	O-Ring, Metric, H4 X 172 Buna 70	**1.0**
ORG-H4X212BUNA70	**O-Ring, Metric, H4 X 212 Buna 70**		
		Part Inventory in 1301.1	**2.0**
	ORG-H4X212BUNA70	O-Ring, Metric, H4 X 212 Buna 70	**2.0**
ORG-H4X267BUNA70	**O-Ring, Metric, H4 X 267 Buna 70**		
		Part Inventory in 1301.1	**2.0**
	ORG-H4X267BUNA70	O-Ring, Metric, H4 X 267 Buna 70	**2.0**
ORG-H4X270BUNA70	**O-Ring, Metric, H4 X 270 Buna 70**		
		Part Inventory in 1301.1	**2.0**
	ORG-H4X270BUNA70	O-Ring, Metric, H4 X 270 Buna 70	**2.0**
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ORG-H5.7X229.3BUNA70	**O-Ring, Metric, H5.7 x 229.3, Buna 70**		
		Part Inventory in 1301.1	**2.0**
	ORG-H5.7X229.3BUNA70	O-Ring, Metric, H5.7 x 229.3, Buna 70	**2.0**
ORG-H5.7X479.3BUNA70	**O-Ring, Metric, H5.7 X 479.3, Buna 70**		
		Part Inventory in 1301.1	**12.0**
	ORG-H5.7X479.3BUNA70	O-Ring, Metric, H5.7 X 479.3, Buna 70	**12.0**
ORG-H5X77INBUNA70	**O-Ring, Metric, 5 mm X 77", Buna 70**		
		Part Inventory in 1301.1	**3.0**

	ORG-H5X77INBUNA70	O-Ring, Metric, 5 mm X 77", Buna 70	**3.0**
ORG-SQ-362	**Square O Ring, 362**		
		Part Inventory in 1301.1	**0.0**
	ORG-SQ-362	Square O Ring, 362	**0.0**
PAC-0.250WHITE	**Packing, 1/4" White, Chesterton 412-W**		
		Part Inventory in 1301.1	**229.0**
	PAC-0.250WHITE	Packing, 1/4" White, Chesterton 412-W	**229.0**
PAC-0.375-185JNTSLNT	**Joint Sealant, 3/8", Chesterton 185**		
		Part Inventory in 1301.1	**68.0**
	PAC-0.375-185JNTSLNT	Joint Sealant, 3/8", Chesterton 185	**68.0**
PAC-0.375WHITE	**Packing, 3/8" White, Chesterton 412-W**		
		Part Inventory in 1301.1	**176.0**
	PAC-0.375WHITE	Packing, 3/8" White, Chesterton 412-W	**176.0**
PAC-0.5000WHITE	**Packing, 1/2" White, Chesterton 412W**		
		Part Inventory in 1301.1	**161.0**
	PAC-0.5000WHITE	Packing, 1/2" White, Chesterton 412W	**161.0**
PAC-0.500-185JNTSLNT	**Joint Sealant, 1/2", Chesterton 185**		
		Part Inventory in 1301.1	**6.0**
	PAC-0.500-185JNTSLNT	Joint Sealant, 1/2", Chesterton 185	**6.0**
PAC-0.625WHITE	**Packing, 5/8" White, Chesterton 412W**		
		Part Inventory in 1301.1	**161.0**
	PAC-0.625WHITE	Packing, 5/8" White, Chesterton 412W	**161.0**
PAC-0.750WHITE	**Packing, 3/4" White, Chesterton 412W**		
		Part Inventory in 1301.1	**0.0**
	PAC-0.750WHITE	Packing, 3/4" White, Chesterton 412W	**0.0**
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PAC-0.875WHITE	**Packing, 7/8" White, Chesterton 412-W**		
		Part Inventory in 1301.1	**28.0**
	PAC-0.875WHITE	Packing, 7/8" White, Chesterton 412-W	**28.0**
PAC-1.000WHITE	**Packing, 1.000" White, Chesterton Packmaster #1**		
		Part Inventory in 1301.1	**34.0**
	PAC-1.000WHITE	Packing, 1.000" White, Chesterton Packm	**34.0**
PAC-FLANGE-1.25"	**Packing Flange, 1 1/4" (1.295" ID), Brass**		
		Part Inventory in 1301.1	**3.0**
	PAC-FLANGE-1.25"	Packing Flange, 1 1/4" (1.295" ID), Brass	**3.0**
PAC-FLANGE-3"	**Packing Flange, 3" (3.125" ID, Homemade)**		
		Part Inventory in 1301.1	**1.0**
	PAC-FLANGE-3"	Packing Flange, 3" (3.125" ID, Homemade	**1.0**

PAC-FM-HYD33Y20056F	**Packing, 5 Row Set, Fairbanks Morse P/N HYD33Y2 0056F**		
		Part Inventory in 1301.1	**1.0**
	PAC-FM-HYD33Y20056F	Packing, 5 Row Set, Fairbanks Morse P/N	**1.0**
PAC-KIT-CHST1730DF	**Packing Kit, Chesterton P/N 1730 DF, 4.000 X 3.000 X 0.500, 3 F**		
		Part Inventory in 1301.1	**2.0**
	PAC-KIT-CHST1730DF	Packing Kit, Chesterton P/N 1730 DF, 4.0(	**2.0**
PAC-PULLER-#1X5	**Packing Puller, #1 X 5"**		
		Part Inventory in 1301.1	**0.0**
	PAC-PULLER-#1X5	Packing Puller, #1 X 5"	**0.0**
PAC-PULLER#2&#3X11.5	**Packing Puller, #2 & #3 X 11 1/2"**		
		Part Inventory in 1301.1	**1.0**
	PAC-PULLER#2&#3X11.5	Packing Puller, #2 & #3 X 11 1/2"	**1.0**
PAC-PULLER-#2&#3X8	**Packing Puller, #2 & #3 X 8"**		
		Part Inventory in 1301.1	**2.0**
	PAC-PULLER-#2&#3X8	Packing Puller, #2 & #3 X 8"	**2.0**
PAC-PULLER-#2&#3X8.5	**Packing Puller, #2 &#3 X 8 1/2"**		
		Part Inventory in 1301.1	**2.0**
	PAC-PULLER-#2&#3X8.5	Packing Puller, #2 &#3 X 8 1/2"	**2.0**
PAC-PULLER-#2&#3X9.5	**Packing Puller #2 & #3 X 9.5**		
		Part Inventory in 1301.1	**2.0**
	PAC-PULLER-#2&#3X9.5	Packing Puller #2 & #3 X 9.5	**2.0**
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PAC-PULLER-TIP#1	**Packing Puller, #1 Tip**		
		Part Inventory in 1301.1	**20.0**
	PAC-PULLER-TIP#1	Packing Puller, #1 Tip	**20.0**
PAC-PULLER-TIP#2	**Packing Puller, #2 Tip**		
		Part Inventory in 1301.1	**30.0**
	PAC-PULLER-TIP#2	Packing Puller, #2 Tip	**30.0**
PAC-PULLER-TIP#3	**Packing Puller, #3 Tip**		
		Part Inventory in 1301.1	**15.0**
	PAC-PULLER-TIP#3	Packing Puller, #3 Tip	**15.0**
PFA-1.5BALLVLVBRASS	**Ball Valve, Brass, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-1.5BALLVLVBRASS	Ball Valve, Brass, 1 1/2"	**0.0**
PFA-1/2BALLVLVPVC	**Ball Valve, 1/2", PVC**		
		Part Inventory in 1301.1	**1.0**
	PFA-1/2BALLVLVPVC	Ball Valve, 1/2", PVC	**1.0**

PFA-1/2BALLVLVSS	**Ball Valve, Stainless Steel, 1/2"**	
	Part Inventory in 1301.1	**0.0**
PFA-1/2BALLVLVSS	Ball Valve, Stainless Steel, 1/2"	**0.0**
PFA-1/4BALLVLVBRASS	**Ball Valve, Brass, 1/4"**	
	Part Inventory in 1301.1	**0.0**
PFA-1/4BALLVLVBRASS	Ball Valve, Brass, 1/4"	**0.0**
PFA-1/4BALLVLVSS	**Ball Valve, Stainless Steel, 1/4"**	
	Part Inventory in 1301.1	**4.0**
PFA-1/4BALLVLVSS	Ball Valve, Stainless Steel, 1/4"	**4.0**
PFA-1/4KINGNIPPLESS	**King Nipple, Stainless Steel, 1/4"**	
	Part Inventory in 1301.1	**4.0**
PFA-1/4KINGNIPPLESS	King Nipple, Stainless Steel, 1/4"	**4.0**
PFA-1BALLVLVBRASS	**Ball Valve, Brass, 1"**	
	Part Inventory in 1301.1	**0.0**
PFA-1BALLVLVBRASS	Ball Valve, Brass, 1"	**0.0**
PFA-1BALLVLVSS	**Ball Valve, Stainless Steel, 1"**	
	Part Inventory in 1301.1	**0.0**
PFA-1BALLVLVSS	Ball Valve, Stainless Steel, 1"	**0.0**

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PFA-2BALLVLVBRASS	**Ball Valve, Threaded, Brass, 2"**	
	Part Inventory in 1301.1	**0.0**
PFA-2BALLVLVBRASS	Ball Valve, Threaded, Brass, 2"	**0.0**
PFA-2BALLVLVSS	**Ball Valve, Stainless Steel, 2"**	
	Part Inventory in 1301.1	**1.0**
PFA-2BALLVLVSS	Ball Valve, Stainless Steel, 2"	**1.0**
PFA-3/4BALLVLVSS	**Ball Valve, 3/4" Stainless Steel**	
	Part Inventory in 1301.1	**0.0**
PFA-3/4BALLVLVSS	Ball Valve, 3/4" Stainless Steel	**0.0**
PFA-3/4RBHOSEBIB	**Hose Bib, 3/4" RB**	
	Part Inventory in 1301.1	**0.0**
PFA-3/4RBHOSEBIB	Hose Bib, 3/4" RB	**0.0**
PFA-ASH-8012EBB04TD0	**Pressure Device, Ashcroft P/N 8012EBB04TD00, for P St. Plant**	
	Part Inventory in 1301.1	**0.0**
PFA-ASH-8012EBB04TD0	Pressure Device, Ashcroft P/N 8012EBB0	**0.0**
PFA-BI80-BELL1/2X1/4	**Bell Reducer, 1/2" X 1/4"**	
	Part Inventory in 1301.1	**0.0**
PFA-BI80-BELL1/2X1/4	Bell Reducer, 1/2" X 1/4"	**0.0**
PFA-BI80-BELL3/8X1/4	**Bell Reducer, Black Iron, 3/8" X 1/4"**	

		Part Inventory in 1301.1	**0.0**
	PFA-BI80-BELL3/8X1/4	Bell Reducer, Black Iron, 3/8" X 1/4"	**0.0**
PFA-BI80-COUP-1/2	**Coupling, Black Iron, Schedule 80, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-BI80-COUP-1/2	Coupling, Black Iron, Schedule 80, 1/2"	**0.0**
PFA-BI80-NIP1/2XCL	**Nipple, Black Iron, Schedule 80, 1/2" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-BI80-NIP1/2XCL	Nipple, Black Iron, Schedule 80, 1/2" X Clo	**0.0**
PFA-BI80-NIP1/4XCL	**Nipple, Black Iron, 1/4" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-BI80-NIP1/4XCL	Nipple, Black Iron, 1/4" X Close	**0.0**
PFA-BI80-NIP3/8XCL	**Nipple, Black Iron, 3/8" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-BI80-NIP3/8XCL	Nipple, Black Iron, 3/8" X Close	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-CAMLOCK-BR-M1.5	**Camlock Fitting, Brass, Male, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-CAMLOCK-BR-M1.5	Camlock Fitting, Brass, Male, 1 1/2"	**0.0**
PFA-CI-CO&PLUG-6	**Clean Out with Plug, Cast Iron, 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-CI-CO&PLUG-6	Clean Out with Plug, Cast Iron, 6"	**0.0**
PFA-CI-RB-4.0X2.0	**Reducing Bushing, Cast Iron, 4" X 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-CI-RB-4.0X2.0	Reducing Bushing, Cast Iron, 4" X 2"	**0.0**
PFA-CI-RB-6.0X4.0	**Reducing Bushing, Cast Iron, 6" X 4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-CI-RB-6.0X4.0	Reducing Bushing, Cast Iron, 6" X 4"	**0.0**
PFA-COPPER-2.0L	**Copper, Type L, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-COPPER-2.0L	Copper, Type L, 2"	**0.0**
PFA-COPPER-3/4	**Copper Tube, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-COPPER-3/4	Copper Tube, 3/4"	**0.0**
PFA-FHHYD-PLUNGER	**Plunger, for 77 Blow-Off Fire Hose Hydrant**		
		Part Inventory in 1301.1	**0.0**
	PFA-FHHYD-PLUNGER	Plunger, for 77 Blow-Off Fire Hose Hydran	**0.0**
PFA-FLBOLTPACK8	**Flange Bolt Pack, Stainless Steel, 8 Bolt Pack**		
		Part Inventory in 1301.1	**0.0**

	PFA-FLBOLTPACK8	Flange Bolt Pack, Stainless Steel, 8 Bolt P	**0.0**
PFA-FLT-6"-150#	**Flange, Threaded, 150#, 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-FLT-6"-150#	Flange, Threaded, 150#, 6"	**0.0**
PFA-FOAMINS-2"	**Armacell Proflex Foam Insulation for 2" Copper**		
		Part Inventory in 1301.1	**6.0**
	PFA-FOAMINS-2"	Armacell Proflex Foam Insulation for 2" Cc	**6.0**
PFA-FOAMINS-3/8"	**Insulation, Pipe, Black Rubber, 3/8"**		
		Part Inventory in 1301.1	**0.0**
	PFA-FOAMINS-3/8"	Insulation, Pipe, Black Rubber, 3/8"	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-GALV-1.00PIPE	**Pipe, Galvanized, 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-1.00PIPE	Pipe, Galvanized, 1"	**0.0**
PFA-GALV-1.50PIPE	**Pipe, Galvanized, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-1.50PIPE	Pipe, Galvanized, 1 1/2"	**0.0**
PFA-GALV-2.00PIPE	**Pipe, Galvanized, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-2.00PIPE	Pipe, Galvanized, 2"	**0.0**
PFA-GALV-45TH1/4	**45° Elbow, Galvanized, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-45TH1/4	45° Elbow, Galvanized, 1/4"	**0.0**
PFA-GALV-45TH2	**45° Elbow, Threaded, Galvanized, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-45TH2	45° Elbow, Threaded, Galvanized, 2"	**0.0**
PFA-GALV-90TH1	**90* Elbow, Galvanized, 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-90TH1	90* Elbow, Galvanized, 1"	**0.0**
PFA-GALV-90TH1.5	**90° Elbow, Galvanized, Threaded, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-90TH1.5	90° Elbow, Galvanized, Threaded, 1 1/2"	**0.0**
PFA-GALV-90TH2	**90° Elbow, Threaded, Galvanized, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-90TH2	90° Elbow, Threaded, Galvanized, 2"	**0.0**
PFA-GALV-COUP1.5	**Coupling, Galvanized, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-COUP1.5	Coupling, Galvanized, 1 1/2"	**0.0**

PFA-GALV-COUP2.0	**Coupling, Galvanized, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-COUP2.0	Coupling, Galvanized, 2"	**0.0**
PFA-GALV-NIP1.5X6	**Nipple, Galvanized, 1 1/2" X 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-NIP1.5X6	Nipple, Galvanized, 1 1/2" X 6"	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-GALV-NIP1.5XCL	**Nipple, Galvanized, 1 1/2" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-NIP1.5XCL	Nipple, Galvanized, 1 1/2" X Close	**0.0**
PFA-GALV-NIP1X4.5	**Nipple, Galvanized, 1" X 4 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-NIP1X4.5	Nipple, Galvanized, 1" X 4 1/2"	**0.0**
PFA-GALV-NIP1X6	**Nipple, Galvanized, 1" X 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-NIP1X6	Nipple, Galvanized, 1" X 6"	**0.0**
PFA-GALV-NIP1XCL	**Nipple, Galvanized, 1" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-NIP1XCL	Nipple, Galvanized, 1" X Close	**0.0**
PFA-GALV-NIP2X2.5	**Nipple, Galvanized, 2" X 2 1/2"**		
		Part Inventory in 1301.1	**1.0**
	PFA-GALV-NIP2X2.5	Nipple, Galvanized, 2" X 2 1/2"	**1.0**
PFA-GALV-NIP2XCL	**Nipple, Galvanized, 2" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-NIP2XCL	Nipple, Galvanized, 2" X Close	**0.0**
PFA-GALV-RB1.5X0.75	**Reducing Bushing, Galvanized, 1 1/2" X 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-RB1.5X0.75	Reducing Bushing, Galvanized, 1 1/2" X 3/	**0.0**
PFA-GALV-RT1.5X0.5	**Tee, Galvanized, Threaded, Reducing, 1 1/2" X 1 1/2" X 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-RT1.5X0.5	Tee, Galvanized, Threaded, Reducing, 1 1	**0.0**
PFA-GALV-TEE2.0	**Tee, Galvanized, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-TEE2.0	Tee, Galvanized, 2"	**0.0**
PFA-GALV-UNION-1	**Union, Brass/Iron Galvanized, 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-GALV-UNION-1	Union, Brass/Iron Galvanized, 1"	**0.0**

PFA-GALV-UNION-1.5 **Union, Galvanized, 1 1/2"**

Part Inventory in 1301.1 **0.0**

PFA-GALV-UNION-1.5 Union, Galvanized, 1 1/2" **0.0**

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PFA-GALV-UNION-2 **Union, Galvanized, 2"**

Part Inventory in 1301.1 **0.0**

PFA-GALV-UNION-2 Union, Galvanized, 2" **0.0**

PFA-GATEVALVE2.00" **Valve, Gate, 2"**

Part Inventory in 1301.1 **1.0**

PFA-GATEVALVE2.00" Valve, Gate, 2" **1.0**

PFA-GATEVALVE3/4 **Gate Valve, 3/4"**

Part Inventory in 1301.1 **0.0**

PFA-GATEVALVE3/4 Gate Valve, 3/4" **0.0**

PFA-HAY-TB1100ST **Ball Valve, 1", Hayward P/N TB1100ST, PVC SCH 80/VITON for**

Part Inventory in 1301.1 **4.0**

PFA-HAY-TB1100ST Ball Valve, 1", Hayward P/N TB1100ST, P **4.0**

PFA-HAY-TB1200ST **Ball Valve, 2", Hayward P/N TB1200ST, PVC SCH 80/VITON fo**

Part Inventory in 1301.1 **1.0**

PFA-HAY-TB1200ST Ball Valve, 2", Hayward P/N TB1200ST, F **1.0**

PFA-PIPEINSUL-3/4" **Pipe Insulation, 3/4"**

Part Inventory in 1301.1 **9.0**

PFA-PIPEINSUL-3/4" Pipe Insulation, 3/4" **9.0**

PFA-PIPEREPAIRCOUP4 **Coupling, Pipe Repair, 4"**

Part Inventory in 1301.1 **1.0**

PFA-PIPEREPAIRCOUP4 Coupling, Pipe Repair, 4" **1.0**

PFA-PIPEREPAIRCOUP6 **Coupling, Pipe Repair, 6"**

Part Inventory in 1301.1 **1.0**

PFA-PIPEREPAIRCOUP6 Coupling, Pipe Repair, 6" **1.0**

PFA-POSTHYD2BURY-.75 **Post Hydrant, 2' Bury, 3/4"**

Part Inventory in 1301.1 **0.0**

PFA-POSTHYD2BURY-.75 Post Hydrant, 2' Bury, 3/4" **0.0**

PFA-PVC40-COUP-1.50 **Coupling, Schedule 40 PVC, 1 1/2"**

Part Inventory in 1301.1 **1.0**

PFA-PVC40-COUP-1.50 Coupling, Schedule 40 PVC, 1 1/2" **1.0**

PFA-PVC40-IPSCC-1.25 **Coupling, Compression, PVC, 1 1/4" IPC**

Part Inventory in 1301.1 **0.0**

PFA-PVC40-IPSCC-1.25 Coupling, Compression, PVC, 1 1/4" IPC **0.0**

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PFA-PVC40-IPSCC-2.00	**Compression Coupling, PVC Schedule 40, 2" IPS**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC40-IPSCC-2.00	Compression Coupling, PVC Schedule 40,	**0.0**
PFA-PVC40MA3/4	**Male Adaptor, Schedule 40 PVC, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC40MA3/4	Male Adaptor, Schedule 40 PVC, 3/4"	**0.0**
PFA-PVC40-RMA1X3/4	**Male Adaptor, Reducing, Schedule 40 PVC, 1" MPT X 3/4" Slip**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC40-RMA1X3/4	Male Adaptor, Reducing, Schedule 40 PVC	**0.0**
PFA-PVC80-0.50PIPE	**Pipe, Schedule 80 PVC, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80-0.50PIPE	Pipe, Schedule 80 PVC, 1/2"	**0.0**
PFA-PVC80-0.75PIPE	**Pipe, Schedule 80 PVC, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80-0.75PIPE	Pipe, Schedule 80 PVC, 3/4"	**0.0**
PFA-PVC80-1.00PIPE	**Pipe, Schedule 80 PVC, 1"**		
		Part Inventory in 1301.1	**40.0**
	PFA-PVC80-1.00PIPE	Pipe, Schedule 80 PVC, 1"	**40.0**
PFA-PVC80-1.25PIPE	**Pipe, 1 1/4", PVC Schedule 80**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80-1.25PIPE	Pipe, 1 1/4", PVC Schedule 80	**0.0**
PFA-PVC80-2.00PIPE	**Pipe, Schedule 80 PVC, 2"**		
		Part Inventory in 1301.1	**40.0**
	PFA-PVC80-2.00PIPE	Pipe, Schedule 80 PVC, 2"	**40.0**
PFA-PVC8045SL1.50	**45° Elbow, Schedule 80 PVC, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC8045SL1.50	45° Elbow, Schedule 80 PVC, 1 1/2"	**0.0**
PFA-PVC8090SL1	**90* Elbow, PVC Schedule 80, Slip Joint, 1"**		
		Part Inventory in 1301.1	**15.0**
	PFA-PVC8090SL1	90* Elbow, PVC Schedule 80, Slip Joint, 1	**15.0**
PFA-PVC8090SL1/2	**90, PVC Schedule 80, Slip Joint, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC8090SL1/2	90, PVC Schedule 80, Slip Joint, 1/2"	**0.0**
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PFA-PVC8090SL2	**90* Elbow, PVC Schedule 80, 2" Slip Joint**		
		Part Inventory in 1301.1	**16.0**
	PFA-PVC8090SL2	90* Elbow, PVC Schedule 80, 2" Slip Joint	**16.0**
PFA-PVC8090SL3	**90° Elbow, Schedule 80 PVC, 3"**		

		Part Inventory in 1301.1	**0.0**
	PFA-PVC8090SL3	90° Elbow, Schedule 80 PVC, 3"	**0.0**
PFA-PVC8090TH1/2	**90° Elbow, Threaded, Schedule 80 PVC, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC8090TH1/2	90° Elbow, Threaded, Schedule 80 PVC, 1	**0.0**
PFA-PVC80-BLFL3.00	**Blind Flange, Schedule 80 PVC, 3"**		
		Part Inventory in 1301.1	**2.0**
	PFA-PVC80-BLFL3.00	Blind Flange, Schedule 80 PVC, 3"	**2.0**
PFA-PVC80BVTU-2.00	**Ball Valve, True Union, Schedule 80 PVC, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80BVTU-2.00	Ball Valve, True Union, Schedule 80 PVC,	**0.0**
PFA-PVC80CAP2	**Cap, PVC Schedule 80, 2"**		
		Part Inventory in 1301.1	**2.0**
	PFA-PVC80CAP2	Cap, PVC Schedule 80, 2"	**2.0**
PFA-PVC80CAP3/4	**Cap, Schedule 80 PVC, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80CAP3/4	Cap, Schedule 80 PVC, 3/4"	**0.0**
PFA-PVC80COUP-1.00	**Coupling, Schedule 80 PVC, 1"**		
		Part Inventory in 1301.1	**5.0**
	PFA-PVC80COUP-1.00	Coupling, Schedule 80 PVC, 1"	**5.0**
PFA-PVC80COUP-1.50	**Coupling,Schedule 80 PVC, 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80COUP-1.50	Coupling,Schedule 80 PVC, 1 1/2"	**0.0**
PFA-PVC80COUP-1/2TH	**Coupling, Threaded, Schedule 80 PVC, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80COUP-1/2TH	Coupling, Threaded, Schedule 80 PVC, 1/	**0.0**
PFA-PVC80COUP-2.00	**Coupling, Schedule 80 PVC, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80COUP-2.00	Coupling, Schedule 80 PVC, 2"	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-PVC80COUP-3.00	**Coupling, Schedule 80 PVC, 3"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80COUP-3.00	Coupling, Schedule 80 PVC, 3"	**0.0**
PFA-PVC80COUP-3/4	**Coupling, PVC Schedule 80, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80COUP-3/4	Coupling, PVC Schedule 80, 3/4"	**0.0**
PFA-PVC80FA-1.00	**Female Adaptor, Schedule 80 PVC, 1"**		
		Part Inventory in 1301.1	**1.0**

	PFA-PVC80FA-1.00	Female Adaptor, Schedule 80 PVC, 1"	**1.0**
PFA-PVC80FA1/2	**Female Adaptor, PVC Schedule 80, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80FA1/2	Female Adaptor, PVC Schedule 80, 1/2"	**0.0**
PFA-PVC80-FA2.0	**Female Adaptor, Schedule 80 PVC, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80-FA2.0	Female Adaptor, Schedule 80 PVC, 2"	**0.0**
PFA-PVC80FLANGE-6.00	**Flange, Slip Joint, Schedule 80 PVC, 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80FLANGE-6.00	Flange, Slip Joint, Schedule 80 PVC, 6"	**0.0**
PFA-PVC80MA-1	**Male Adaptor, Schedule 80 PVC, 1"**		
		Part Inventory in 1301.1	**5.0**
	PFA-PVC80MA-1	Male Adaptor, Schedule 80 PVC, 1"	**5.0**
PFA-PVC80MA2.00	**Male Adaptor, PVC Schedule 80, 2"**		
		Part Inventory in 1301.1	**6.0**
	PFA-PVC80MA2.00	Male Adaptor, PVC Schedule 80, 2"	**6.0**
PFA-PVC80MA3/4	**Male Adaptor, PVC Schedule 80, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80MA3/4	Male Adaptor, PVC Schedule 80, 3/4"	**0.0**
PFA-PVC80NIP1X6	**Nipple, Schedule 80 PVC, 1" X 6"**		
		Part Inventory in 1301.1	**4.0**
	PFA-PVC80NIP1X6	Nipple, Schedule 80 PVC, 1" X 6"	**4.0**
PFA-PVC80RB-1X3/4	**Reducing Bushing, Schedule 80 PVC, 1" X 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80RB-1X3/4	Reducing Bushing, Schedule 80 PVC, 1" X	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-PVC80RB-2X1	**Reducing Bushing, Schedule 80 PVC, 2" X 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80RB-2X1	Reducing Bushing, Schedule 80 PVC, 2" X	**0.0**
PFA-PVC80RB-3.0X2.0	**Reducing Bushing, Schedule 80 PVC, 3" X 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80RB-3.0X2.0	Reducing Bushing, Schedule 80 PVC, 3" X	**0.0**
PFA-PVC80TEE-2.00	**Tee, Schedule 80 PVC, 2"**		
		Part Inventory in 1301.1	**1.0**
	PFA-PVC80TEE-2.00	Tee, Schedule 80 PVC, 2"	**1.0**
PFA-PVC80US-1.00	**Union, Slip Joint, Schedule 80 PVC, 1"**		
		Part Inventory in 1301.1	**1.0**
	PFA-PVC80US-1.00	Union, Slip Joint, Schedule 80 PVC, 1"	**1.0**

PFA-PVC80US-2.00	**Union, Schedule 80 PVC, Slip Joint, 2"**		
		Part Inventory in 1301.1	**2.0**
	PFA-PVC80US-2.00	Union, Schedule 80 PVC, Slip Joint, 2"	**2.0**
PFA-PVC80US-3.00	**Union, Schedule 80 PVC, Slip Joint, 3"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80US-3.00	Union, Schedule 80 PVC, Slip Joint, 3"	**0.0**
PFA-PVC80UT2.00	**Union, Threaded, Schedule 80 PVC, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVC80UT2.00	Union, Threaded, Schedule 80 PVC, 2"	**0.0**
PFA-PVCSD-3.00PIPE	**Pipe, Drain, Waste, & Vent, 3"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVCSD-3.00PIPE	Pipe, Drain, Waste, & Vent, 3"	**0.0**
PFA-PVCSD-6.00PIPE	**Pipe, Sewer & Drain PVC, 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVCSD-6.00PIPE	Pipe, Sewer & Drain PVC, 6"	**0.0**
PFA-PVCSDCOUP-6.00	**Coupling, Sewer & Drain PVC, 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-PVCSDCOUP-6.00	Coupling, Sewer & Drain PVC, 6"	**0.0**
PFA-PYT-WRAPLEAKRPR	**Python Wrap Leak Repair, 2" X 5'**		
		Part Inventory in 1301.1	**1.0**
	PFA-PYT-WRAPLEAKRPR	Python Wrap Leak Repair, 2" X 5'	**1.0**
1300 Parts Warehouse 13 N P St			
PFA-RB-BR-2.0X1.5	**Reducing Bushing, Brass, 2" X 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-BR-2.0X1.5	Reducing Bushing, Brass, 2" X 1 1/2"	**0.0**
PFA-RB-GALV-1.25X1.0	**Reducing Bushing, Galvanized, 1 1/4" X 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-GALV-1.25X1.0	Reducing Bushing, Galvanized, 1 1/4" X 1'	**0.0**
PFA-RB-GALV-1.5X1.25	**Reducing Bushing, Galvanized, 1 1/2" X 1 1/4"**		
		Part Inventory in 1301.1	**1.0**
	PFA-RB-GALV-1.5X1.25	Reducing Bushing, Galvanized, 1 1/2" X 1	**1.0**
PFA-RB-GALV-2.0X1.25	**Reducing Bushing, Galvanized, 2" X 1 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-GALV-2.0X1.25	Reducing Bushing, Galvanized, 2" X 1 1/4'	**0.0**
PFA-RB-SS-1.0X0.25	**Reducing Bushing, Stainless Steel, 1" X 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-1.0X0.25	Reducing Bushing, Stainless Steel, 1" X 1/	**0.0**

PFA-RB-SS-1.0X0.75	**Reducing Bushing, Stainless Steel, 1" X 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-1.0X0.75	Reducing Bushing, Stainless Steel, 1" X 3/	**0.0**
PFA-RB-SS-1.5X0.5	**Reducing Bushing, Stainless Steel, 1 1/2" X 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-1.5X0.5	Reducing Bushing, Stainless Steel, 1 1/2"	**0.0**
PFA-RB-SS-1/2X1/4	**Reducing Bushing, Stainless Steel, 1/2" X 1/4"**		
		Part Inventory in 1301.1	**4.0**
	PFA-RB-SS-1/2X1/4	Reducing Bushing, Stainless Steel, 1/2" X	**4.0**
PFA-RB-SS-1/4X1/8	**Reducing Bushing, Stainless Steel, 1/4" X 1/8"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-1/4X1/8	Reducing Bushing, Stainless Steel, 1/4" X	**0.0**
PFA-RB-SS-2.0X0.75	**Reducing Bushing, Stainless Steel, 2" X 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-2.0X0.75	Reducing Bushing, Stainless Steel, 2" X 3/	**0.0**
PFA-RB-SS-2.0X1.0	**Reducing Bushing, Stainless Steel, 2" X 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-2.0X1.0	Reducing Bushing, Stainless Steel, 2" X 1'	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-RB-SS-3.0X1.5	**Reducing Bushing, Stainless Steel, 3" X 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-3.0X1.5	Reducing Bushing, Stainless Steel, 3" X 1	**0.0**
PFA-RB-SS-3/4X1/4	**Reducing Bushing, Stainless Steel, 3/4" X 1/4"**		
		Part Inventory in 1301.1	**3.0**
	PFA-RB-SS-3/4X1/4	Reducing Bushing, Stainless Steel, 3/4" X	**3.0**
PFA-RB-SS-3/8X1/4	**Reducing Bushing, Stainless Steel, 3/8" X 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-RB-SS-3/8X1/4	Reducing Bushing, Stainless Steel, 3/8" X	**0.0**
PFA-SB-COUP-1.0CTS	**Coupling, Sharkbite, CTS, 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SB-COUP-1.0CTS	Coupling, Sharkbite, CTS, 1"	**0.0**
PFA-SB-FA3/4	**Female Adaptor, Shark Bite, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SB-FA3/4	Female Adaptor, Shark Bite, 3/4"	**0.0**
PFA-SB-TEE1/4	**Tee, Shark Bite, 1/4"**		
		Part Inventory in 1301.1	**2.0**
	PFA-SB-TEE1/4	Tee, Shark Bite, 1/4"	**2.0**
PFA-SS-90THR-1/2	**90° Elbow, Threaded, Stainless Steel, 1/2"**		

		Part Inventory in 1301.1	**0.0**
	PFA-SS-90THR-1/2	90° Elbow, Threaded, Stainless Steel, 1/2'	**0.0**
PFA-SS-90THR-1/4	**90° Elbow, Threaded, Stainless Steel, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-90THR-1/4	90° Elbow, Threaded, Stainless Steel, 1/4'	**0.0**
PFA-SS-90THR-3/4	**90° Elbow, Threaded, Stainless Steel, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-90THR-3/4	90° Elbow, Threaded, Stainless Steel, 3/4'	**0.0**
PFA-SS-BLFL3.00	**Blind Flange, Stainless Steel, 3"**		
		Part Inventory in 1301.1	**5.0**
	PFA-SS-BLFL3.00	Blind Flange, Stainless Steel, 3"	**5.0**
PFA-SS-COUP-1.25	**Couping, Stainless Steel, 1 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-COUP-1.25	Couping, Stainless Steel, 1 1/4"	**0.0**
1300 Parts Warehouse 13 N P St			
PFA-SS-COUP1/4	**Coupling, Stainless Steel, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-COUP1/4	Coupling, Stainless Steel, 1/4"	**0.0**
PFA-SS-NIP1/2XCL	**Nipple, Stainless Steel, 1/2" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1/2XCL	Nipple, Stainless Steel, 1/2" X Close	**0.0**
PFA-SS-NIP1/4X2	**Nipple, Stainless Steel, 1/4" X 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1/4X2	Nipple, Stainless Steel, 1/4" X 2"	**0.0**
PFA-SS-NIP1/4X4	**Nipple, Stainless Steel, 1/4" X 4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1/4X4	Nipple, Stainless Steel, 1/4" X 4"	**0.0**
PFA-SS-NIP1/4XCL	**Nipple, Stainless Steel, 1/4" X Close**		
		Part Inventory in 1301.1	**4.0**
	PFA-SS-NIP1/4XCL	Nipple, Stainless Steel, 1/4" X Close	**4.0**
PFA-SS-NIP1/8X5	**Nipple, Stainless Steel, 1/8" X 5"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1/8X5	Nipple, Stainless Steel, 1/8" X 5"	**0.0**
PFA-SS-NIP1X12	**Nipple, Stainless Steel, 1" X 12"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1X12	Nipple, Stainless Steel, 1" X 12"	**0.0**
PFA-SS-NIP1X2	**Nipple, Stainless Steel, 1" X 2"**		
		Part Inventory in 1301.1	**0.0**

	PFA-SS-NIP1X2	Nipple, Stainless Steel, 1" X 2"	**0.0**
PFA-SS-NIP1X2.5	**Nipple, Stainless Steel, 1" X 2 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1X2.5	Nipple, Stainless Steel, 1" X 2 1/2"	**0.0**
PFA-SS-NIP1X3	**Nipple, Stainless Steel, 1" X 3"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1X3	Nipple, Stainless Steel, 1" X 3"	**0.0**
PFA-SS-NIP1X4	**Nipple, Stainless Steel, 1" X 4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1X4	Nipple, Stainless Steel, 1" X 4"	**0.0**
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PFA-SS-NIP1X6	**Nipple, Stainless Steel, 1" X 6"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP1X6	Nipple, Stainless Steel, 1" X 6"	**0.0**
PFA-SS-NIP-1XCL	**Nipple, Stainless Steel, 1" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP-1XCL	Nipple, Stainless Steel, 1" X Close	**0.0**
PFA-SS-NIP3/4X12	**Nipple, Stainless Steel, 3/4" X 12"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP3/4X12	Nipple, Stainless Steel, 3/4" X 12"	**0.0**
PFA-SS-NIP3/4XCL	**Nipple, Stainless Steel, 3/4" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP3/4XCL	Nipple, Stainless Steel, 3/4" X Close	**0.0**
PFA-SS-NIP3XCL	**Nipple, Stainless Steel, 3" X Close**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-NIP3XCL	Nipple, Stainless Steel, 3" X Close	**0.0**
PFA-SS-PIPE-1.25	**Pipe, Stainless Steel, Schedule 40, 1 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-PIPE-1.25	Pipe, Stainless Steel, Schedule 40, 1 1/4"	**0.0**
PFA-SS-PIPE-1/2	**Pipe, Stainless Steel, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-PIPE-1/2	Pipe, Stainless Steel, 1/2"	**0.0**
PFA-SS-PIPE-1/4	**Pipe, Stainless Steel, Schedule 40, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-PIPE-1/4	Pipe, Stainless Steel, Schedule 40, 1/4"	**0.0**
PFA-SS-PLUG-1/2	**Plug, Stainless Steel, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-PLUG-1/2	Plug, Stainless Steel, 1/2"	**0.0**

PFA-SS-PLUG-1/4	**Plug, Stainless Steel, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-PLUG-1/4	Plug, Stainless Steel, 1/4"	**0.0**
PFA-SS-PLUG-3/4	**Plug, Stainless Steel, 3/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-PLUG-3/4	Plug, Stainless Steel, 3/4"	**0.0**
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PFA-SS-SHRADER-1/8	**Shrader Valve, Stainless Steel, 1/8"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-SHRADER-1/8	Shrader Valve, Stainless Steel, 1/8"	**0.0**
PFA-SS-STEL-1	**Street Ell, 90°, Stainless Steel, 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-STEL-1	Street Ell, 90°, Stainless Steel, 1"	**0.0**
PFA-SS-TEE-1/4	**Tee, Stainless Steel, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-TEE-1/4	Tee, Stainless Steel, 1/4"	**0.0**
PFA-SS-TEE-3.00	**Tee, Stainless Steel, 3"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-TEE-3.00	Tee, Stainless Steel, 3"	**0.0**
PFA-SS-UT-1	**Union, Threaded, Stainless Steel, 1"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-UT-1	Union, Threaded, Stainless Steel, 1"	**0.0**
PFA-SS-UT-1/2	**Union, Threaded, Stainless Steel, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-UT-1/2	Union, Threaded, Stainless Steel, 1/2"	**0.0**
PFA-SS-UT-2	**Union, Threaded, Stainless Steel, 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-SS-UT-2	Union, Threaded, Stainless Steel, 2"	**0.0**
PFA-STOPITPIPERPRSYS	**Stop It Pipe Repair System, 2" X 12'**		
		Part Inventory in 1301.1	**9.0**
	PFA-STOPITPIPERPRSYS	Stop It Pipe Repair System, 2" X 12'	**9.0**
PFA-SWUN-3/4X3/4	**Swivel Union, 3/4" FHT X 3/4"FHT**		
		Part Inventory in 1301.1	**0.0**
	PFA-SWUN-3/4X3/4	Swivel Union, 3/4" FHT X 3/4"FHT	**0.0**
PFA-TAPSADDLE-6X2	**Tapping Saddle, 6" X 2"**		
		Part Inventory in 1301.1	**0.0**
	PFA-TAPSADDLE-6X2	Tapping Saddle, 6" X 2"	**0.0**

PFA-YSTRAIN-1.5DN40	**Y Strainer, 1 1/2", for P Street Bio Scrubber**	
	Part Inventory in 1301.1	**1.0**
PFA-YSTRAIN-1.5DN40	Y Strainer, 1 1/2", for P Street Bio Scrubbe	**1.0**

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PFA-YSTRAIN-2.0SCR20	**Screen, 20 Mesh, for 2" Y Strainer**	
	Part Inventory in 1301.1	**0.0**
PFA-YSTRAIN-2.0SCR20	Screen, 20 Mesh, for 2" Y Strainer	**0.0**
PFA-YSTRAIN-3"VIT	**Wye Strainer, Threaded, PVC, Viton, 3"**	
	Part Inventory in 1301.1	**0.0**
PFA-YSTRAIN-3"VIT	Wye Strainer, Threaded, PVC, Viton, 3"	**0.0**
PLM-1.25SNKDRN8PU	**Sink Drain, 1 1/4" X 8" Long, One Piece Metal Body Lavatory P**	
	Part Inventory in 1301.1	**2.0**
PLM-1.25SNKDRN8PU	Sink Drain, 1 1/4" X 8" Long, One Piece M	**2.0**
PLM-3TESTBALLPLUG	**Plug, Test Ball, 3", Cherne P/N 270-032**	
	Part Inventory in 1301.1	**1.0**
PLM-3TESTBALLPLUG	Plug, Test Ball, 3", Cherne P/N 270-032	**1.0**
PLM-ADP-3/4CTSXMIP	**Adaptor, 3/4" Compression X 3/4" Male Iron Pipe**	
	Part Inventory in 1301.1	**0.0**
PLM-ADP-3/4CTSXMIP	Adaptor, 3/4" Compression X 3/4" Male Iro	**0.0**
PLM-BARB-1.25	**Barb Fitting, Galvanized, Barb X MPT, 1 1/4"**	
	Part Inventory in 1301.1	**1.0**
PLM-BARB-1.25	Barb Fitting, Galvanized, Barb X MPT, 1 1	**1.0**
PLM-BARB-1/8H-1/4P	**Barb Fitting, 1/8" Hose - 1/4" NPT**	
	Part Inventory in 1301.1	**2.0**
PLM-BARB-1/8H-1/4P	Barb Fitting, 1/8" Hose - 1/4" NPT	**2.0**
PLM-BRASS-BVTH-3/4	**Ball Valve, Threaded, 3/4"**	
	Part Inventory in 1301.1	**4.0**
PLM-BRASS-BVTH-3/4	Ball Valve, Threaded, 3/4"	**4.0**
PLM-BRASS-FLMA-1/4	**Male Adaptor, Flare, Brass, 1/4" X 1/4"**	
	Part Inventory in 1301.1	**0.0**
PLM-BRASS-FLMA-1/4	Male Adaptor, Flare, Brass, 1/4" X 1/4"	**0.0**
PLM-BRASS-GVTH-1.0	**Gate Valve, Threaded, 1"**	
	Part Inventory in 1301.1	**0.0**
PLM-BRASS-GVTH-1.0	Gate Valve, Threaded, 1"	**0.0**
PLM-BRASS-HAXFPT-3/4	**Hose Adaptor, 3/4 MHT X 1/2" FPT**	
	Part Inventory in 1301.1	**0.0**
PLM-BRASS-HAXFPT-3/4	Hose Adaptor, 3/4 MHT X 1/2" FPT	**0.0**

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PLM-BRASS-HAXMPT-3/4 **Hose Adaptor, 3/4"**

Part Inventory in 1301.1 **0.0**

PLM-BRASS-HAXMPT-3/4 Hose Adaptor, 3/4" **0.0**

PLM-BRASSNIP-1/4XCL **Nipple, Brass, 1/4" X Close**

Part Inventory in 1301.1 **0.0**

PLM-BRASSNIP-1/4XCL Nipple, Brass, 1/4" X Close **0.0**

PLM-BRASSNIP-3/8XCL **Nipple, Brass, 3/8" X Close**

Part Inventory in 1301.1 **0.0**

PLM-BRASSNIP-3/8XCL Nipple, Brass, 3/8" X Close **0.0**

PLM-BRASS-RB-3/8-1/4 **Bell Reducer, Brass, 3/8" X 1/4"**

Part Inventory in 1301.1 **0.0**

PLM-BRASS-RB-3/8-1/4 Bell Reducer, Brass, 3/8" X 1/4" **0.0**

PLM-BRASS-SW1/2COUP0 **Coupling, Brass, 1/2" Sweat**

Part Inventory in 1301.1 **13.0**

PLM-BRASS-SW1/2COUP0 Coupling, Brass, 1/2" Sweat **13.0**

PLM-BRASS-SW1/2ELBOW **Elbow, Brass, 1/2" Sweat**

Part Inventory in 1301.1 **12.0**

PLM-BRASS-SW1/2ELBOW Elbow, Brass, 1/2" Sweat **12.0**

PLM-BRASS-SW2.0MA **Male Adaptor, Sweat, 2"**

Part Inventory in 1301.1 **0.0**

PLM-BRASS-SW2.0MA Male Adaptor, Sweat, 2" **0.0**

PLM-BRASS-SW2.0UNION **Union, Brass, Sweat, 2"**

Part Inventory in 1301.1 **0.0**

PLM-BRASS-SW2.0UNION Union, Brass, Sweat, 2" **0.0**

PLM-BRASS-SW3/4COUP **Coupling, Brass, 3/4" Sweat**

Part Inventory in 1301.1 **11.0**

PLM-BRASS-SW3/4COUP Coupling, Brass, 3/4" Sweat **11.0**

PLM-BRASS-SW3/4ELBOW **Elbow, Brass, 3/4" Sweat**

Part Inventory in 1301.1 **13.0**

PLM-BRASS-SW3/4ELBOW Elbow, Brass, 3/4" Sweat **13.0**

PLM-BRASS-SW3/8COUP **Coupling, Brass, 3/8" Sweat**

Part Inventory in 1301.1 **7.0**

PLM-BRASS-SW3/8COUP Coupling, Brass, 3/8" Sweat **7.0**

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PLM-BRASS-SW3/8ELBOW **Elbow, Brass, 3/8" Sweat**

Part Inventory in 1301.1 **8.0**

PLM-BRASS-SW3/8ELBOW Elbow, Brass, 3/8" Sweat **8.0**

PLM-BRASS-SW5/8COUP **Coupling, Brass, 5/8" Sweat**

	Part Inventory in 1301.1	**2.0**
PLM-BRASS-SW5/8COUP	Coupling, Brass, 5/8" Sweat	**2.0**
PLM-BRASS-SW5/8ELBOW	**Elbow, Brass, 5/8" Sweat**	
	Part Inventory in 1301.1	**3.0**
PLM-BRASS-SW5/8ELBOW	Elbow, Brass, 5/8" Sweat	**3.0**
PLM-BRASS-SW7/8COUP	**Coupling, Brass, 7/8" Sweat**	
	Part Inventory in 1301.1	**9.0**
PLM-BRASS-SW7/8COUP	Coupling, Brass, 7/8" Sweat	**9.0**
PLM-BRASS-SW7/8ELBOW	**Elbow, Brass, 7/8" Sweat**	
	Part Inventory in 1301.1	**10.0**
PLM-BRASS-SW7/8ELBOW	Elbow, Brass, 7/8" Sweat	**10.0**
PLM-BRASS-TEE-3/8	**Tee, Brass, 3/8"**	
	Part Inventory in 1301.1	**0.0**
PLM-BRASS-TEE-3/8	Tee, Brass, 3/8"	**0.0**
PLM-BRONZE-2.0DCOUP	**Coupling, Dresser, Bronze, 2"**	
	Part Inventory in 1301.1	**0.0**
PLM-BRONZE-2.0DCOUP	Coupling, Dresser, Bronze, 2"	**0.0**
PLM-BSKTSTRAINER-1"	**Basket Strainer, 1" Shank**	
	Part Inventory in 1301.1	**0.0**
PLM-BSKTSTRAINER-1"	Basket Strainer, 1" Shank	**0.0**
PLM-DBLWASTEKIT-1.5"	**Double Waste Kit, 1 1/2" X 16" Slip Joint**	
	Part Inventory in 1301.1	**0.0**
PLM-DBLWASTEKIT-1.5"	Double Waste Kit, 1 1/2" X 16" Slip Joint	**0.0**
PLM-DOUBLESINK	**Double Sink**	
	Part Inventory in 1301.1	**0.0**
PLM-DOUBLESINK	Double Sink	**0.0**
PLM-FAUCETKIT-2H_W/S	**Faucet Kit, Chrome, 2 Hole with Sprayer**	
	Part Inventory in 1301.1	**0.0**
PLM-FAUCETKIT-2H_W/S	Faucet Kit, Chrome, 2 Hole with Sprayer	**0.0**
1300 Parts Warehouse 13 N P St		
PLM-FAUCN1/2MX1/2M24	**Faucet Connector, 1/2" MPT X 1/2" MPT X 24"**	
	Part Inventory in 1301.1	**0.0**
PLM-FAUCN1/2MX1/2M24	Faucet Connector, 1/2" MPT X 1/2" MPT X	**0.0**
PLM-FAUCN3/8CX1/2I12	**Faucet Connector, 3/8" Comp. Thread X 1/2" IP Thread, 12" Lo**	
	Part Inventory in 1301.1	**2.0**
PLM-FAUCN3/8CX1/2I12	Faucet Connector, 3/8" Comp. Thread X 1	**2.0**
PLM-FAUCN3/8CX1/2I20	**Faucet Connector, 3/8" Comp. Thread X 1/2" IP Thread, 20" Lo**	
	Part Inventory in 1301.1	**1.0**

PLM-FAUCN3/8CX1/2I20	Faucet Connector, 3/8" Comp. Thread X 1	**1.0**
PLM-FAUCN3/8CX1/2I30	**Connector, Faucet, 3/8" Compression X 1/2" FIP, 30" Long**	
	Part Inventory in 1301.1	**0.0**
PLM-FAUCN3/8CX1/2I30	Connector, Faucet, 3/8" Compression X 1/	**0.0**
PLM-FAUCN3/8CX3/8C24	**Faucet Connector, 3/8" Compression X 3/8" Compression**	
	Part Inventory in 1301.1	**0.0**
PLM-FAUCN3/8CX3/8C24	Faucet Connector, 3/8" Compression X 3/8	**0.0**
PLM-FLUSHVLV-FLM507A	**Flush Valve, Toilet, Fluidmaster 507A**	
	Part Inventory in 1301.1	**1.0**
PLM-FLUSHVLV-FLM507A	Flush Valve, Toilet, Fluidmaster 507A	**1.0**
PLM-FLVLV-3/4"	**Float Valve, 3/4", with 10" Rod**	
	Part Inventory in 1301.1	**1.0**
PLM-FLVLV-3/4"	Float Valve, 3/4", with 10" Rod	**1.0**
PLM-HANGERSTRAP3/4	**Hanger Strap, 3/4" X 25' Coil**	
	Part Inventory in 1301.1	**1.0**
PLM-HANGERSTRAP3/4	Hanger Strap, 3/4" X 25' Coil	**1.0**
PLM-HOSEBIB3/4	**Brass Shutoff Hose 3/4"**	
	Part Inventory in 1301.1	**1.0**
PLM-HOSEBIB3/4	Brass Shutoff Hose 3/4"	**1.0**
PLM-HOSEWASHER5/8	**Hose Washer, 5/8"**	
	Part Inventory in 1301.1	**7.0**
PLM-HOSEWASHER5/8	Hose Washer, 5/8"	**7.0**
PLM-JETNZZL-NABRASS	**Nozzle, Jet, Brass, Non-Adjustable, for water hose**	
	Part Inventory in 1301.1	**0.0**
PLM-JETNZZL-NABRASS	Nozzle, Jet, Brass, Non-Adjustable, for wa	**0.0**

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PLM-MECHPLG-1.5"	**Plug, Mechanical, 1.5"**	
	Part Inventory in 1301.1	**1.0**
PLM-MECHPLG-1.5"	Plug, Mechanical, 1.5"	**1.0**
PLM-PLMPUTTY	**Plumber's Putty**	
	Part Inventory in 1301.1	**0.0**
PLM-PLMPUTTY	Plumber's Putty	**0.0**
PLM-POPLUG-ACE45088	**P.O. Plug, Two Piece with Chain and Stopper, 1 1/4" X 8", Ace**	
	Part Inventory in 1301.1	**1.0**
PLM-POPLUG-ACE45088	P.O. Plug, Two Piece with Chain and Stop	**1.0**
PLM-PP-BARB3/8BX1/2M	**Male Adaptor, Polypropylene, 3/8" Barb X 1/2" MPT**	
	Part Inventory in 1301.1	**0.0**
PLM-PP-BARB3/8BX1/2M	Male Adaptor, Polypropylene, 3/8" Barb X	**0.0**

PLM-PP-CONN5/8CX1/2F	**Connector, Polypropylene, 5/8" Compression X 1/2" FPT**		
		Part Inventory in 1301.1	**0.0**
	PLM-PP-CONN5/8CX1/2F	Connector, Polypropylene, 5/8" Compress	**0.0**
PLM-QUICKCONCOUP-1/4	**Coupling, Quick Connect, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	PLM-QUICKCONCOUP-1/4	Coupling, Quick Connect, 1/4"	**0.0**
PLM-RA90-1/4PX1/8C	**Reducing Adaptor, 90° Elbow, 1/4" MIP X 1/8" Compression**		
		Part Inventory in 1301.1	**0.0**
	PLM-RA90-1/4PX1/8C	Reducing Adaptor, 90° Elbow, 1/4" MIP X	**0.0**
PLM-SINKTAILPCWASH	**Washer, Sink Tailpiece**		
		Part Inventory in 1301.1	**0.0**
	PLM-SINKTAILPCWASH	Washer, Sink Tailpiece	**0.0**
PLM-SJNUT-1.5X1.5	**Nut, Slip Joint, 1 1/2" X 1 1/2"**		
		Part Inventory in 1301.1	**0.0**
	PLM-SJNUT-1.5X1.5	Nut, Slip Joint, 1 1/2" X 1 1/2"	**0.0**
PLM-SLOAN-110	**Flushometer, Sloan Model # 110, for 3.5 GPF Water Closet**		
		Part Inventory in 1301.1	**1.0**
	PLM-SLOAN-110	Flushometer, Sloan Model # 110, for 3.5 G	**1.0**
PLM-STENNERINJECTOR	**Injector Assembly, Stenner**		
		Part Inventory in 1301.1	**1.0**
	PLM-STENNERINJECTOR	Injector Assembly, Stenner	**1.0**
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PLM-SUPLIN-1CX1C18	**Supply Line, 1" Comp. Thread X 1" Comp. Thread, 18" Long**		
		Part Inventory in 1301.1	**1.0**
	PLM-SUPLIN-1CX1C18	Supply Line, 1" Comp. Thread X 1" Comp.	**1.0**
PLM-TEFLONTAPE-1429	**Tape, Thread Seal, 1/2" X 1429"**		
		Part Inventory in 1301.1	**0.0**
	PLM-TEFLONTAPE-1429	Tape, Thread Seal, 1/2" X 1429"	**0.0**
PLM-TEFLONTAPE-520	**Tape, Teflon, 1/2" X 520"**		
		Part Inventory in 1301.1	**1.0**
	PLM-TEFLONTAPE-520	Tape, Teflon, 1/2" X 520"	**1.0**
PLM-TOICN3/8CX7/8B12	**Toilet Supply Line, 3/8" Comp. Thread X 7/8" Bowl Comp. Thre**		
		Part Inventory in 1301.1	**1.0**
	PLM-TOICN3/8CX7/8B12	Toilet Supply Line, 3/8" Comp. Thread X 7	**1.0**
PLM-TOICN3/8CX7/8B16	**Toilet Supply Line, 3/8" Comp. Thread X 7/8" Bowl Comp. Thre**		
		Part Inventory in 1301.1	**1.0**
	PLM-TOICN3/8CX7/8B16	Toilet Supply Line, 3/8" Comp. Thread X 7	**1.0**

PLM-TOILETBOLTSET	**Toilet Bolt Set**	
	Part Inventory in 1301.1	**1.0**
PLM-TOILETBOLTSET	Toilet Bolt Set	**1.0**
PLM-WALLSEALLINK	**Wall Seal, Links, for sealing pipe through wall below grade**	
	Part Inventory in 1301.1	**0.0**
PLM-WALLSEALLINK	Wall Seal, Links, for sealing pipe through v	**0.0**
PLM-WAXBOWLRING	**Wax Bowl Ring**	
	Part Inventory in 1301.1	**1.0**
PLM-WAXBOWLRING	Wax Bowl Ring	**1.0**
PLM-WTRHMRARRESTOR1"	**Water Hammer Arrestor, 1"**	
	Part Inventory in 1301.1	**1.0**
PLM-WTRHMRARRESTOR1"	Water Hammer Arrestor, 1"	**1.0**
PLM-XTUBE-1.5X16	**Extension Tube, Slip Joint, 1 1/2" X 16"**	
	Part Inventory in 1301.1	**0.0**
PLM-XTUBE-1.5X16	Extension Tube, Slip Joint, 1 1/2" X 16"	**0.0**
PLM-XTUBE-1.5X21.5	**Extension Tube Slip Joint Connection, 1 1/2" X 21 1/2"**	
	Part Inventory in 1301.1	**2.0**
PLM-XTUBE-1.5X21.5	Extension Tube Slip Joint Connection, 1 1/	**2.0**

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PLM-XTUBE-1.5X6	**Extension Tube, Slip Joint Connection, 1 1/2" X 6"**	
	Part Inventory in 1301.1	**1.0**
PLM-XTUBE-1.5X6	Extension Tube, Slip Joint Connection, 1 1	**1.0**
PLM-XTUBE-1.5XCLOS	**Offset, Slip Joint, 1 1/2" X Close**	
	Part Inventory in 1301.1	**0.0**
PLM-XTUBE-1.5XCLOS	Offset, Slip Joint, 1 1/2" X Close	**0.0**
PLM-XTUBE1X10+5OS	**Extension Tube, 1" X 10" with 5" Double Offset**	
	Part Inventory in 1301.1	**1.0**
PLM-XTUBE1X10+5OS	Extension Tube, 1" X 10" with 5" Double C	**1.0**
PMP-FLYGT-NP3127.185	**Pump, Submersible, Flygt P/N NP3127.185, for Station #24**	
	Part Inventory in 1301.1	**0.0**
PMP-FLYGT-NP3127.185	Pump, Submersible, Flygt P/N NP3127.18	**0.0**
PMP-HYV-PCV31K2AK1SS	**Pump, Hydraulic, with Regulator, Hyvair P/N PCV3-1K-2AK-1-S**	
	Part Inventory in 1301.1	**1.0**
PMP-HYV-PCV31K2AK1SS	Pump, Hydraulic, with Regulator, Hyvair P/	**1.0**
PMP-PEERLESS-C810A	**Pump, 10 HP, 3553 RPM, 125 GPM, 170 TDH, Peerless Model #**	
	Part Inventory in 1301.1	**2.0**
PMP-PEERLESS-C810A	Pump, 10 HP, 3553 RPM, 125 GPM, 170 T	**2.0**
PMP-S-ABS-PIR-V12/2W	**Pump, Submersible, ABS Model # PIR-V12/2W, 2.1 HP, 230 V.,**	

	Part Inventory in 1301.1	**1.0**
PMP-S-ABS-PIR-V12/2W	Pump, Submersible, ABS Model # PIR-V1	**1.0**
PMP-SEAL-EM-C55CXKEA	**Pump, Seal Water, Emerson Model # C55CXKEA-4870, 0.75 HP**	
	Part Inventory in 1301.1	**5.0**
PMP-SEAL-EM-C55CXKEA	Pump, Seal Water, Emerson Model # C55	**5.0**
PMP-SEAL-FRANKLIN3/4	**Pump, Seal Water, Franklin, 3/4 hp, 1 phase, 115/230 Volt**	
	Part Inventory in 1301.1	**2.0**
PMP-SEAL-FRANKLIN3/4	Pump, Seal Water, Franklin, 3/4 hp, 1 pha	**2.0**
PMP-S-HY-SP50A1	**Pump, Submersible, Hydromatic, Model # SP50A1, 0.5 HP, 115**	
	Part Inventory in 1301.1	**1.0**
PMP-S-HY-SP50A1	Pump, Submersible, Hydromatic, Model #	**1.0**
PMP-S-HY-SPD100AH220	**Pump, Submersible, Hydromatic, Model # SPD100AH2 20, 1 HP**	
	Part Inventory in 1301.1	**2.0**
PMP-S-HY-SPD100AH220	Pump, Submersible, Hydromatic, Model #	**2.0**
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PMP-S-HY-SPD100MH220	**Pump, Submersible, Hydromatic, Model # SPD100MH2 20, 1 HP**	
	Part Inventory in 1301.1	**1.0**
PMP-S-HY-SPD100MH220	Pump, Submersible, Hydromatic, Model #	**1.0**
PMP-S-HY-SPD50AH120	**Pump, Submersible, Hydromatic, Model # SPD50AH1 20, 0.5 H**	
	Part Inventory in 1301.1	**0.0**
PMP-S-HY-SPD50AH120	Pump, Submersible, Hydromatic, Model #	**0.0**
PMP-S-HY-VA110	**Pump, Submersible, Hydromatic, Model # VA1 10, 0.3 HP, 115 V**	
	Part Inventory in 1301.1	**1.0**
PMP-S-HY-VA110	Pump, Submersible, Hydromatic, Model #	**1.0**
PMP-S-MYERS-E10-A-21	**Pump, Submersible, Myers Model # E10-A-21, 1 HP, 230 V., 1 P**	
	Part Inventory in 1301.1	**1.0**
PMP-S-MYERS-E10-A-21	Pump, Submersible, Myers Model # E10-A	**1.0**
PMP-SUMP-LG5-MSP	**Pump, Sump, Little Giant, 1/6 HP, 115 Volts, 18' Cord**	
	Part Inventory in 1301.1	**0.0**
PMP-SUMP-LG5-MSP	Pump, Sump, Little Giant, 1/6 HP, 115 Vol	**0.0**
PNT-BONDOBODYFILLER	**Bondo Body Filler**	
	Part Inventory in 1301.1	**1.0**
PNT-BONDOBODYFILLER	Bondo Body Filler	**1.0**
PNT-BONDOFGLASSRESIN	**Bondo Fiberglass Resin**	
	Part Inventory in 1301.1	**2.0**
PNT-BONDOFGLASSRESIN	Bondo Fiberglass Resin	**2.0**
PNT-BONDOLQDHARDENER	**Liquid Hardener, Bondo**	
	Part Inventory in 1301.1	**1.0**

	PNT-BONDOLQDHARDENER	Liquid Hardener, Bondo	**1.0**
PNT-BRIGHTGREEN	**Paint, Bright Green, Aerosol**		
		Part Inventory in 1301.1	**8.0**
	PNT-BRIGHTGREEN	Paint, Bright Green, Aerosol	**8.0**
PNT-BRIGHTRED	**Paint, Bright Red, Aerosol**		
		Part Inventory in 1301.1	**6.0**
	PNT-BRIGHTRED	Paint, Bright Red, Aerosol	**6.0**
PNT-BRUSH1.0"FOAM	**Paint Brush, 1" Foam**		
		Part Inventory in 1301.1	**15.0**
	PNT-BRUSH1.0"FOAM	Paint Brush, 1" Foam	**15.0**
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PNT-BRUSH2.0"FOAM	**Paint Brush, 2" Foam**		
		Part Inventory in 1301.1	**3.0**
	PNT-BRUSH2.0"FOAM	Paint Brush, 2" Foam	**3.0**
PNT-BRUSH2.0"POLY	**Paint Brush, 2" Polyester**		
		Part Inventory in 1301.1	**0.0**
	PNT-BRUSH2.0"POLY	Paint Brush, 2" Polyester	**0.0**
PNT-BRUSH3.0"FOAM	**Paint Brush, 3" Foam**		
		Part Inventory in 1301.1	**2.0**
	PNT-BRUSH3.0"FOAM	Paint Brush, 3" Foam	**2.0**
PNT-BRUSH4.0"FOAM	**Paint Brush, 4" Foam**		
		Part Inventory in 1301.1	**4.0**
	PNT-BRUSH4.0"FOAM	Paint Brush, 4" Foam	**4.0**
PNT-CHESTNUTBROWN	**Paint, Chestnut Brown, Aerosol**		
		Part Inventory in 1301.1	**5.0**
	PNT-CHESTNUTBROWN	Paint, Chestnut Brown, Aerosol	**5.0**
PNT-CLEARPROTECTCOAT	**Clear Protective Coating, Aerosol**		
		Part Inventory in 1301.1	**7.0**
	PNT-CLEARPROTECTCOAT	Clear Protective Coating, Aerosol	**7.0**
PNT-DEEPBLUE	**Paint, Deep Blue, Aerosol**		
		Part Inventory in 1301.1	**4.0**
	PNT-DEEPBLUE	Paint, Deep Blue, Aerosol	**4.0**
PNT-GAL-ALUMINUM	**Paint, Aluminum, Gallon**		
		Part Inventory in 1301.1	**1.0**
	PNT-GAL-ALUMINUM	Paint, Aluminum, Gallon	**1.0**
PNT-GAL-BLACKNOSLIP	**Paint, Gallon, Industrial Black, with Slip Resistant Additive**		
		Part Inventory in 1301.1	**0.0**
	PNT-GAL-BLACKNOSLIP	Paint, Gallon, Industrial Black, with Slip Re	**0.0**

PNT-GAL-BLOCKFILLER **Paint, Block Filler, Gallon**

	Part Inventory in 1301.1	**6.0**
PNT-GAL-BLOCKFILLER	Paint, Block Filler, Gallon	**6.0**

PNT-GAL-DEEPGREEN **Paint, Deep Green, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-DEEPGREEN	Paint, Deep Green, Gallon	**1.0**

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PNT-GAL-FLATWHITE **Paint, Flat White, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-FLATWHITE	Paint, Flat White, Gallon	**1.0**

PNT-GAL-LTBLUE **Paint, Light Blue, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-LTBLUE	Paint, Light Blue, Gallon	**1.0**

PNT-GAL-LTBROWN **Paint, Light Brown, Gallon**

	Part Inventory in 1301.1	**0.0**
PNT-GAL-LTBROWN	Paint, Light Brown, Gallon	**0.0**

PNT-GAL-NAVYGRAY **Paint, Navy Gray, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-NAVYGRAY	Paint, Navy Gray, Gallon	**1.0**

PNT-GAL-OIL-GREEN **Paint, Oil Based, Green, Gallon**

	Part Inventory in 1301.1	**2.0**
PNT-GAL-OIL-GREEN	Paint, Oil Based, Green, Gallon	**2.0**

PNT-GAL-OIL-RED **Paint, Oil Base, Red, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-OIL-RED	Paint, Oil Base, Red, Gallon	**1.0**

PNT-GAL-PLSTCROOFCMN **Plastic Roof Cement, Gallon**

	Part Inventory in 1301.1	**6.0**
PNT-GAL-PLSTCROOFCMN	Plastic Roof Cement, Gallon	**6.0**

PNT-GAL-SAFETYBLUE **Paint, Safety Blue, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-SAFETYBLUE	Paint, Safety Blue, Gallon	**1.0**

PNT-GAL-SAFETYORANGE **Paint, Safety Orange, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-SAFETYORANGE	Paint, Safety Orange, Gallon	**1.0**

PNT-GAL-SAFETYRED **Paint, Safety Red, Gallon**

	Part Inventory in 1301.1	**1.0**
PNT-GAL-SAFETYRED	Paint, Safety Red, Gallon	**1.0**

PNT-GAL-SEMIGLOSSLAT	**Paint, Semi-Gloss Latex Enamel, Gallon**		
		Part Inventory in 1301.1	**5.0**
	PNT-GAL-SEMIGLOSSLAT	Paint, Semi-Gloss Latex Enamel, Gallon	**5.0**

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PNT-GAL-WHITE	**Paint, White, Gallon**		
		Part Inventory in 1301.1	**1.0**
	PNT-GAL-WHITE	Paint, White, Gallon	**1.0**
PNT-GAL-WOODSTAIN	**Paint, Wood Stain, Gallon**		
		Part Inventory in 1301.1	**1.0**
	PNT-GAL-WOODSTAIN	Paint, Wood Stain, Gallon	**1.0**
PNT-GLOSSBLACK	**Paint, Gloss Black, Aerosol**		
		Part Inventory in 1301.1	**1.0**
	PNT-GLOSSBLACK	Paint, Gloss Black, Aerosol	**1.0**
PNT-GLOSSWHITE	**Paint, Gloss White, Aerosol**		
		Part Inventory in 1301.1	**3.0**
	PNT-GLOSSWHITE	Paint, Gloss White, Aerosol	**3.0**
PNT-INSTCOLDGALVANIZ	**Instant Cold Galvanize**		
		Part Inventory in 1301.1	**2.0**
	PNT-INSTCOLDGALVANIZ	Instant Cold Galvanize	**2.0**
PNT-JOHNDEEREGREEN	**Paint, John Deere Green, Aerosol**		
		Part Inventory in 1301.1	**3.0**
	PNT-JOHNDEEREGREEN	Paint, John Deere Green, Aerosol	**3.0**
PNT-LACQUER	**Lacquer, Aerosol**		
		Part Inventory in 1301.1	**1.0**
	PNT-LACQUER	Lacquer, Aerosol	**1.0**
PNT-LIGHTBLUE	**Paint, Light Blue, Aerosol**		
		Part Inventory in 1301.1	**7.0**
	PNT-LIGHTBLUE	Paint, Light Blue, Aerosol	**7.0**
PNT-MACHINEGRAY	**Paint, Machine Gray, Aerosol**		
		Part Inventory in 1301.1	**1.0**
	PNT-MACHINEGRAY	Paint, Machine Gray, Aerosol	**1.0**
PNT-MITT	**Painter's Mitt**		
		Part Inventory in 1301.1	**1.0**
	PNT-MITT	Painter's Mitt	**1.0**
PNT-PEARLWHITETRUCK	**Paint, Truck, Pearl White, Aerosol**		
		Part Inventory in 1301.1	**2.0**
	PNT-PEARLWHITETRUCK	Paint, Truck, Pearl White, Aerosol	**2.0**

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PNT-PNT,VRN,GSKREMOV **Paint, Varnish, and Gasket Remover**

	Part Inventory in 1301.1	**12.0**
PNT-PNT,VRN,GSKREMOV	Paint, Varnish, and Gasket Remover	**12.0**

PNT-PRIMER-RED **Red Primer, Aerosol**

	Part Inventory in 1301.1	**7.0**
PNT-PRIMER-RED	Red Primer, Aerosol	**7.0**

PNT-QT-RUSTCAPALMOND **Paint, Hammerite Rust Cap, Almond, Quart**

	Part Inventory in 1301.1	**1.0**
PNT-QT-RUSTCAPALMOND	Paint, Hammerite Rust Cap, Almond, Quar	**1.0**

PNT-QT-SAFETYBLUE **Paint, Safety Blue, Quart**

	Part Inventory in 1301.1	**2.0**
PNT-QT-SAFETYBLUE	Paint, Safety Blue, Quart	**2.0**

PNT-QT-STAIN-OIL **Stain, Oil, Quart**

	Part Inventory in 1301.1	**0.0**
PNT-QT-STAIN-OIL	Stain, Oil, Quart	**0.0**

PNT-RUSTINTRED **Rustoleum, Int. Red**

	Part Inventory in 1301.1	**0.0**
PNT-RUSTINTRED	Rustoleum, Int. Red	**0.0**

PNT-RUSTNEUTRALIZER **Rust Neutralizer, Aerosol**

	Part Inventory in 1301.1	**7.0**
PNT-RUSTNEUTRALIZER	Rust Neutralizer, Aerosol	**7.0**

PNT-RUSTRED-PR **Rustoleum Primer, Red**

	Part Inventory in 1301.1	**0.0**
PNT-RUSTRED-PR	Rustoleum Primer, Red	**0.0**

PNT-RUSTREFORMER **Rustoleum Rust Reformer**

	Part Inventory in 1301.1	**1.0**
PNT-RUSTREFORMER	Rustoleum Rust Reformer	**1.0**

PNT-SAFETYBLUE **Paint, Safety Blue, Aerosol**

	Part Inventory in 1301.1	**3.0**
PNT-SAFETYBLUE	Paint, Safety Blue, Aerosol	**3.0**

PNT-SAFETYGREEN **Paint, Safety Green, Aerosol**

	Part Inventory in 1301.1	**10.0**
PNT-SAFETYGREEN	Paint, Safety Green, Aerosol	**10.0**

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PNT-SAFETYORANGE **Paint, Safety Orange, Aerosol**

	Part Inventory in 1301.1	**3.0**
PNT-SAFETYORANGE	Paint, Safety Orange, Aerosol	**3.0**

PNT-SLFETCHPRI-GR-A **Paint, Self Etching Primer, Transparent Olive Green, Part A**

		Part Inventory in 1301.1	**1.0**
	PNT-SLFETCHPRI-GR-A	Paint, Self Etching Primer, Transparent Ol	**1.0**
PNT-SLFETCHPRI-GR-B	**Paint, Self Etching Primer, Transparent Olive Green, Part B**		
		Part Inventory in 1301.1	**1.0**
	PNT-SLFETCHPRI-GR-B	Paint, Self Etching Primer, Transparent Ol	**1.0**
PNT-SLPRESISTANTCOAT	**Slip Resistant Coating, Aerosol**		
		Part Inventory in 1301.1	**12.0**
	PNT-SLPRESISTANTCOAT	Slip Resistant Coating, Aerosol	**12.0**
PNT-STAIN-WALNUT-QT	**Stain, Walnut, Quart**		
		Part Inventory in 1301.1	**1.0**
	PNT-STAIN-WALNUT-QT	Stain, Walnut, Quart	**1.0**
PNT-STRIPPER	**Paint Stripper, Aerosol**		
		Part Inventory in 1301.1	**2.0**
	PNT-STRIPPER	Paint Stripper, Aerosol	**2.0**
PNT-TAPE	**Tape, Painters**		
		Part Inventory in 1301.1	**0.0**
	PNT-TAPE	Tape, Painters	**0.0**
PNT-UNDERCOATING	**Heavy Duty Rubberized Undercoating, Aerosol**		
		Part Inventory in 1301.1	**1.0**
	PNT-UNDERCOATING	Heavy Duty Rubberized Undercoating, Ae	**1.0**
POL-AIR-SW	**Air Compressor Switch, 120/240 v., On @100 psi, Off @ 125 ps**		
		Part Inventory in 1301.1	**2.0**
	POL-AIR-SW	Air Compressor Switch, 120/240 v., On @	**2.0**
POL-BUSHING	**Bushing, for Polymer**		
		Part Inventory in 1301.1	**8.0**
	POL-BUSHING	Bushing, for Polymer	**8.0**
POL-ECLIP	**E-Clip, for polymer**		
		Part Inventory in 1301.1	**1.0**
	POL-ECLIP	E-Clip, for polymer	**1.0**
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POL-HOSEASSY	**Hose Assembly, for Polymer**		
		Part Inventory in 1301.1	**1.0**
	POL-HOSEASSY	Hose Assembly, for Polymer	**1.0**
POL-INJECTOR	**Injector, for Polymer**		
		Part Inventory in 1301.1	**2.0**
	POL-INJECTOR	Injector, for Polymer	**2.0**
POL-MECHSEAL	**Mechanical Seal, for Polymer**		
		Part Inventory in 1301.1	**1.0**

	POL-MECHSEAL	Mechanical Seal, for Polymer	**1.0**
POL-MIXERBRG	**Mixer Bearing, Polymer**		
		Part Inventory in 1301.1	**2.0**
	POL-MIXERBRG	Mixer Bearing, Polymer	**2.0**
POL-PLASTO-ABVA-1.6	**Air Actuator, 3/4" - 1", Plast-O-Matic P/N ABVA-1.6**		
		Part Inventory in 1301.1	**1.0**
	POL-PLASTO-ABVA-1.6	Air Actuator, 3/4" - 1", Plast-O-Matic P/N A	**1.0**
POL-PRESSCONT	**Pressure Control Valve, for Polymer**		
		Part Inventory in 1301.1	**1.0**
	POL-PRESSCONT	Pressure Control Valve, for Polymer	**1.0**
POL-SHAFT	**Shaft, for Polymer**		
		Part Inventory in 1301.1	**1.0**
	POL-SHAFT	Shaft, for Polymer	**1.0**
POL-SHAFT-MIXER	**Shaft, Mixer, Polymer**		
		Part Inventory in 1301.1	**4.0**
	POL-SHAFT-MIXER	Shaft, Mixer, Polymer	**4.0**
POL-SIE-W2T1533	**Oil, Worm Gear, (Bottle), Siemens P/N W2T1533**		
		Part Inventory in 1301.1	**1.0**
	POL-SIE-W2T1533	Oil, Worm Gear, (Bottle), Siemens P/N W2	**1.0**
POL-SIE-W2T1759	**E-Clip, 3/4", Stainless Steel, Siemens P/N W2T1759**		
		Part Inventory in 1301.1	**1.0**
	POL-SIE-W2T1759	E-Clip, 3/4", Stainless Steel, Siemens P/N	**1.0**
POL-SIE-W2T2088	**Seal, Mechanical, Carbon, Siemens P/N W2T2088**		
		Part Inventory in 1301.1	**1.0**
	POL-SIE-W2T2088	Seal, Mechanical, Carbon, Siemens P/N W	**1.0**
1300 Parts Warehouse 13 N P St			
POL-SIE-W2T2265	**Bearing, 1638 DCTNTG 18, Siemens P/N S2T2265**		
		Part Inventory in 1301.1	**1.0**
	POL-SIE-W2T2265	Bearing, 1638 DCTNTG 18, Siemens P/N	**1.0**
POL-SIE-W2T3503	**Bearing, Wood, Oak, Mixer, Siemens P/N W2T3503**		
		Part Inventory in 1301.1	**2.0**
	POL-SIE-W2T3503	Bearing, Wood, Oak, Mixer, Siemens P/N	**2.0**
POL-SIE-W2T4611	**Seal, Oil, 11207, for Mixer Shaft, Siemens P/N W2T4611**		
		Part Inventory in 1301.1	**2.0**
	POL-SIE-W2T4611	Seal, Oil, 11207, for Mixer Shaft, Siemens	**2.0**
POL-SIE-W2T6568	**O-Ring Gasket Seal, 6" O.D. X 5.5" I.D., Siemens P/N W2T6568**		
		Part Inventory in 1301.1	**4.0**
	POL-SIE-W2T6568	O-Ring Gasket Seal, 6" O.D. X 5.5" I.D., S	**4.0**

POL-SIE-W3T33827	**Coupling, Guard, DD4, Siemens P/N W3T33827**		
		Part Inventory in 1301.1	**1.0**
	POL-SIE-W3T33827	Coupling, Guard, DD4, Siemens P/N W3T	**1.0**
POL-SIE-W3T66370	**Shaft Hub Extension Disperser, Siemens P/N W3T66370**		
		Part Inventory in 1301.1	**1.0**
	POL-SIE-W3T66370	Shaft Hub Extension Disperser, Siemens F	**1.0**
POL-SOLVALVE	**Air Solenoid Valve, 120 v. coil, 174 psi Max.**		
		Part Inventory in 1301.1	**1.0**
	POL-SOLVALVE	Air Solenoid Valve, 120 v. coil, 174 psi Ma	**1.0**
POL-STATICMIXER	**Static Mixer for Polymer Pump**		
		Part Inventory in 1301.1	**1.0**
	POL-STATICMIXER	Static Mixer for Polymer Pump	**1.0**
POL-VACENH/SEAL	**Vacuum Enhancer/Seal for Hose Assembly for Dry Polymer**		
		Part Inventory in 1301.1	**1.0**
	POL-VACENH/SEAL	Vacuum Enhancer/Seal for Hose Assembl	**1.0**
PSP-CORN-603762053B	**Labyrinth Ring, Cornell P/N 603762-53B**		
		Part Inventory in 1301.1	**4.0**
	PSP-CORN-603762053B	Labyrinth Ring, Cornell P/N 603762-53B	**4.0**
PSP-FLYGT-5725400	**Seal Ring Unit, Flygt P/N 572 54 00**		
		Part Inventory in 1301.1	**2.0**
	PSP-FLYGT-5725400	Seal Ring Unit, Flygt P/N 572 54 00	**2.0**
1300 Parts Warehouse 13 N P St			
PSP-FLYGT-6074800	**Spring, Stainless Steel, Flygt P/N 607 48 00**		
		Part Inventory in 1301.1	**2.0**
	PSP-FLYGT-6074800	Spring, Stainless Steel, Flygt P/N 607 48 0	**2.0**
PSP-FLYGT-6419405	**Stator, for Massard RAS Pumps, Flygt P/N 641 94 05**		
		Part Inventory in 1301.1	**1.0**
	PSP-FLYGT-6419405	Stator, for Massard RAS Pumps, Flygt P/N	**1.0**
PSP-FLYGT-6436501	**Sleeve, AL-BRZ, Flygt P/N 643 65 01**		
		Part Inventory in 1301.1	**0.0**
	PSP-FLYGT-6436501	Sleeve, AL-BRZ, Flygt P/N 643 65 01	**0.0**
PSP-FLYGT-6436600	**Screw, Gland, AL-BRZ, Flygt P/N 643 66 00**		
		Part Inventory in 1301.1	**0.0**
	PSP-FLYGT-6436600	Screw, Gland, AL-BRZ, Flygt P/N 643 66 0	**0.0**
PSP-FLYGT-845912	**Locking Assembly, 55mm X 85mm, Flygt P/N 84 59 12**		
		Part Inventory in 1301.1	**1.0**
	PSP-FLYGT-845912	Locking Assembly, 55mm X 85mm, Flygt F	**1.0**

PSP-FLYGT-BRGCOVER	**Bearing Cover, Flygt, for Massard RAS Pumps**		
		Part Inventory in 1301.1	**1.0**
	PSP-FLYGT-BRGCOVER	Bearing Cover, Flygt, for Massard RAS Pu	**1.0**
PSP-FM-11FM25A10007	**Nut, Impeller Hex, Fairbanks Morse P/N 11FM25A10007 0040F**		
		Part Inventory in 1301.1	**1.0**
	PSP-FM-11FM25A10007	Nut, Impeller Hex, Fairbanks Morse P/N 1:	**1.0**
PSP-FM-11FM25A10012	**Hex Nut, Impeller, 1.25", Fairbanks Morse P/N 11FM25A 10012**		
		Part Inventory in 1301.1	**1.0**
	PSP-FM-11FM25A10012	Hex Nut, Impeller, 1.25", Fairbanks Morse	**1.0**
PSP-FM-CP5855AR3080F	**Washer, Impeller, Fairbanks Morse P/N CP5855AR 3080F**		
		Part Inventory in 1301.1	**1.0**
	PSP-FM-CP5855AR3080F	Washer, Impeller, Fairbanks Morse P/N CI	**1.0**
PSP-FM-CP8808G110038	**Stud, Impeller, Fairbanks Morse P/N CP8808G11 0038F**		
		Part Inventory in 1301.1	**1.0**
	PSP-FM-CP8808G110038	Stud, Impeller, Fairbanks Morse P/N CP8	**1.0**
PSP-FM-CP8808M170038	**Stud, Impeller, 4.25"-7 X 1.25", Fairbanks Morse P/N CP8808M1**		
		Part Inventory in 1301.1	**1.0**
	PSP-FM-CP8808M170038	Stud, Impeller, 4.25"-7 X 1.25", Fairbanks	**1.0**
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PSP-FM-CP8844A3080F	**Washer, Impeller, Fairbanks Morse P/N CP8844A 3080F**		
		Part Inventory in 1301.1	**1.0**
	PSP-FM-CP8844A3080F	Washer, Impeller, Fairbanks Morse P/N CI	**1.0**
PSP-FM-L12A224D7880F	**Gasket, Rubber, Fairbanks Morse P/N L12A224D 7880F**		
		Part Inventory in 1301.1	**2.0**
	PSP-FM-L12A224D7880F	Gasket, Rubber, Fairbanks Morse P/N L12	**2.0**
PSP-FM-L16A203A7880F	**Gasket, Rubber, Fairbanks Morse P/N L16A203A 7880F**		
		Part Inventory in 1301.1	**2.0**
	PSP-FM-L16A203A7880F	Gasket, Rubber, Fairbanks Morse P/N L16	**2.0**
PSP-FM-T6E156A8380F	**Gasket, Volute, Paper, Fairbanks Morse P/N T6E156A 8380F**		
		Part Inventory in 1301.1	**2.0**
	PSP-FM-T6E156A8380F	Gasket, Volute, Paper, Fairbanks Morse P	**2.0**
PSP-FS-115A2T310	**Set Screws, Line Shaft Sleeve, Flowserve P/N 115A2T310**		
		Part Inventory in 1301.1	**12.0**
	PSP-FS-115A2T310	Set Screws, Line Shaft Sleeve, Flowserve	**12.0**
PSP-FS-82003799	**Coupling, Shaft, Threaded, 1 1/4" LH X 3.56", Flowserve P/N 82**		
		Part Inventory in 1301.1	**1.0**
	PSP-FS-82003799	Coupling, Shaft, Threaded, 1 1/4" LH X 3.5	**1.0**
PSP-FS-82026691	**Line Shaft, Threaded, Bearing, Flowserve P/N 82026691 for Mo**		

		Part Inventory in 1301.1	**1.0**
	PSP-FS-82026691	Line Shaft, Threaded, Bearing, Flowserve	**1.0**
PSP-FS-82128570	**Sleeves, Line Shaft, Flowserve P/N 82128570**		
		Part Inventory in 1301.1	**1.0**
	PSP-FS-82128570	Sleeves, Line Shaft, Flowserve P/N 82128	**1.0**
PSP-FS-82128661	**Bearing, Line Shaft, Rubber, Flowserve P/N 82128661**		
		Part Inventory in 1301.1	**3.0**
	PSP-FS-82128661	Bearing, Line Shaft, Rubber, Flowserve P/	**3.0**
PSP-FS-82368242	**Bearing Tension Tube, Flowserve P/N 82368242, for Model # 2**		
		Part Inventory in 1301.1	**1.0**
	PSP-FS-82368242	Bearing Tension Tube, Flowserve P/N 823	**1.0**
PSP-FS-88374844	**Alignment Ring, Flowserve P/N 88374844**		
		Part Inventory in 1301.1	**1.0**
	PSP-FS-88374844	Alignment Ring, Flowserve P/N 88374844	**1.0**
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PSP-FS-88449543	**Bearing Case, Bottom, Flowserve P/N 88449543, for Model #25**		
		Part Inventory in 1301.1	**1.0**
	PSP-FS-88449543	Bearing Case, Bottom, Flowserve P/N 884	**1.0**
PSP-HYD-129500023	**Arm Guide SST, Hydromatic P/N 12950-002-3, For Station 22**		
		Part Inventory in 1301.1	**2.0**
	PSP-HYD-129500023	Arm Guide SST, Hydromatic P/N 12950-0(	**2.0**
PSP-REE-BRAKECLUTCH	**Brake Clutch, for Reeve's Drive Bucket Pump**		
		Part Inventory in 1301.1	**1.0**
	PSP-REE-BRAKECLUTCH	Brake Clutch, for Reeve's Drive Bucket Pu	**1.0**
PSP-STENNER-#7PMPTUB	**Peristaltic Tube, Stenner #7 Pump Tube, 100 psi max., for P St**		
		Part Inventory in 1301.1	**19.0**
	PSP-STENNER-#7PMPTUB	Peristaltic Tube, Stenner #7 Pump Tube, 1	**19.0**
PSP-WILO-2710261	**O-Ring Kit, Wilo P/N 271 02 61**		
		Part Inventory in 1301.1	**2.0**
	PSP-WILO-2710261	O-Ring Kit, Wilo P/N 271 02 61	**2.0**
PSP-WILO-6004209	**Seal Ring, Volute Discharge, 10", for DN250R, Wilo P/N 600 42**		
		Part Inventory in 1301.1	**3.0**
	PSP-WILO-6004209	Seal Ring, Volute Discharge, 10", for DN2	**3.0**
PSP-WILO-6061068	**Seal Fail Sensor, 25 Meter, Wilo P/N 606 10 68**		
		Part Inventory in 1301.1	**1.0**
	PSP-WILO-6061068	Seal Fail Sensor, 25 Meter, Wilo P/N 606 1	**1.0**
PSP-WILO-6061069	**Pencil Electrode, 40 Meter, Wilo P/N 606 10 69**		
		Part Inventory in 1301.1	**0.0**

	PSP-WILO-6061069	Pencil Electrode, 40 Meter, Wilo P/N 606 1	**0.0**
PSP-WILO-6061070	**Pencil Electrode, 30 Meter, Wilo P/N 606 10 70**		
		Part Inventory in 1301.1	**4.0**
	PSP-WILO-6061070	Pencil Electrode, 30 Meter, Wilo P/N 606 1	**4.0**
PSP-WILO-6061578	**Control Cable, 30 Meter, Wilo P/N 606 15 78**		
		Part Inventory in 1301.1	**2.0**
	PSP-WILO-6061578	Control Cable, 30 Meter, Wilo P/N 606 15	**2.0**
PSP-WILO-6078700	**Control Cable, 40 Meter, Wilo P/N 607 87 00**		
		Part Inventory in 1301.1	**4.0**
	PSP-WILO-6078700	Control Cable, 40 Meter, Wilo P/N 607 87	**4.0**
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PSP-WILO-CONTCORD62	**Control Cord and Trumpet, 62' Long**		
		Part Inventory in 1301.1	**0.0**
	PSP-WILO-CONTCORD62	Control Cord and Trumpet, 62' Long	**0.0**
PSP-WILO-CORD&TR62	**Pump Cord and Trumpet, 62' Long**		
		Part Inventory in 1301.1	**0.0**
	PSP-WILO-CORD&TR62	Pump Cord and Trumpet, 62' Long	**0.0**
PSP-WILO-FA30/30M-CB	**Cable, Trumpet and Power, 30 meter, for FA30.93/T34**		
		Part Inventory in 1301.1	**2.0**
	PSP-WILO-FA30/30M-CB	Cable, Trumpet and Power, 30 meter, for F	**2.0**
PSP-WILO-FA50/35M-CB	**Cable, Trumpet and Power, 35 meter, for FA50.98V**		
		Part Inventory in 1301.1	**2.0**
	PSP-WILO-FA50/35M-CB	Cable, Trumpet and Power, 35 meter, for F	**2.0**
PSP-WILO-SLFLCORD62	**Sensor Cord and Pencil Electrode (Seal Fail), 62' Long**		
		Part Inventory in 1301.1	**0.0**
	PSP-WILO-SLFLCORD62	Sensor Cord and Pencil Electrode (Seal Fa	**0.0**
PSP-WM-069.6171.PFC	**Watson-Marlow P/N 069.6171.PFC, 1Meter 19mm Bore PVC Tul**		
		Part Inventory in 1301.1	**4.0**
	PSP-WM-069.6171.PFC	Watson-Marlow P/N 069.6171.PFC, 1Mete	**4.0**
PSP-WM-902.0190.PPC	**Watson-Marlow 720 Loadsure Element, Marprene 19.0 mm witl**		
		Part Inventory in 1301.1	**4.0**
	PSP-WM-902.0190.PPC	Watson-Marlow 720 Loadsure Element, M	**4.0**
PSP-WM-MRA0104A	**Assembly Knob, 4 - 8 mm, Watson-Marlow P/N MRA0104A**		
		Part Inventory in 1301.1	**8.0**
	PSP-WM-MRA0104A	Assembly Knob, 4 - 8 mm, Watson-Marlow	**8.0**
RBK-CLAVAL-9169813E	**Repair Kit for Cla-Val 4" 100, Cla-Val P/N 91698-13E**		
		Part Inventory in 1301.1	**4.0**
	RBK-CLAVAL-9169813E	Repair Kit for Cla-Val 4" 100, Cla-Val P/N 9	**4.0**

RBK-FLYGT-6018909	**Basic Repair Kit, Flygt P/N 601 89 09**		
		Part Inventory in 1301.1	**5.0**
	RBK-FLYGT-6018909	Basic Repair Kit, Flygt P/N 601 89 09	**5.0**
RBK-FLYGT-6571700	**Basic Repair Kit, Flygt P/N 657 17 00**		
		Part Inventory in 1301.1	**1.0**
	RBK-FLYGT-6571700	Basic Repair Kit, Flygt P/N 657 17 00	**1.0**
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RBK-FLYGT-6931900	**Rebuild Kit, Flygt P/N 693 19 00**		
		Part Inventory in 1301.1	**1.0**
	RBK-FLYGT-6931900	Rebuild Kit, Flygt P/N 693 19 00	**1.0**
RBK-FLYGT-ORG6135600	**O-Ring Kit, Flygt, P/N 613 56 00**		
		Part Inventory in 1301.1	**7.0**
	RBK-FLYGT-ORG6135600	O-Ring Kit, Flygt, P/N 613 56 00	**7.0**
RBK-FLYGT-ORG803233	**O-Ring Kit, Flygt P/N 80 32 33**		
		Part Inventory in 1301.1	**2.0**
	RBK-FLYGT-ORG803233	O-Ring Kit, Flygt P/N 80 32 33	**2.0**
RBK-FLYGT-ORG830586	**O-Ring Kit, Flygt P/N 83 05 86**		
		Part Inventory in 1301.1	**2.0**
	RBK-FLYGT-ORG830586	O-Ring Kit, Flygt P/N 83 05 86	**2.0**
RBK-FLYGT-ORG832133	**O Ring Kit, Flygt P/N 083 21 33**		
		Part Inventory in 1301.1	**1.0**
	RBK-FLYGT-ORG832133	O Ring Kit, Flygt P/N 083 21 33	**1.0**
RBK-HYDRO-KT1-040-OV	**Chlorinator Rebuild Kit, Hydro Omni-Valve P/N KT1-040-OV**		
		Part Inventory in 1301.1	**9.0**
	RBK-HYDRO-KT1-040-OV	Chlorinator Rebuild Kit, Hydro Omni-Valve	**9.0**
RBK-HYDRO-KTH2000RMS	**Remote Meter Panel PM Kit, Hydro Omni-Valve P/N KTH-2000-I**		
		Part Inventory in 1301.1	**9.0**
	RBK-HYDRO-KTH2000RMS	Remote Meter Panel PM Kit, Hydro Omni-	**9.0**
RBK-PINCHVLV-4"	**Rebuild Kit, for 4" Pinch Valve (Pista Grit Pumps)**		
		Part Inventory in 1301.1	**0.0**
	RBK-PINCHVLV-4"	Rebuild Kit, for 4" Pinch Valve (Pista Grit	**0.0**
RBK-WATTS-LFRK909RT4	**Rebuild Kit, Backflow Preventer, 4", Watts P/N LFRK 909-RT 4**		
		Part Inventory in 1301.1	**0.0**
	RBK-WATTS-LFRK909RT4	Rebuild Kit, Backflow Preventer, 4", Watts	**0.0**
RBK-WATTS-LFRK909RT6	**Rebuild Kit, Backflow Preventer, 6", Watts P/N LFRK 909-RT 6**		
		Part Inventory in 1301.1	**1.0**
	RBK-WATTS-LFRK909RT6	Rebuild Kit, Backflow Preventer, 6", Watts	**1.0**

RBK-WATTS-RK909RT2.5 **Total Valve Rubber Parts Repair Kit, Watts P/N RK 909-RT 2 1/2**

	Part Inventory in 1301.1	**3.0**
RBK-WATTS-RK909RT2.5	Total Valve Rubber Parts Repair Kit, Watts	**3.0**

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RBK-WATTS-RK957RT2.5 **Rebuild Kit, Backflow Preventer, Watts P/N RK957/RPDA-RTRS**

	Part Inventory in 1301.1	**0.0**
RBK-WATTS-RK957RT2.5	Rebuild Kit, Backflow Preventer, Watts P/N	**0.0**

RBR-BELT4SKIMMER **Belt Material for Clarifier Skimmers**

	Part Inventory in 1301.1	**70.0**
RBR-BELT4SKIMMER	Belt Material for Clarifier Skimmers	**70.0**

RBR-BOOT-20X46X1/4 **Boot, Gum Rubber, 20" X 46" X 1/4" Thick**

	Part Inventory in 1301.1	**0.0**
RBR-BOOT-20X46X1/4	Boot, Gum Rubber, 20" X 46" X 1/4" Thick	**0.0**

RBR-FLEXPIPE-10" **Pipe, Flexible, 10" (for Auger Chute)**

	Part Inventory in 1301.1	**4.0**
RBR-FLEXPIPE-10"	Pipe, Flexible, 10" (for Auger Chute)	**4.0**

RBR-MFP-DISTCHSPLSH **Distribution Chute Splash Seal for Massard Filter Press**

	Part Inventory in 1301.1	**0.0**
RBR-MFP-DISTCHSPLSH	Distribution Chute Splash Seal for Massard	**0.0**

RBR-MSC-SKIM **Skimmer Rubber, for Massard Secondary Clarifiers**

	Part Inventory in 1301.1	**0.0**
RBR-MSC-SKIM	Skimmer Rubber, for Massard Secondary	**0.0**

RBR-MSC-SKIMBOX **Skimmer Box Rubber, for Massard Secondary Clarifier**

	Part Inventory in 1301.1	**2.0**
RBR-MSC-SKIMBOX	Skimmer Box Rubber, for Massard Second	**2.0**

RBR-SQSEAL-54X2X1/4 **Rubber Seal, 54" Square X 2" Face X 1/4" Thick**

	Part Inventory in 1301.1	**0.0**
RBR-SQSEAL-54X2X1/4	Rubber Seal, 54" Square X 2" Face X 1/4"	**0.0**

SAF-BILCO-HANDLES **Handle, Bilco Hatch, "HALLIDAY"**

	Part Inventory in 1301.1	**2.0**
SAF-BILCO-HANDLES	Handle, Bilco Hatch, "HALLIDAY"	**2.0**

SAF-BRNJERSEYGLV **Brown Jersey Gloves**

	Part Inventory in 1301.1	**2.0**
SAF-BRNJERSEYGLV	Brown Jersey Gloves	**2.0**

SAF-CAUTIONTAPE-3 **Tape, Caution, 3"**

	Part Inventory in 1301.1	**0.0**
SAF-CAUTIONTAPE-3	Tape, Caution, 3"	**0.0**

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SAF-COOLER-1GAL	**Cooler, Water, 1 Gallon**		
		Part Inventory in 1301.1	**0.0**
	SAF-COOLER-1GAL	Cooler, Water, 1 Gallon	**0.0**
SAF-COOLER-2GAL	**Cooler, Water, 2 Gallon**		
		Part Inventory in 1301.1	**1.0**
	SAF-COOLER-2GAL	Cooler, Water, 2 Gallon	**1.0**
SAF-COOLER-3GAL	**3 Gallon Water Cooler**		
		Part Inventory in 1301.1	**0.0**
	SAF-COOLER-3GAL	3 Gallon Water Cooler	**0.0**
SAF-DUSTMASK	**Dust Mask**		
		Part Inventory in 1301.1	**17.0**
	SAF-DUSTMASK	Dust Mask	**17.0**
SAF-DWYER-V6EPBBS4B	**Flow Switch, for Eye Wash Stations, Dwyer Model # V6EPB-B-**		
		Part Inventory in 1301.1	**1.0**
	SAF-DWYER-V6EPBBS4B	Flow Switch, for Eye Wash Stations, Dwye	**1.0**
SAF-GATORADE-2.5G	**Gatorade, 2 1/2 Gallon Pack**		
		Part Inventory in 1301.1	**1.0**
	SAF-GATORADE-2.5G	Gatorade, 2 1/2 Gallon Pack	**1.0**
SAF-GLASSES-CL	**Glasses, Safety, Clear**		
		Part Inventory in 1301.1	**2.0**
	SAF-GLASSES-CL	Glasses, Safety, Clear	**2.0**
SAF-GLASSES-SM	**Glasses, Safety, Smoke**		
		Part Inventory in 1301.1	**8.0**
	SAF-GLASSES-SM	Glasses, Safety, Smoke	**8.0**
SAF-HARDHAT	**Hard Hat**		
		Part Inventory in 1301.1	**0.0**
	SAF-HARDHAT	Hard Hat	**0.0**
SAF-HARNESSLANYARD	**Lanyard for Safety Harness**		
		Part Inventory in 1301.1	**0.0**
	SAF-HARNESSLANYARD	Lanyard for Safety Harness	**0.0**
SAF-HAWS-SP154	**Switch, Flow, Haws Model # SP-154**		
		Part Inventory in 1301.1	**2.0**
	SAF-HAWS-SP154	Switch, Flow, Haws Model # SP-154	**2.0**

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SAF-KNITGLOVE-L	**Glove, String Knit, Liner, Large**		
		Part Inventory in 1301.1	**5.0**
	SAF-KNITGLOVE-L	Glove, String Knit, Liner, Large	**5.0**
SAF-LTHRGLOVE-XL	**Glove, Leather, Drivers, Extra Large**		

		Part Inventory in 1301.1	**6.0**
	SAF-LTHRGLOVE-XL	Glove, Leather, Drivers, Extra Large	**6.0**
SAF-LTHRGLOVE-XXL	**Glove, Leather, Drivers, XXL**		
		Part Inventory in 1301.1	**10.0**
	SAF-LTHRGLOVE-XXL	Glove, Leather, Drivers, XXL	**10.0**
SAF-MECHGLOVE-L	**Mechanic's Gloves, Large**		
		Part Inventory in 1301.1	**12.0**
	SAF-MECHGLOVE-L	Mechanic's Gloves, Large	**12.0**
SAF-MECHGLOVE-XL	**Mechanic's Gloves, Extra Large**		
		Part Inventory in 1301.1	**10.0**
	SAF-MECHGLOVE-XL	Mechanic's Gloves, Extra Large	**10.0**
SAF-RAINSUIT	**Rain Suit, 3 piece**		
		Part Inventory in 1301.1	**1.0**
	SAF-RAINSUIT	Rain Suit, 3 piece	**1.0**
SAF-SHOWERHEAD-ABSGR	**Shower Head, ABS Green (for Eyewash/Shower Station)**		
		Part Inventory in 1301.1	**1.0**
	SAF-SHOWERHEAD-ABSGR	Shower Head, ABS Green (for Eyewash/S	**1.0**
SAF-SPOTMIRROR	**Spot Mirror**		
		Part Inventory in 1301.1	**3.0**
	SAF-SPOTMIRROR	Spot Mirror	**3.0**
SAF-VEST	**Safety Vest**		
		Part Inventory in 1301.1	**7.0**
	SAF-VEST	Safety Vest	**7.0**
SAF-WARNSTKR-HEATTRA	**Heat Trace Warning Sticker**		
		Part Inventory in 1301.1	**5.0**
	SAF-WARNSTKR-HEATTRA	Heat Trace Warning Sticker	**5.0**
SAF-WIPERBLADE16	**Wiper Blade, 16"**		
		Part Inventory in 1301.1	**1.0**
	SAF-WIPERBLADE16	Wiper Blade, 16"	**1.0**

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SAF-WIPERBLADE20	**Wiper Blade, 20"**		
		Part Inventory in 1301.1	**0.0**
	SAF-WIPERBLADE20	Wiper Blade, 20"	**0.0**
SAF-WIPERBLADE22	**Wiper Blade, 22"**		
		Part Inventory in 1301.1	**0.0**
	SAF-WIPERBLADE22	Wiper Blade, 22"	**0.0**
SAF-WIPERFLUID	**Wiper Fluid**		
		Part Inventory in 1301.1	**0.0**

	SAF-WIPERFLUID	Wiper Fluid	**0.0**
SCL-BS-DEZ1012801	**Sleeve, Bearing, for Dezurik Plug Valve, P/N 1012801**		
		Part Inventory in 1301.1	**3.0**
	SCL-BS-DEZ1012801	Sleeve, Bearing, for Dezurik Plug Valve, P	**3.0**
SCL-BS-DEZ1012804	**Sleeve, Bearing, for Dezurik Plug Valve, P/N 1012804**		
		Part Inventory in 1301.1	**2.0**
	SCL-BS-DEZ1012804	Sleeve, Bearing, for Dezurik Plug Valve, P	**2.0**
SCL-FM-T30C14B3380F	**Shaft Sleeve, Stainless Steel, Fairbanks Morse P/N T30C14B 3**		
		Part Inventory in 1301.1	**1.0**
	SCL-FM-T30C14B3380F	Shaft Sleeve, Stainless Steel, Fairbanks M	**1.0**
SCL-GRUPP-11876A	**Shaft Sleeve, Mechanical Seal, Gorman Rupp P/N 11876A**		
		Part Inventory in 1301.1	**1.0**
	SCL-GRUPP-11876A	Shaft Sleeve, Mechanical Seal, Gorman R	**1.0**
SCL-P13-450X5275X600	**Sleeve, Pump, 4.50" X 5.275" X 6.00"**		
		Part Inventory in 1301.1	**2.0**
	SCL-P13-450X5275X600	Sleeve, Pump, 4.50" X 5.275" X 6.00"	**2.0**
SCL-REE-VARIDISC200	**Disc, Variable Speed, Dodge Reeves, Size 200, for Reeve's Dri**		
		Part Inventory in 1301.1	**2.0**
	SCL-REE-VARIDISC200	Disc, Variable Speed, Dodge Reeves, Size	**2.0**
SCL-SHEAVE-2G-5.375	**Sheave, 2 Groove, 5 3/8"**		
		Part Inventory in 1301.1	**1.0**
	SCL-SHEAVE-2G-5.375	Sheave, 2 Groove, 5 3/8"	**1.0**
SCL-SHEAVE-3"X7/8"	**Sheave, 3", 7/8" Arbor**		
		Part Inventory in 1301.1	**1.0**
	SCL-SHEAVE-3"X7/8"	Sheave, 3", 7/8" Arbor	**1.0**
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SCL-SHEAVE-4.5	**Sheave, 4 1/2"**		
		Part Inventory in 1301.1	**0.0**
	SCL-SHEAVE-4.5	Sheave, 4 1/2"	**0.0**
SCL-SHEAVE-5"X1"	**Sheave, 5" Diameter, 1.00" Arbor**		
		Part Inventory in 1301.1	**2.0**
	SCL-SHEAVE-5"X1"	Sheave, 5" Diameter, 1.00" Arbor	**2.0**
SCL-SKF-99847	**Shaft Repair Sleeve, Speedi Sleeve, 2.937" - 2.943", SKF P/N 9**		
		Part Inventory in 1301.1	**1.0**
	SCL-SKF-99847	Shaft Repair Sleeve, Speedi Sleeve, 2.937	**1.0**
SCL-SPX-1013984	**Shaft, Worm, SPX Valves & Controls P/N 1013984**		
		Part Inventory in 1301.1	**1.0**
	SCL-SPX-1013984	Shaft, Worm, SPX Valves & Controls P/N	**1.0**

SCL-SS-1500X200X400	**Sleeve, Shaft, Stainless Steel, 1.500" X 2.000" X 4.000"**		
		Part Inventory in 1301.1	**2.0**
	SCL-SS-1500X200X400	Sleeve, Shaft, Stainless Steel, 1.500" X 2.(	**2.0**
SCL-SS-150X1875X400	**Sleeve, Stainless Steel, 1.500" X 1.875" X 4"**		
		Part Inventory in 1301.1	**2.0**
	SCL-SS-150X1875X400	Sleeve, Stainless Steel, 1.500" X 1.875" X	**2.0**
SCL-SS-1625X1875X437	**Sleeve, Shaft, Stainless Steel, 1.625" X 1.875" X 4.375"**		
		Part Inventory in 1301.1	**1.0**
	SCL-SS-1625X1875X437	Sleeve, Shaft, Stainless Steel, 1.625" X 1.8	**1.0**
SCL-SS-1625X1875X800	**Sleeve, Stainless Steel, 1.625" X 1.875" X 8"**		
		Part Inventory in 1301.1	**1.0**
	SCL-SS-1625X1875X800	Sleeve, Stainless Steel, 1.625" X 1.875" X	**1.0**
SCL-SS-1625X188X3534	**Sleeve, Stainless Steel, 1.625" X 1.875" X 3.534"**		
		Part Inventory in 1301.1	**2.0**
	SCL-SS-1625X188X3534	Sleeve, Stainless Steel, 1.625" X 1.875" X	**2.0**
SCL-SS-1625X200X425	**Sleeve, Shaft, Stainless Steel, 1.625" X 2.000" X 4.250"**		
		Part Inventory in 1301.1	**2.0**
	SCL-SS-1625X200X425	Sleeve, Shaft, Stainless Steel, 1.625" X 2.(	**2.0**
SCL-SS-2563X2875X375	**Sleeve, Stainless Steel, 2.5625" X 2.875" X 3.75"**		
		Part Inventory in 1301.1	**1.0**
	SCL-SS-2563X2875X375	Sleeve, Stainless Steel, 2.5625" X 2.875" 3	**1.0**
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SCL-SS-325X3625X4500	**Sleeve, Stainless Steel, 3.25" X 3.625" X 4.500"**		
		Part Inventory in 1301.1	**2.0**
	SCL-SS-325X3625X4500	Sleeve, Stainless Steel, 3.25" X 3.625" X 4	**2.0**
SCL-SS-350X3875X6375	**Sleeve, Stainless Steel, 3.500" X 3.875" X 6.375"**		
		Part Inventory in 1301.1	**1.0**
	SCL-SS-350X3875X6375	Sleeve, Stainless Steel, 3.500" X 3.875" X	**1.0**
SCL-SS-3X2625X5875SP	**Sleeve, Stainless Steel, 3" X 2 5/8" X 5 7/8" with ID of 2" for las**		
		Part Inventory in 1301.1	**10.0**
	SCL-SS-3X2625X5875SP	Sleeve, Stainless Steel, 3" X 2 5/8" X 5 7/8	**10.0**
SEL-CHEST-155-15-187	**Seal Kit, Chesterton, P/N 155, -15 Seal Size, 1.875" Shaft Size**		
		Part Inventory in 1301.1	**0.0**
	SEL-CHEST-155-15-187	Seal Kit, Chesterton, P/N 155, -15 Seal Siz	**0.0**
SEL-CHEST-155-17-212	**Seal Kit, Chesterton P/N 155, -17 Seal Size, 2.125" Shaft Size**		
		Part Inventory in 1301.1	**1.0**
	SEL-CHEST-155-17-212	Seal Kit, Chesterton P/N 155, -17 Seal Siz	**1.0**

SEL-CHEST-30KAWC400	**Seal, Set, Chesterton P/N 30K AWC400 (for Air Scrubber Chem**	
	Part Inventory in 1301.1	**1.0**
SEL-CHEST-30KAWC400	Seal, Set, Chesterton P/N 30K AWC400 (f	**1.0**
SEL-CHEST-442-30SPK	**Seal, Mechanical, Repair Kit, 442-30 SPK RSC/RSC S VT**	
	Part Inventory in 1301.1	**1.0**
SEL-CHEST-442-30SPK	Seal, Mechanical, Repair Kit, 442-30 SPK	**1.0**
SEL-CHEST-EMS24	**Seal, Mechanical, Chesterton P/N EMS24 SA TC/RSC/800**	
	Part Inventory in 1301.1	**1.0**
SEL-CHEST-EMS24	Seal, Mechanical, Chesterton P/N EMS24	**1.0**
SEL-CHEST-EMS26	**Seal, Mechanical, Chesterton P/N EMS26 SA CB/CR/800**	
	Part Inventory in 1301.1	**1.0**
SEL-CHEST-EMS26	Seal, Mechanical, Chesterton P/N EMS26	**1.0**
SEL-CHEST-S10/OS1.25	**Seal, Mechanical, Chesterton, S10/OS 1.250 SA TC/SSC S EP 3**	
	Part Inventory in 1301.1	**1.0**
SEL-CHEST-S10/OS1.25	Seal, Mechanical, Chesterton, S10/OS 1.2	**1.0**
SEL-CORN-064262025N	**Seal, Lip, Cornell P/N 064262025N**	
	Part Inventory in 1301.1	**2.0**
SEL-CORN-064262025N	Seal, Lip, Cornell P/N 064262025N	**2.0**
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SEL-CORN-A21703177EB	**Face Seal, Cornell P/N A21703-177EB**	
	Part Inventory in 1301.1	**3.0**
SEL-CORN-A21703177EB	Face Seal, Cornell P/N A21703-177EB	**3.0**
SEL-D-GLD52108475014	**Oil Deflector, Gould P/N 52-108-475-014**	
	Part Inventory in 1301.1	**2.0**
SEL-D-GLD52108475014	Oil Deflector, Gould P/N 52-108-475-014	**2.0**
SEL-D-GLD52108475015	**Oil Deflector, Gould P/N 52-108-475-015**	
	Part Inventory in 1301.1	**4.0**
SEL-D-GLD52108475015	Oil Deflector, Gould P/N 52-108-475-015	**4.0**
SEL-FACE-JCIM12151	**Seal, Face, Rotating, for John Crane, Inc. M12151, P/N A83625**	
	Part Inventory in 1301.1	**1.0**
SEL-FACE-JCIM12151	Seal, Face, Rotating, for John Crane, Inc.	**1.0**
SEL-FRANK-SQRG5302PK	**Square Ring Kit, Franklin Electric P/N 470 258 5302PK 10C14**	
	Part Inventory in 1301.1	**2.0**
SEL-FRANK-SQRG5302PK	Square Ring Kit, Franklin Electric P/N 470	**2.0**
SEL-GRUPP-12364A	**Mechanical Seal, Std Assembly, Gorman Rupp P/N 12364A**	
	Part Inventory in 1301.1	**1.0**
SEL-GRUPP-12364A	Mechanical Seal, Std Assembly, Gorman F	**1.0**
SEL-GRUPP-46512-047	**Seal, Mechanical, Gorman Rupp P/N 46512-047**	

		Part Inventory in 1301.1	**1.0**
	SEL-GRUPP-46512-047	Seal, Mechanical, Gorman Rupp P/N 4651	**1.0**
SEL-HYD-517000657	**Seal, Mechanical, Hydromatic P/N 517 000 657**		
		Part Inventory in 1301.1	**1.0**
	SEL-HYD-517000657	Seal, Mechanical, Hydromatic P/N 517 00(	**1.0**
SEL-HYD-517003177	**Seal, Mechanical, Hydromatic P/N 517 003 177**		
		Part Inventory in 1301.1	**1.0**
	SEL-HYD-517003177	Seal, Mechanical, Hydromatic P/N 517 00:	**1.0**
SEL-HYD-571003167	**Seal, Mechanical, Hydromatic P/N 517 003 167**		
		Part Inventory in 1301.1	**1.0**
	SEL-HYD-571003167	Seal, Mechanical, Hydromatic P/N 517 00:	**1.0**
SEL-JCI-B03656	**Seal Assembly, John Crane, Inc., B03656**		
		Part Inventory in 1301.1	**3.0**
	SEL-JCI-B03656	Seal Assembly, John Crane, Inc., B03656	**3.0**
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SEL-JCI-C11693	**Seal, Mechanical, John Crane, Inc. P/N C11693**		
		Part Inventory in 1301.1	**5.0**
	SEL-JCI-C11693	Seal, Mechanical, John Crane, Inc. P/N C1	**5.0**
SEL-JCI-M12151	**Seal, Mechanical, John Crane, Inc. P/N M12151**		
		Part Inventory in 1301.1	**2.0**
	SEL-JCI-M12151	Seal, Mechanical, John Crane, Inc. P/N M1	**2.0**
SEL-JCI-M19765	**Seal Kit, John Crane, Inc., M19765**		
		Part Inventory in 1301.1	**3.0**
	SEL-JCI-M19765	Seal Kit, John Crane, Inc., M19765	**3.0**
SEL-JCI-M19892	**Seal Kit, John Crane, Inc., M19892**		
		Part Inventory in 1301.1	**2.0**
	SEL-JCI-M19892	Seal Kit, John Crane, Inc., M19892	**2.0**
SEL-M-10000206	**Seal, Mechanical, 10000206 (Jacuzzi Pump)**		
		Part Inventory in 1301.1	**1.0**
	SEL-M-10000206	Seal, Mechanical, 10000206 (Jacuzzi Pum	**1.0**
SEL-M-FLYGT-3127180	**Seal, Mechanical, Lower, Flygt, for pump 3127.180**		
		Part Inventory in 1301.1	**1.0**
	SEL-M-FLYGT-3127180	Seal, Mechanical, Lower, Flygt, for pump 3	**1.0**
SEL-M-FLYGT-5861204	**Seal, Mechanical, Flygt P/N 586 12 04**		
		Part Inventory in 1301.1	**1.0**
	SEL-M-FLYGT-5861204	Seal, Mechanical, Flygt P/N 586 12 04	**1.0**
SEL-M-FLYGT-6179902	**Seal, Mechanical, Flygt P/N 617 99 02**		
		Part Inventory in 1301.1	**3.0**

	SEL-M-FLYGT-6179902	Seal, Mechanical, Flygt P/N 617 99 02	**3.0**
SEL-M-FLYGT-7261800	**Seal, Mechanical, Flygt P/N 726 18 00**		
		Part Inventory in 1301.1	**2.0**
	SEL-M-FLYGT-7261800	Seal, Mechanical, Flygt P/N 726 18 00	**2.0**
SEL-M-FMHYD1AD89906F	**Seal, Mechanical, Fairbanks Morse P/N HYD1AD8 9906F**		
		Part Inventory in 1301.1	**2.0**
	SEL-M-FMHYD1AD89906F	Seal, Mechanical, Fairbanks Morse P/N H	**2.0**
SEL-M-HYD1S16	**Seal, Mechanical, for WAS Pump, P/N HYD1S16**		
		Part Inventory in 1301.1	**3.0**
	SEL-M-HYD1S16	Seal, Mechanical, for WAS Pump, P/N HY	**3.0**
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SEL-M-JCBO1148	**Seal, Mechanical, John Crane P/N BO1148**		
		Part Inventory in 1301.1	**0.0**
	SEL-M-JCBO1148	Seal, Mechanical, John Crane P/N BO114	**0.0**
SEL-M-USPS598	**Seal, Mechanical, U.S. PS-598 (Jacuzzi Seal)**		
		Part Inventory in 1301.1	**1.0**
	SEL-M-USPS598	Seal, Mechanical, U.S. PS-598 (Jacuzzi S	**1.0**
SEL-M-WILO-6037443	**Seal, Mechanical, Wilo P/N 603 74 43**		
		Part Inventory in 1301.1	**2.0**
	SEL-M-WILO-6037443	Seal, Mechanical, Wilo P/N 603 74 43	**2.0**
SEL-M-WILO-6037444	**Seal, Mechanical, Wilo P/N 603 74 44**		
		Part Inventory in 1301.1	**1.0**
	SEL-M-WILO-6037444	Seal, Mechanical, Wilo P/N 603 74 44	**1.0**
SEL-O-071782SLBX-TCM	**Seal, Oil, TCM P/N 071782SL-BX**		
		Part Inventory in 1301.1	**10.0**
	SEL-O-071782SLBX-TCM	Seal, Oil, TCM P/N 071782SL-BX	**10.0**
SEL-O-11207	**Seal, Oil, 11207**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-11207	Seal, Oil, 11207	**1.0**
SEL-O-11545	**Seal, Oil, 11545**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-11545	Seal, Oil, 11545	**1.0**
SEL-O-12350	**Seal, Oil, 12350**		
		Part Inventory in 1301.1	**2.0**
	SEL-O-12350	Seal, Oil, 12350	**2.0**
SEL-O-12361	**Seal, Oil, 12361**		
		Part Inventory in 1301.1	**0.0**
	SEL-O-12361	Seal, Oil, 12361	**0.0**

SEL-O-12551	**Seal, Oil, 12551**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-12551 Seal, Oil, 12551		**1.0**
SEL-O-12565	**Seal, Oil, 12565**		
		Part Inventory in 1301.1	**3.0**
	SEL-O-12565 Seal, Oil, 12565		**3.0**

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SEL-O-13535	**Seal, Oil, SKF P/N 13535**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-13535 Seal, Oil, SKF P/N 13535		**1.0**
SEL-O-13650	**Seal, Oil, SKF P/N 13650**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-13650 Seal, Oil, SKF P/N 13650		**1.0**
SEL-O-14968	**Seal, Oil, 14968**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-14968 Seal, Oil, 14968		**1.0**
SEL-O-15005	**Seal, Oil, 15005**		
		Part Inventory in 1301.1	**3.0**
	SEL-O-15005 Seal, Oil, 15005		**3.0**
SEL-O-15699	**Seal, Oil, 15699**		
		Part Inventory in 1301.1	**2.0**
	SEL-O-15699 Seal, Oil, 15699		**2.0**
SEL-O-17443	**Seal, Oil, 17443**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-17443 Seal, Oil, 17443		**1.0**
SEL-O-17758	**Seal, Oil, 17758**		
		Part Inventory in 1301.1	**2.0**
	SEL-O-17758 Seal, Oil, 17758		**2.0**
SEL-O-17X40X7	**Seal, Oil, Metric, 17 X 40 X 7**		
		Part Inventory in 1301.1	**0.0**
	SEL-O-17X40X7 Seal, Oil, Metric, 17 X 40 X 7		**0.0**
SEL-O-18581	**Seal, Oil, 18581**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-18581 Seal, Oil, 18581		**1.0**
SEL-O-18658	**Seal, Oil, 18658**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-18658 Seal, Oil, 18658		**1.0**

SEL-O-19760	**Seal, Oil, 19760**	
	Part Inventory in 1301.1	**7.0**
SEL-O-19760	Seal, Oil, 19760	**7.0**

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SEL-O-19762	**Seal, Oil, 19762**	
	Part Inventory in 1301.1	**3.0**
SEL-O-19762	Seal, Oil, 19762	**3.0**
SEL-O-19886	**Seal, Oil, 19886**	
	Part Inventory in 1301.1	**1.0**
SEL-O-19886	Seal, Oil, 19886	**1.0**
SEL-O-19992	**Seal, Oil, SKF P/N 19992**	
	Part Inventory in 1301.1	**1.0**
SEL-O-19992	Seal, Oil, SKF P/N 19992	**1.0**
SEL-O-20X45X7TC	**Seal, Oil, 20 X 45 X 7 TC**	
	Part Inventory in 1301.1	**2.0**
SEL-O-20X45X7TC	Seal, Oil, 20 X 45 X 7 TC	**2.0**
SEL-O-21267	**Seal, Oil, 21267**	
	Part Inventory in 1301.1	**1.0**
SEL-O-21267	Seal, Oil, 21267	**1.0**
SEL-O-21660	**Seal, Oil, 21660**	
	Part Inventory in 1301.1	**2.0**
SEL-O-21660	Seal, Oil, 21660	**2.0**
SEL-O-21950	**Seal, Oil, SKF P/N 21950**	
	Part Inventory in 1301.1	**1.0**
SEL-O-21950	Seal, Oil, SKF P/N 21950	**1.0**
SEL-O-22583	**Seal, Oil, 22583**	
	Part Inventory in 1301.1	**4.0**
SEL-O-22583	Seal, Oil, 22583	**4.0**
SEL-O-23456	**Seal, Oil, 23456**	
	Part Inventory in 1301.1	**1.0**
SEL-O-23456	Seal, Oil, 23456	**1.0**
SEL-O-23646	**Seal, Oil, 23646**	
	Part Inventory in 1301.1	**1.0**
SEL-O-23646	Seal, Oil, 23646	**1.0**
SEL-O-24255	**Seal, Oil, 24255**	
	Part Inventory in 1301.1	**1.0**
SEL-O-24255	Seal, Oil, 24255	**1.0**

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SEL-O-24971	**Seal, Oil, 24971**	
	Part Inventory in 1301.1	**2.0**
SEL-O-24971	Seal, Oil, 24971	**2.0**
SEL-O-25X33X6	**Seal, Oil, Metric, 25 X 33 X 6**	
	Part Inventory in 1301.1	**1.0**
SEL-O-25X33X6	Seal, Oil, Metric, 25 X 33 X 6	**1.0**
SEL-O-25X40X7	**Seal, Oil, Metric, 25 X 40 X 7**	
	Part Inventory in 1301.1	**1.0**
SEL-O-25X40X7	Seal, Oil, Metric, 25 X 40 X 7	**1.0**
SEL-O-29224	**Seal, Oil, 29224**	
	Part Inventory in 1301.1	**3.0**
SEL-O-29224	Seal, Oil, 29224	**3.0**
SEL-O-30X42X7	**Seal, Oil, Metric, 30 X 42 X 7**	
	Part Inventory in 1301.1	**2.0**
SEL-O-30X42X7	Seal, Oil, Metric, 30 X 42 X 7	**2.0**
SEL-O-30X48X8	**Seal, Oil, Metric, 30 X 48 X 8**	
	Part Inventory in 1301.1	**1.0**
SEL-O-30X48X8	Seal, Oil, Metric, 30 X 48 X 8	**1.0**
SEL-O-32302	**Seal, Oil, 32302**	
	Part Inventory in 1301.1	**1.0**
SEL-O-32302	Seal, Oil, 32302	**1.0**
SEL-O-35X52X7	**Seal, Oil, Metric, 35 X 52 X 7**	
	Part Inventory in 1301.1	**0.0**
SEL-O-35X52X7	Seal, Oil, Metric, 35 X 52 X 7	**0.0**
SEL-O-37396	**Seal, Oil, 37396**	
	Part Inventory in 1301.1	**1.0**
SEL-O-37396	Seal, Oil, 37396	**1.0**
SEL-O-400600	**Seal, Oil, 400600**	
	Part Inventory in 1301.1	**2.0**
SEL-O-400600	Seal, Oil, 400600	**2.0**
SEL-O-40X62X7	**Seal, Oil, Metric, 40 X 62 X 7**	
	Part Inventory in 1301.1	**1.0**
SEL-O-40X62X7	Seal, Oil, Metric, 40 X 62 X 7	**1.0**

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SEL-O-470682	**Seal, Oil, 470682**	
	Part Inventory in 1301.1	**3.0**
SEL-O-470682	Seal, Oil, 470682	**3.0**
SEL-O-471835	**Seal, Oil, 471835**	

		Part Inventory in 1301.1	**2.0**
	SEL-O-471835	Seal, Oil, 471835	**2.0**
SEL-O-472572	**Seal, Oil, 472572**		
		Part Inventory in 1301.1	**2.0**
	SEL-O-472572	Seal, Oil, 472572	**2.0**
SEL-O-473225	**Seal, Oil, 473225**		
		Part Inventory in 1301.1	**2.0**
	SEL-O-473225	Seal, Oil, 473225	**2.0**
SEL-O-473258	**Seal, Oil, 473258**		
		Part Inventory in 1301.1	**0.0**
	SEL-O-473258	Seal, Oil, 473258	**0.0**
SEL-O-563996	**Seal, Oil, 563996**		
		Part Inventory in 1301.1	**0.0**
	SEL-O-563996	Seal, Oil, 563996	**0.0**
SEL-O-60X110X8	**Seal, Oil, 60 X 110 X 8**		
		Part Inventory in 1301.1	**2.0**
	SEL-O-60X110X8	Seal, Oil, 60 X 110 X 8	**2.0**
SEL-O-60X80X10	**Seal, Oil, Metric, 60 X 80 X 10**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-60X80X10	Seal, Oil, Metric, 60 X 80 X 10	**1.0**
SEL-O-6660	**Seal, Oil, 6660**		
		Part Inventory in 1301.1	**3.0**
	SEL-O-6660	Seal, Oil, 6660	**3.0**
SEL-O-692343	**Seal, Oil, 692343**		
		Part Inventory in 1301.1	**4.0**
	SEL-O-692343	Seal, Oil, 692343	**4.0**
SEL-O-692345	**Seal, Oil, 692345 (28 X 47 X 7)**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-692345	Seal, Oil, 692345 (28 X 47 X 7)	**1.0**
1300 Parts Warehouse 13 N P St			
SEL-O-70X104X10	**Seal, Oil, Metric, 70 X 104 X 10**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-70X104X10	Seal, Oil, Metric, 70 X 104 X 10	**1.0**
SEL-O-7443	**Seal, Oil, 7443**		
		Part Inventory in 1301.1	**4.0**
	SEL-O-7443	Seal, Oil, 7443	**4.0**
SEL-O-75X100X10	**Seal, Oil, Metric, 75 X 100 X 10**		
		Part Inventory in 1301.1	**0.0**

	SEL-O-75X100X10	Seal, Oil, Metric, 75 X 100 X 10	**0.0**
SEL-O-9854	**Seal, Oil, 9854**		
		Part Inventory in 1301.1	**11.0**
	SEL-O-9854	Seal, Oil, 9854	**11.0**
SEL-O-GARLOCK53X2753	**Seal, Oil, Garlock 53X2753**		
		Part Inventory in 1301.1	**1.0**
	SEL-O-GARLOCK53X2753	Seal, Oil, Garlock 53X2753	**1.0**
SEL-P-GLD52324004077	**Plug, Inspection, Gould P/N 52-324-004-077**		
		Part Inventory in 1301.1	**1.0**
	SEL-P-GLD52324004077	Plug, Inspection, Gould P/N 52-324-004-0	**1.0**
SEL-RBK-DODGE243340	**Seal Kit, Dodge P/N 243340**		
		Part Inventory in 1301.1	**1.0**
	SEL-RBK-DODGE243340	Seal Kit, Dodge P/N 243340	**1.0**
SEL-RING-.823IDX.125	**Seal Ring, Teflon?, 0.823" I.D. X 0.125" x 0.125" Thick**		
		Part Inventory in 1301.1	**18.0**
	SEL-RING-.823IDX.125	Seal Ring, Teflon?, 0.823" I.D. X 0.125" x	**18.0**
SEL-RING-WILO6007503	**Seal Ring, Wilo P/N 600 75 03**		
		Part Inventory in 1301.1	**32.0**
	SEL-RING-WILO6007503	Seal Ring, Wilo P/N 600 75 03	**32.0**
SEL-S&L-H60A119	**Seal, Mechanical, Smith & Loveless P/N H60A119**		
		Part Inventory in 1301.1	**3.0**
	SEL-S&L-H60A119	Seal, Mechanical, Smith & Loveless P/N H	**3.0**
SEL-S&L-H60A148	**Seal, Mechanical, Smith & Loveless P/N H60A148**		
		Part Inventory in 1301.1	**1.0**
	SEL-S&L-H60A148	Seal, Mechanical, Smith & Loveless P/N H	**1.0**
1300 Parts Warehouse 13 N P St			
SEL-S&L-H87A28	**Seal, Mechanical, Smith & Loveless P/N H87A28**		
		Part Inventory in 1301.1	**6.0**
	SEL-S&L-H87A28	Seal, Mechanical, Smith & Loveless P/N H	**6.0**
SEL-ST-PI3000RS4000	**Spiral Trac, Chesterton P/N PI3000RS4000**		
		Part Inventory in 1301.1	**1.0**
	SEL-ST-PI3000RS4000	Spiral Trac, Chesterton P/N PI3000RS400	**1.0**
SEL-WASHBOX-HOR-PST	**Seal, Horizontal, Washbox, for P Street Filter Press**		
		Part Inventory in 1301.1	**300.0**
	SEL-WASHBOX-HOR-PST	Seal, Horizontal, Washbox, for P Street Fil	**300.0**
SEL-WILO-2710051	**Seal, Mechanical, Wilo P/N 271 00 51**		
		Part Inventory in 1301.1	**2.0**
	SEL-WILO-2710051	Seal, Mechanical, Wilo P/N 271 00 51	**2.0**

SEL-WILO-6004249	**Seal Ring, Wilo P/N 600 42 49, (Face Seal)**		
		Part Inventory in 1301.1	**3.0**
	SEL-WILO-6004249	Seal Ring, Wilo P/N 600 42 49, (Face Sea	**3.0**
SEL-WSHR-NYL-0.394	**Seal, Nylon Washer, 0.394" I.D.**		
		Part Inventory in 1301.1	**1.0**
	SEL-WSHR-NYL-0.394	Seal, Nylon Washer, 0.394" I.D.	**1.0**
SEL-WSHR-NYL-0.834	**Seal, Nylon Washer, 0.834" I.D.**		
		Part Inventory in 1301.1	**5.0**
	SEL-WSHR-NYL-0.834	Seal, Nylon Washer, 0.834" I.D.	**5.0**
SHF-BSAUGTAIL	**Shaft, Tail for P Street PS Barscreen Auger, made @Travis dba**		
		Part Inventory in 1301.1	**1.0**
	SHF-BSAUGTAIL	Shaft, Tail for P Street PS Barscreen Auge	**1.0**
SHF-FLYGT-3356765610	**Shaft, for Massard Raw Sewage Pumps, Flygt P/N 3356 765 61**		
		Part Inventory in 1301.1	**1.0**
	SHF-FLYGT-3356765610	Shaft, for Massard Raw Sewage Pumps, F	**1.0**
SHF-FM-M36T4X1130811	**Shaft, Motor, Fairbanks Morse P/N M36T4X11 30811 33**		
		Part Inventory in 1301.1	**1.0**
	SHF-FM-M36T4X1130811	Shaft, Motor, Fairbanks Morse P/N M36T4	**1.0**
SHF-MASSGRT-2.4375	**Shaft, for Massard Degritter, 2 7/16"**		
		Part Inventory in 1301.1	**2.0**
	SHF-MASSGRT-2.4375	Shaft, for Massard Degritter, 2 7/16"	**2.0**
1300 Parts Warehouse 13 N P St			
SHF-REE-BUCKETPUMP	**Shaft, Variable Speed, for Reeve's Drive Bucket Pump**		
		Part Inventory in 1301.1	**1.0**
	SHF-REE-BUCKETPUMP	Shaft, Variable Speed, for Reeve's Drive B	**1.0**
SHM-0.006X6.00	**Shim Stock, 0.006" X 6.00"**		
		Part Inventory in 1301.1	**80.0**
	SHM-0.006X6.00	Shim Stock, 0.006" X 6.00"	**80.0**
SHM-0.008X10.00	**Shim Stock, 0.008" X 10.00"**		
		Part Inventory in 1301.1	**30.0**
	SHM-0.008X10.00	Shim Stock, 0.008" X 10.00"	**30.0**
SHM-0.010X6.00	**Shim Stock, 0.010" X 6.00"**		
		Part Inventory in 1301.1	**98.0**
	SHM-0.010X6.00	Shim Stock, 0.010" X 6.00"	**98.0**
SHM-B-0021-#13	**Shim, Bearing, 0.021", for Station #13**		
		Part Inventory in 1301.1	**2.0**
	SHM-B-0021-#13	Shim, Bearing, 0.021", for Station #13	**2.0**

SHM-B-0033-#6	**Shim, Bearing, 0.033", for Station #6**		
		Part Inventory in 1301.1	**8.0**
	SHM-B-0033-#6	Shim, Bearing, 0.033", for Station #6	**8.0**
SHM-B-0057-#13	**Shim, Bearing, 0.057", for Station #13**		
		Part Inventory in 1301.1	**4.0**
	SHM-B-0057-#13	Shim, Bearing, 0.057", for Station #13	**4.0**
SHM-B-0240-#13	**Shim, Bearing, 0.240", for Station #13**		
		Part Inventory in 1301.1	**2.0**
	SHM-B-0240-#13	Shim, Bearing, 0.240", for Station #13	**2.0**
SHM-B-0250-#6	**Shim, Bearing, 0.250", for Station #6**		
		Part Inventory in 1301.1	**2.0**
	SHM-B-0250-#6	Shim, Bearing, 0.250", for Station #6	**2.0**
SHM-GEARBOX-2.75"OD	**Shim, Gear Box, 2.75" O.D.**		
		Part Inventory in 1301.1	**5.0**
	SHM-GEARBOX-2.75"OD	Shim, Gear Box, 2.75" O.D.	**5.0**
SHM-GEARBOX-2.93"OD	**Shim, Gear Box, 2.93" O.D.**		
		Part Inventory in 1301.1	**5.0**
	SHM-GEARBOX-2.93"OD	Shim, Gear Box, 2.93" O.D.	**5.0**
1300 Parts Warehouse 13 N P St			
SHM-GEARBOX-4.5"OD	**Shim, Gear Box, 4.50" O.D.**		
		Part Inventory in 1301.1	**5.0**
	SHM-GEARBOX-4.5"OD	Shim, Gear Box, 4.50" O.D.	**5.0**
SIN-SLOMOVEH	**Sign, Slow Moving Vehicle**		
		Part Inventory in 1301.1	**0.0**
	SIN-SLOMOVEH	Sign, Slow Moving Vehicle	**0.0**
SNR-BALDR-34141275AC	**Snap Ring, Baldor P/N 34141-275AC**		
		Part Inventory in 1301.1	**1.0**
	SNR-BALDR-34141275AC	Snap Ring, Baldor P/N 34141-275AC	**1.0**
SNR-BALDR-34141300AC	**Snap Ring, Baldor P/N 34141-300AC**		
		Part Inventory in 1301.1	**1.0**
	SNR-BALDR-34141300AC	Snap Ring, Baldor P/N 34141-300AC	**1.0**
SNR-E-0.6875X0.041	**Retaining Ring, External, 0.6875" X 0.041" Thick**		
		Part Inventory in 1301.1	**16.0**
	SNR-E-0.6875X0.041	Retaining Ring, External, 0.6875" X 0.041'	**16.0**
SNR-E-0.6975X0.0775	**Retaining Ring, External, 0.6975" X 0.0775" Thick**		
		Part Inventory in 1301.1	**11.0**
	SNR-E-0.6975X0.0775	Retaining Ring, External, 0.6975" X 0.077	**11.0**
SNR-E-2.875SS	**Snap Ring,External, 2.875", Stainless Steel**		

		Part Inventory in 1301.1	**4.0**
	SNR-E-2.875SS	Snap Ring,External, 2.875", Stainless Stee	**4.0**
SNR-E-400	**Snap Ring, External, 4.00"**		
		Part Inventory in 1301.1	**3.0**
	SNR-E-400	Snap Ring, External, 4.00"	**3.0**
SNR-I-4.875	**Snap Ring, Internal, 4 7/8"**		
		Part Inventory in 1301.1	**1.0**
	SNR-I-4.875	Snap Ring, Internal, 4 7/8"	**1.0**
SNR-I-875	**Snap Ring, Internal, 8.75"**		
		Part Inventory in 1301.1	**1.0**
	SNR-I-875	Snap Ring, Internal, 8.75"	**1.0**
SWI-12020NO	**Float Switch, 120 Volt, 15 Amp, 20', with Angle Plug**		
		Part Inventory in 1301.1	**0.0**
	SWI-12020NO	Float Switch, 120 Volt, 15 Amp, 20', with A	**0.0**
1300 Parts Warehouse 13 N P St			
SWI-23020NO	**Float Switch, SJE Pumpmaster P/N 20PMD2WP, 230 Volt, 20'**		
		Part Inventory in 1301.1	**8.0**
	SWI-23020NO	Float Switch, SJE Pumpmaster P/N 20PM	**8.0**
SWI-ASH-029872	**Switch, Hydraulic Pressure, Ashbrook Simon-Hartley P/N 0298**		
		Part Inventory in 1301.1	**1.0**
	SWI-ASH-029872	Switch, Hydraulic Pressure, Ashbrook Sim	**1.0**
SWI-GD-VP1024035	**Vibration Sensor, Gardner/Denver P/N VP1024035**		
		Part Inventory in 1301.1	**2.0**
	SWI-GD-VP1024035	Vibration Sensor, Gardner/Denver P/N VP	**2.0**
SWI-PRES-B&M-AAC5126	**Pressure Switch, Bailey & Mackey P/N AAC5126**		
		Part Inventory in 1301.1	**1.0**
	SWI-PRES-B&M-AAC5126	Pressure Switch, Bailey & Mackey P/N AA	**1.0**
SWI-PRES-DIAL-CD1HA3	**Switch, Pressure, Dialamatic Model # CD1H-A3**		
		Part Inventory in 1301.1	**1.0**
	SWI-PRES-DIAL-CD1HA3	Switch, Pressure, Dialamatic Model # CD1	**1.0**
SWI-PRES-DIAL-CD1HH2	**Switch, Pressure, Dialamatic Model # CD1H-H2**		
		Part Inventory in 1301.1	**1.0**
	SWI-PRES-DIAL-CD1HH2	Switch, Pressure, Dialamatic Model # CD1	**1.0**
SWI-PRES-DIAL-CD2HA3	**Switch, Pressure, Dialamatic Model # CD2H-A3**		
		Part Inventory in 1301.1	**1.0**
	SWI-PRES-DIAL-CD2HA3	Switch, Pressure, Dialamatic Model # CD2	**1.0**
SWI-TM-XS4P18MA230L2	**Switch, Proximity, Telemecanique P/N XS4 P18MA230L2, for P**		
		Part Inventory in 1301.1	**1.0**

SWI-TM-XS4P18MA230L2	Switch, Proximity, Telemecanique P/N XS4	**1.0**
SWI-TM-XS630BIMAL2	**Switch, Proximity, Telemecanique P/N XS 630BI MAL2**	
	Part Inventory in 1301.1	**1.0**
SWI-TM-XS630BIMAL2	Switch, Proximity, Telemecanique P/N XS	**1.0**
TOL-ALBLADE-4	**Grinder, for Aluminum, 4"**	
	Part Inventory in 1301.1	**0.0**
TOL-ALBLADE-4	Grinder, for Aluminum, 4"	**0.0**
TOL-BACKFLOWGAUGE	**Backflow Gauge, Midwest P/N 835**	
	Part Inventory in 1301.1	**0.0**
TOL-BACKFLOWGAUGE	Backflow Gauge, Midwest P/N 835	**0.0**
1300 Parts Warehouse 13 N P St		
TOL-BLADE-SAWZALL6MT	**Blade, Sawzall, 6", 24 tpi**	
	Part Inventory in 1301.1	**0.0**
TOL-BLADE-SAWZALL6MT	Blade, Sawzall, 6", 24 tpi	**0.0**
TOL-BLADE-SAWZALL6WD	**Blade, Sawzall, 6", 6 tpi**	
	Part Inventory in 1301.1	**0.0**
TOL-BLADE-SAWZALL6WD	Blade, Sawzall, 6", 6 tpi	**0.0**
TOL-BLADE-SAWZALL9	**Blade, Sawzall, 9"**	
	Part Inventory in 1301.1	**20.0**
TOL-BLADE-SAWZALL9	Blade, Sawzall, 9"	**20.0**
TOL-BLADE-TABLESAW	**Blade, Tablesaw**	
	Part Inventory in 1301.1	**0.0**
TOL-BLADE-TABLESAW	Blade, Tablesaw	**0.0**
TOL-BLADE-UTILITY	**Utility Blade**	
	Part Inventory in 1301.1	**0.0**
TOL-BLADE-UTILITY	Utility Blade	**0.0**
TOL-BRGPACKER	**Bearing Packer**	
	Part Inventory in 1301.1	**0.0**
TOL-BRGPACKER	Bearing Packer	**0.0**
TOL-BUNGEECORD15	**Bungee Cord, 15"**	
	Part Inventory in 1301.1	**0.0**
TOL-BUNGEECORD15	Bungee Cord, 15"	**0.0**
TOL-BUNGEECORD21	**Bungee Cord, 21"**	
	Part Inventory in 1301.1	**0.0**
TOL-BUNGEECORD21	Bungee Cord, 21"	**0.0**
TOL-CHAIN-12"SAW	**Pole Saw Chain, 12"**	
	Part Inventory in 1301.1	**0.0**
TOL-CHAIN-12"SAW	Pole Saw Chain, 12"	**0.0**

TOL-CHAIN-18"SAW	**Chainsaw Chain, 18"**		
		Part Inventory in 1301.1	**0.0**
TOL-CHAIN-18"SAW	Chainsaw Chain, 18"		**0.0**
TOL-CHAINHOIST-1/2T	**Hoist, Chain, 1/2 Ton**		
		Part Inventory in 1301.1	**2.0**
TOL-CHAINHOIST-1/2T	Hoist, Chain, 1/2 Ton		**2.0**
1300 Parts Warehouse 13 N P St			
TOL-CHAINHOIST-1TON	**Chain Hoist, Low Headroom, 2,000 lb., 10'**		
		Part Inventory in 1301.1	**0.0**
TOL-CHAINHOIST-1TON	Chain Hoist, Low Headroom, 2,000 lb., 10'		**0.0**
TOL-CHAINSAWBARTOOL	**Bar Tool, Chainsaw**		
		Part Inventory in 1301.1	**0.0**
TOL-CHAINSAWBARTOOL	Bar Tool, Chainsaw		**0.0**
TOL-COMBO-DRIMP18V	**Combo Kit, 18 Volt, Drill and Impact**		
		Part Inventory in 1301.1	**0.0**
TOL-COMBO-DRIMP18V	Combo Kit, 18 Volt, Drill and Impact		**0.0**
TOL-COUNTERSINK-4PC	**Counter Sink Set, 4 Piece**		
		Part Inventory in 1301.1	**0.0**
TOL-COUNTERSINK-4PC	Counter Sink Set, 4 Piece		**0.0**
TOL-CUTOFFBLADE-4	**Blade, Cut Off, Metal, for 4" Angle Grinder**		
		Part Inventory in 1301.1	**27.0**
TOL-CUTOFFBLADE-4	Blade, Cut Off, Metal, for 4" Angle Grinder		**27.0**
TOL-DMNDBLADE-4	**Blade, Diamond Dry Cut, for 4" Angle Grinder**		
		Part Inventory in 1301.1	**0.0**
TOL-DMNDBLADE-4	Blade, Diamond Dry Cut, for 4" Angle Grin		**0.0**
TOL-DRBITSET-29	**Drill Bit Set, Master 29 piece, HSS, 1/16"-1/2" by 64ths**		
		Part Inventory in 1301.1	**0.0**
TOL-DRBITSET-29	Drill Bit Set, Master 29 piece, HSS, 1/16"-1		**0.0**
TOL-DRILL-21/32"	**Drill, 21/32"**		
		Part Inventory in 1301.1	**0.0**
TOL-DRILL-21/32"	Drill, 21/32"		**0.0**
TOL-DRILL-3/16	**Drill Bit, 3/16"**		
		Part Inventory in 1301.1	**0.0**
TOL-DRILL-3/16	Drill Bit, 3/16"		**0.0**
TOL-DRIVER-#2SQUARE	**Bit Insert, #2 Square Recessed**		
		Part Inventory in 1301.1	**0.0**
TOL-DRIVER-#2SQUARE	Bit Insert, #2 Square Recessed		**0.0**

TOL-DRIVER-5/16X2.56	**Driver, Nutsetter, 5/16" X 2 9/16"**		
		Part Inventory in 1301.1	**0.0**
	TOL-DRIVER-5/16X2.56	Driver, Nutsetter, 5/16" X 2 9/16"	**0.0**

1300 Parts Warehouse 13 N P St

TOL-EZOUTSET	**EZ Out Set**		
		Part Inventory in 1301.1	**0.0**
	TOL-EZOUTSET	EZ Out Set	**0.0**
TOL-FILLERTUBE	**Filler Tube, for Oil, Transmission Fluid, etc.**		
		Part Inventory in 1301.1	**0.0**
	TOL-FILLERTUBE	Filler Tube, for Oil, Transmission Fluid, etc	**0.0**
TOL-FLAPWHL-4.5X7/8	**Flap Wheel, 4 1/2" X 7/8"**		
		Part Inventory in 1301.1	**1.0**
	TOL-FLAPWHL-4.5X7/8	Flap Wheel, 4 1/2" X 7/8"	**1.0**
TOL-FLASHLIGHT	**Flashlight**		
		Part Inventory in 1301.1	**1.0**
	TOL-FLASHLIGHT	Flashlight	**1.0**
TOL-FUNNEL	**Funnel**		
		Part Inventory in 1301.1	**0.0**
	TOL-FUNNEL	Funnel	**0.0**
TOL-GARDENHOSE-50	**Hose, Garden, 50'**		
		Part Inventory in 1301.1	**1.0**
	TOL-GARDENHOSE-50	Hose, Garden, 50'	**1.0**
TOL-GARDENSPRAYER3	**Garden Sprayer, 3 Gallon**		
		Part Inventory in 1301.1	**2.0**
	TOL-GARDENSPRAYER3	Garden Sprayer, 3 Gallon	**2.0**
TOL-GASCAN-SAFETY-2	**Gas Can, Safety, 2 Gallon**		
		Part Inventory in 1301.1	**1.0**
	TOL-GASCAN-SAFETY-2	Gas Can, Safety, 2 Gallon	**1.0**
TOL-GRINDER-4.5"	**Grinder, 4 1/2"**		
		Part Inventory in 1301.1	**0.0**
	TOL-GRINDER-4.5"	Grinder, 4 1/2"	**0.0**
TOL-GROUTSAW	**Grout Saw**		
		Part Inventory in 1301.1	**0.0**
	TOL-GROUTSAW	Grout Saw	**0.0**
TOL-HEXKEY-BALL22SET	**Hex End, Ball End, L-Wrench, 22 piece set**		
		Part Inventory in 1301.1	**0.0**
	TOL-HEXKEY-BALL22SET	Hex End, Ball End, L-Wrench, 22 piece se	**0.0**

1300 Parts Warehouse 13 N P St

TOL-HEXKEY-LONG15MET	**Hex End L-Wrench Set, Long Arm, 15 piece, Metric**	
	Part Inventory in 1301.1	**0.0**
TOL-HEXKEY-LONG15MET	Hex End L-Wrench Set, Long Arm, 15 piec	**0.0**
TOL-HEXKEY-LONG15ST	**Hex End L-Wrench Set, Long Arm, 15 piece, Standard**	
	Part Inventory in 1301.1	**0.0**
TOL-HEXKEY-LONG15ST	Hex End L-Wrench Set, Long Arm, 15 piec	**0.0**
TOL-HOLESAW-2.00	**Hole Saw, 2"**	
	Part Inventory in 1301.1	**0.0**
TOL-HOLESAW-2.00	Hole Saw, 2"	**0.0**
TOL-HOLLOWPUNCH-5/16	**Punch, Hollow, 5/16"**	
	Part Inventory in 1301.1	**0.0**
TOL-HOLLOWPUNCH-5/16	Punch, Hollow, 5/16"	**0.0**
TOL-HOSE-TESTBALL10	**Hose, to inflate Test Balls, 10'**	
	Part Inventory in 1301.1	**0.0**
TOL-HOSE-TESTBALL10	Hose, to inflate Test Balls, 10'	**0.0**
TOL-HSARBOR-1.25-1/2	**Arbor, Hole Saw, 1 1/4" Snap-Back, 1/2"**	
	Part Inventory in 1301.1	**0.0**
TOL-HSARBOR-1.25-1/2	Arbor, Hole Saw, 1 1/4" Snap-Back, 1/2"	**0.0**
TOL-INVERTER-400W	**Inverter, 400 Watt**	
	Part Inventory in 1301.1	**0.0**
TOL-INVERTER-400W	Inverter, 400 Watt	**0.0**
TOL-JIGSAWBLADE	**Blade, Jigsaw**	
	Part Inventory in 1301.1	**0.0**
TOL-JIGSAWBLADE	Blade, Jigsaw	**0.0**
TOL-KEYRING	**Key Ring, Split**	
	Part Inventory in 1301.1	**0.0**
TOL-KEYRING	Key Ring, Split	**0.0**
TOL-KNEEPADS	**Knee Pads**	
	Part Inventory in 1301.1	**0.0**
TOL-KNEEPADS	Knee Pads	**0.0**
TOL-LINEMAN8	**Pliers, Lineman, 8"**	
	Part Inventory in 1301.1	**0.0**
TOL-LINEMAN8	Pliers, Lineman, 8"	**0.0**

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TOL-LIT-GR24PK20	**Light, Temporary Job Site, 120 V., 1000 W., 16000 Lum., Grainç**	
	Part Inventory in 1301.1	**0.0**
TOL-LIT-GR24PK20	Light, Temporary Job Site, 120 V., 1000 W	**0.0**
TOL-NOZZLE-SPRAY-4.0	**Spray Nozzle, 4.0 X 15°**	

		Part Inventory in 1301.1	**0.0**
	TOL-NOZZLE-SPRAY-4.0	Spray Nozzle, 4.0 X 15°	**0.0**
TOL-ODTAPE	**Tape Measure, for measuring pipe O.D.**		
		Part Inventory in 1301.1	**0.0**
	TOL-ODTAPE	Tape Measure, for measuring pipe O.D.	**0.0**
TOL-OTCPULLERARM	**Puller Arm, OTC Brand**		
		Part Inventory in 1301.1	**0.0**
	TOL-OTCPULLERARM	Puller Arm, OTC Brand	**0.0**
TOL-PICK-4PC	**Precision Probe Set, 4 Piece**		
		Part Inventory in 1301.1	**0.0**
	TOL-PICK-4PC	Precision Probe Set, 4 Piece	**0.0**
TOL-PICKUPTOOL-24	**Pickup Tool, 24"**		
		Part Inventory in 1301.1	**0.0**
	TOL-PICKUPTOOL-24	Pickup Tool, 24"	**0.0**
TOL-POWERDRIVER-14PC	**Power Nut Driver Set, 14 Piece, 5 - 12 mm, 3/16" - 7/16"**		
		Part Inventory in 1301.1	**0.0**
	TOL-POWERDRIVER-14PC	Power Nut Driver Set, 14 Piece, 5 - 12 mm	**0.0**
TOL-PROPANETANK-20	**Tank, Propane, 20 lb.**		
		Part Inventory in 1301.1	**0.0**
	TOL-PROPANETANK-20	Tank, Propane, 20 lb.	**0.0**
TOL-PRUNER-8	**Pruner, 8"**		
		Part Inventory in 1301.1	**0.0**
	TOL-PRUNER-8	Pruner, 8"	**0.0**
TOL-PVCCUTTER	**Cutter, PVC Pipe**		
		Part Inventory in 1301.1	**0.0**
	TOL-PVCCUTTER	Cutter, PVC Pipe	**0.0**
TOL-RATCHET-1/4RTR	**Ratchet, Rotator, 1/4"**		
		Part Inventory in 1301.1	**0.0**
	TOL-RATCHET-1/4RTR	Ratchet, Rotator, 1/4"	**0.0**
1300 Parts Warehouse 13 N P St			
TOL-RATWRENCH-1/2	**Wrench, Ratchet, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	TOL-RATWRENCH-1/2	Wrench, Ratchet, 1/2"	**0.0**
TOL-RATWRENCH-9/16	**Wrench, Ratchet, 9/16"**		
		Part Inventory in 1301.1	**0.0**
	TOL-RATWRENCH-9/16	Wrench, Ratchet, 9/16"	**0.0**
TOL-SANDPAPER-80	**Sandpaper, 80 Grit**		
		Part Inventory in 1301.1	**3.0**

	TOL-SANDPAPER-80	Sandpaper, 80 Grit	**3.0**
TOL-SANDROLL-EMERYCL	**Emery Cloth, Sanding Roll**		
		Part Inventory in 1301.1	**0.0**
	TOL-SANDROLL-EMERYCL	Emery Cloth, Sanding Roll	**0.0**
TOL-SCRAPER	**Scraper, 7", Long Handle**		
		Part Inventory in 1301.1	**1.0**
	TOL-SCRAPER	Scraper, 7", Long Handle	**1.0**
TOL-SCREWDRIVER-1/8"	**Screwdriver, 1/8" X 2 1/2"**		
		Part Inventory in 1301.1	**0.0**
	TOL-SCREWDRIVER-1/8"	Screwdriver, 1/8" X 2 1/2"	**0.0**
TOL-SDSET-5	**Screwdriver Set, 5 Piece**		
		Part Inventory in 1301.1	**0.0**
	TOL-SDSET-5	Screwdriver Set, 5 Piece	**0.0**
TOL-SHOPVAC-FILTER	**Filter, Shop Vacuum**		
		Part Inventory in 1301.1	**0.0**
	TOL-SHOPVAC-FILTER	Filter, Shop Vacuum	**0.0**
TOL-SKTADP-1/2X2	**Socket Adaptor, 1/2" X 2"**		
		Part Inventory in 1301.1	**0.0**
	TOL-SKTADP-1/2X2	Socket Adaptor, 1/2" X 2"	**0.0**
TOL-SKTADP-1/2XCL	**Socket Adaptor, 1/2" X Close**		
		Part Inventory in 1301.1	**0.0**
	TOL-SKTADP-1/2XCL	Socket Adaptor, 1/2" X Close	**0.0**
TOL-SKTADP-1/4X3/8	**Socket Adaptor, 1/4" X 3/8"**		
		Part Inventory in 1301.1	**0.0**
	TOL-SKTADP-1/4X3/8	Socket Adaptor, 1/4" X 3/8"	**0.0**
1300 Parts Warehouse 13 N P St			
TOL-SKTADP-SET	**Socket Adaptor Set**		
		Part Inventory in 1301.1	**0.0**
	TOL-SKTADP-SET	Socket Adaptor Set	**0.0**
TOL-SNAPRINGPLIERSET	**Snap Ring Plier Set**		
		Part Inventory in 1301.1	**0.0**
	TOL-SNAPRINGPLIERSET	Snap Ring Plier Set	**0.0**
TOL-SPRAYGUN	**Spray Gun**		
		Part Inventory in 1301.1	**0.0**
	TOL-SPRAYGUN	Spray Gun	**0.0**
TOL-STRAPWRENCH	**Strap Wrench, #5, with 48" Strap**		
		Part Inventory in 1301.1	**0.0**
	TOL-STRAPWRENCH	Strap Wrench, #5, with 48" Strap	**0.0**

TOL-TAP-10X32S	**Tap, Starting, 10X32**		
		Part Inventory in 1301.1	**0.0**
	TOL-TAP-10X32S	Tap, Starting, 10X32	**0.0**
TOL-TAP-3/8-16S	**Tap, Starting, 3/8"-16**		
		Part Inventory in 1301.1	**0.0**
	TOL-TAP-3/8-16S	Tap, Starting, 3/8"-16	**0.0**
TOL-TAPEMEASURE-25	**Tape Measure, 25'**		
		Part Inventory in 1301.1	**0.0**
	TOL-TAPEMEASURE-25	Tape Measure, 25'	**0.0**
TOL-TESTBALL-4"	**Test Ball, 4" (Pipe Plug)**		
		Part Inventory in 1301.1	**0.0**
	TOL-TESTBALL-4"	Test Ball, 4" (Pipe Plug)	**0.0**
TOL-TESTER-12V	**Tester, 12 Volt**		
		Part Inventory in 1301.1	**0.0**
	TOL-TESTER-12V	Tester, 12 Volt	**0.0**
TOL-TIPCLEANER	**Tip Cleaner, Torch**		
		Part Inventory in 1301.1	**0.0**
	TOL-TIPCLEANER	Tip Cleaner, Torch	**0.0**
TOL-TIREGAUGE-TRUCK	**Tire Gauge, Truck**		
		Part Inventory in 1301.1	**0.0**
	TOL-TIREGAUGE-TRUCK	Tire Gauge, Truck	**0.0**
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TOL-TIREINFLATORW/GA	**Tire Inflator with Gauge, 120 psi**		
		Part Inventory in 1301.1	**0.0**
	TOL-TIREINFLATORW/GA	Tire Inflator with Gauge, 120 psi	**0.0**
TOL-TRIMMERLINECUT	**Cutter, Weedeater Line**		
		Part Inventory in 1301.1	**0.0**
	TOL-TRIMMERLINECUT	Cutter, Weedeater Line	**0.0**
TOL-TTHTR-PROPANE	**Heater, Tank Top, Propane**		
		Part Inventory in 1301.1	**0.0**
	TOL-TTHTR-PROPANE	Heater, Tank Top, Propane	**0.0**
TOL-WIREBRUSH-4	**Wire Brush, Knotted, for 4" Angle Grinder**		
		Part Inventory in 1301.1	**0.0**
	TOL-WIREBRUSH-4	Wire Brush, Knotted, for 4" Angle Grinder	**0.0**
TOL-WIRECUP-4	**Wire Cup, for 4" Angle Grinder**		
		Part Inventory in 1301.1	**0.0**
	TOL-WIRECUP-4	Wire Cup, for 4" Angle Grinder	**0.0**

TOL-WRENCH-1/2	**Wrench, Combination, 1/2"**		
		Part Inventory in 1301.1	**0.0**
	TOL-WRENCH-1/2	Wrench, Combination, 1/2"	**0.0**
TOL-WRENCH-3/8	**Wrench, Combination, 3/8"**		
		Part Inventory in 1301.1	**0.0**
	TOL-WRENCH-3/8	Wrench, Combination, 3/8"	**0.0**
TOL-WRENCH-ADJUST-12	**Adjustable Wrench (Crescent), 12"**		
		Part Inventory in 1301.1	**0.0**
	TOL-WRENCH-ADJUST-12	Adjustable Wrench (Crescent), 12"	**0.0**
TOL-XFERPUNCHSET	**Transfer Punch Set**		
		Part Inventory in 1301.1	**0.0**
	TOL-XFERPUNCHSET	Transfer Punch Set	**0.0**
UHM-1/4X26.5X3.5	**UHMW, 1/4" X 26 1/2" X 3 1/2"**		
		Part Inventory in 1301.1	**0.0**
	UHM-1/4X26.5X3.5	UHMW, 1/4" X 26 1/2" X 3 1/2"	**0.0**
UHM-3/8X5.75X18.5	**UHMW, 3/8" X 5 3/4" X 18 1/2"**		
		Part Inventory in 1301.1	**0.0**
	UHM-3/8X5.75X18.5	UHMW, 3/8" X 5 3/4" X 18 1/2"	**0.0**

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UHM-4.75X18.5X0.23	**UHMW, 4.75" X 18.5" X 0.23" Thick**		
		Part Inventory in 1301.1	**1.0**
	UHM-4.75X18.5X0.23	UHMW, 4.75" X 18.5" X 0.23" Thick	**1.0**
UHM-PLEXI-3/8X22.25	**Plexiglass, 3/8" X 22 1/4" Diameter**		
		Part Inventory in 1301.1	**1.0**
	UHM-PLEXI-3/8X22.25	Plexiglass, 3/8" X 22 1/4" Diameter	**1.0**
UJT-4-0279	**U-Joint, 3557, P/N 4-0279**		
		Part Inventory in 1301.1	**0.0**
	UJT-4-0279	U-Joint, 3557, P/N 4-0279	**0.0**
UJT-5-0280	**U-Joint, 3699, P/N 5-0280**		
		Part Inventory in 1301.1	**0.0**
	UJT-5-0280	U-Joint, 3699, P/N 5-0280	**0.0**
VLV-AIRRELEASE-2	**Valve, Air Release, 2"**		
		Part Inventory in 1301.1	**0.0**
	VLV-AIRRELEASE-2	Valve, Air Release, 2"	**0.0**
VLV-APOLLO-AE40010	**Actuator Valve, for P St. Plant Water Pump Strainer, Apollo P/N**		
		Part Inventory in 1301.1	**1.0**
	VLV-APOLLO-AE40010	Actuator Valve, for P St. Plant Water Pump	**1.0**
VLV-ASCO-1L117T	**Solenoid Valve, 2 Way, Pilot Operated, Normally Cl., 120 v, Asc**		

		Part Inventory in 1301.1	**1.0**
	VLV-ASCO-1L117T	Solenoid Valve, 2 Way, Pilot Operated, Nc	**1.0**
VLV-ASCO-8210G027	**Valve, Asco, P/N 8210G027**		
		Part Inventory in 1301.1	**2.0**
	VLV-ASCO-8210G027	Valve, Asco, P/N 8210G027	**2.0**
VLV-ASCO-EF8210D14	**Valve, Asco, P/N EF8210D14**		
		Part Inventory in 1301.1	**1.0**
	VLV-ASCO-EF8210D14	Valve, Asco, P/N EF8210D14	**1.0**
VLV-ASCO-IL407-1	**Valve, Asco P/N IL407-1**		
		Part Inventory in 1301.1	**2.0**
	VLV-ASCO-IL407-1	Valve, Asco P/N IL407-1	**2.0**
VLV-ASCO-IL407A-14ED	**Valve, Asco P/N IL407A-14EDB**		
		Part Inventory in 1301.1	**2.0**
	VLV-ASCO-IL407A-14ED	Valve, Asco P/N IL407A-14EDB	**2.0**
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VLV-ASCO-RBK306684-F	**Rebuild Kit, Asco P/N306684-F**		
		Part Inventory in 1301.1	**1.0**
	VLV-ASCO-RBK306684-F	Rebuild Kit, Asco P/N306684-F	**1.0**
VLV-ASCO-T456905	**Asco Valve P/N T456905**		
		Part Inventory in 1301.1	**1.0**
	VLV-ASCO-T456905	Asco Valve P/N T456905	**1.0**
VLV-ASCO-T559214	**Asco Valve P/N T559214**		
		Part Inventory in 1301.1	**1.0**
	VLV-ASCO-T559214	Asco Valve P/N T559214	**1.0**
VLV-ASH-032680	**Steering Valve, Ashbrook Simon-Hartley P/N 032680, for P St.**		
		Part Inventory in 1301.1	**1.0**
	VLV-ASH-032680	Steering Valve, Ashbrook Simon-Hartley P	**1.0**
VLV-CHECK-SWING-2.00	**Check Valve, Swing, 2"**		
		Part Inventory in 1301.1	**0.0**
	VLV-CHECK-SWING-2.00	Check Valve, Swing, 2"	**0.0**
VLV-CHEMTROL-1"CHECK	**Valve, Chemtrol, 1" Check**		
		Part Inventory in 1301.1	**2.0**
	VLV-CHEMTROL-1"CHECK	Valve, Chemtrol, 1" Check	**2.0**
VLV-CHEMTROL-2"BALL	**Valve, Chemtrol, 2" Ball**		
		Part Inventory in 1301.1	**0.0**
	VLV-CHEMTROL-2"BALL	Valve, Chemtrol, 2" Ball	**0.0**
VLV-CLA-9169804D	**Repair Parts Kit, Cla-Val P/N 9169804D**		
		Part Inventory in 1301.1	**7.0**

	VLV-CLA-9169804D	Repair Parts Kit, Cla-Val P/N 9169804D	**7.0**
VLV-CLA-9169805A	**Repair Parts Kit, Cla-Val P/N 9169805A**		
		Part Inventory in 1301.1	**2.0**
	VLV-CLA-9169805A	Repair Parts Kit, Cla-Val P/N 9169805A	**2.0**
VLV-CLA-FLTRD-28.5	**Float Rod, 28 1/2", for Cla-Val**		
		Part Inventory in 1301.1	**1.0**
	VLV-CLA-FLTRD-28.5	Float Rod, 28 1/2", for Cla-Val	**1.0**
VLV-CLA-WASHER-2	**Washer, 2", for Cla-Valve**		
		Part Inventory in 1301.1	**3.0**
	VLV-CLA-WASHER-2	Washer, 2", for Cla-Valve	**3.0**
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VLV-CLA-WASHER-4	**Washer, 4", for Cla-Valve**		
		Part Inventory in 1301.1	**4.0**
	VLV-CLA-WASHER-4	Washer, 4", for Cla-Valve	**4.0**
VLV-FLPLUG-8	**Valve, Flanged Plug, 8"**		
		Part Inventory in 1301.1	**0.0**
	VLV-FLPLUG-8	Valve, Flanged Plug, 8"	**0.0**
VLV-FLSV-1BCL444CTSE	**Valve, 1", for use w/actuator, Flowserve P/N 1 BCL444CTSE**		
		Part Inventory in 1301.1	**2.0**
	VLV-FLSV-1BCL444CTSE	Valve, 1", for use w/actuator, Flowserve P/	**2.0**
VLV-GLD-RBKM200M3VB	**Valve Repair Kit, Gould P/N M200M3VB, 2"**		
		Part Inventory in 1301.1	**1.0**
	VLV-GLD-RBKM200M3VB	Valve Repair Kit, Gould P/N M200M3VB, 2	**1.0**
VLV-JMSB-1"BALLCHL	**Ball Valve, 1", Chlorine Pamphlet 6, Jamesbury**		
		Part Inventory in 1301.1	**2.0**
	VLV-JMSB-1"BALLCHL	Ball Valve, 1", Chlorine Pamphlet 6, James	**2.0**
VLV-PARKER-G23110	**Valve, Solenoid, 110 Volt, Parker P/N G23**		
		Part Inventory in 1301.1	**1.0**
	VLV-PARKER-G23110	Valve, Solenoid, 110 Volt, Parker P/N G23	**1.0**
VLV-PARKER-SOL3/4	**Valve, Solenoid, 3/4", Parker P/N GP-600**		
		Part Inventory in 1301.1	**1.0**
	VLV-PARKER-SOL3/4	Valve, Solenoid, 3/4", Parker P/N GP-600	**1.0**
VLV-REDHAT-8210G004	**Valve, Solenoid, Redhat P/N 8210G004, Grainger P/N 3UK60**		
		Part Inventory in 1301.1	**0.0**
	VLV-REDHAT-8210G004	Valve, Solenoid, Redhat P/N 8210G004, G	**0.0**
VLV-RPZ1/8"-1/4TRNSO	**Valve, Shut Off, 1/8", 1/4 Turn, for RPZ Backflow Preventers**		
		Part Inventory in 1301.1	**4.0**
	VLV-RPZ1/8"-1/4TRNSO	Valve, Shut Off, 1/8", 1/4 Turn, for RPZ Ba	**4.0**

VNT-AAON-ASMCOMBBLOW	**Combustion Blower Kit, AAON, INC.**		
		Part Inventory in 1301.1	**2.0**
	VNT-AAON-ASMCOMBBLOW	Combustion Blower Kit, AAON, INC.	**2.0**
VNT-BLADE-3/8SHAFT	**Fan Blade, 3/8" Shaft Size**		
		Part Inventory in 1301.1	**1.0**
	VNT-BLADE-3/8SHAFT	Fan Blade, 3/8" Shaft Size	**1.0**
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VNT-DAY-1TDP5	**Blower, Dayton P/N 1TDP5, 131 CFM, 115V, 1Ph**		
		Part Inventory in 1301.1	**3.0**
	VNT-DAY-1TDP5	Blower, Dayton P/N 1TDP5, 131 CFM, 11	**3.0**
VNT-DAY-2C067A	**Blower, Dayton, 2C067A, 108 CFM, 115 V, 1 Ph**		
		Part Inventory in 1301.1	**1.0**
	VNT-DAY-2C067A	Blower, Dayton, 2C067A, 108 CFM, 115 V	**1.0**
VNT-DAY-4C442	**Blower, Dayton, P/N 4C442, 140 CFM, 115V, 1PH**		
		Part Inventory in 1301.1	**1.0**
	VNT-DAY-4C442	Blower, Dayton, P/N 4C442, 140 CFM, 11	**1.0**
VNT-DAY-4C447	**Blower, Dayton P/N 4C447, 265 CFM, 115V, 1 Ph**		
		Part Inventory in 1301.1	**2.0**
	VNT-DAY-4C447	Blower, Dayton P/N 4C447, 265 CFM, 11	**2.0**
VNT-DEHUMIDIFIER	**Dehumidifier, Grainger P/N 5EAJ9**		
		Part Inventory in 1301.1	**1.0**
	VNT-DEHUMIDIFIER	Dehumidifier, Grainger P/N 5EAJ9	**1.0**
WER-AC-52-110-259-03	**Wear Ring, Allis-Chalmers, 52-110-259-003**		
		Part Inventory in 1301.1	**2.0**
	WER-AC-52-110-259-03	Wear Ring, Allis-Chalmers, 52-110-259-00	**2.0**
WER-CORN-A112656CI	**Wear Ring, Cornell P/N A11265-6-CI**		
		Part Inventory in 1301.1	**2.0**
	WER-CORN-A112656CI	Wear Ring, Cornell P/N A11265-6-CI	**2.0**
WER-CORN-A126186CI	**Wear Ring, Suction, Cornell P/N A12618-6-CI**		
		Part Inventory in 1301.1	**2.0**
	WER-CORN-A126186CI	Wear Ring, Suction, Cornell P/N A12618-6	**2.0**
WER-FL-394X415X0788	**Wear Ring, Flygt, 3.940" X 4.150" X 0.788"**		
		Part Inventory in 1301.1	**2.0**
	WER-FL-394X415X0788	Wear Ring, Flygt, 3.940" X 4.150" X 0.788	**2.0**
WER-FLYGT-3093400	**Wear Ring, Volute, Flygt P/N 309 34 00**		
		Part Inventory in 1301.1	**9.0**
	WER-FLYGT-3093400	Wear Ring, Volute, Flygt P/N 309 34 00	**9.0**

WER-FLYGT-3452521 **Wear Ring, Impeller, Flygt P/N 345 25 21**

	Part Inventory in 1301.1	**4.0**
WER-FLYGT-3452521	Wear Ring, Impeller, Flygt P/N 345 25 21	**4.0**

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WER-FLYGT-3797101 **Wear Ring, Volute, Flygt P/N 379 71 01**

	Part Inventory in 1301.1	**5.0**
WER-FLYGT-3797101	Wear Ring, Volute, Flygt P/N 379 71 01	**5.0**

WER-FM-L14A16AE3380F **Wear Ring, Fronthead Case, Fairbanks Morse P/N L14A16AE 3**

	Part Inventory in 1301.1	**1.0**
WER-FM-L14A16AE3380F	Wear Ring, Fronthead Case, Fairbanks M(	**1.0**

WER-FM-L14A17AE9630F **Wear Ring, Impeller, Fairbanks Morse P/N L14A17AE 9630F**

	Part Inventory in 1301.1	**1.0**
WER-FM-L14A17AE9630F	Wear Ring, Impeller, Fairbanks Morse P/N	**1.0**

WER-FM-L16A16B3380F **Wear Ring, Fronthead Case, Fairbanks Morse P/N L16A16B 33**

	Part Inventory in 1301.1	**1.0**
WER-FM-L16A16B3380F	Wear Ring, Fronthead Case, Fairbanks M(	**1.0**

WER-FM-L16A17B9630F **Wear Ring, Impeller, Fairbanks Morse P/N L16A17B 9630F**

	Part Inventory in 1301.1	**1.0**
WER-FM-L16A17B9630F	Wear Ring, Impeller, Fairbanks Morse P/N	**1.0**

WER-FM-RAS-IMP **Wear Ring, Impeller, Fairbanks-Morse, for RAS pumps #1, #2, a**

	Part Inventory in 1301.1	**2.0**
WER-FM-RAS-IMP	Wear Ring, Impeller, Fairbanks-Morse, for	**2.0**

WER-FM-RAS-STA **Wear Ring, Stationary, Fairbanks-Morse, for RAS pumps #1, #2**

	Part Inventory in 1301.1	**3.0**
WER-FM-RAS-STA	Wear Ring, Stationary, Fairbanks-Morse, f	**3.0**

WER-FM-T4C16AF3380F **Wear Ring, Front Head Case, Fairbanks Morse P/N T4C16AF 33**

	Part Inventory in 1301.1	**1.0**
WER-FM-T4C16AF3380F	Wear Ring, Front Head Case, Fairbanks M	**1.0**

WER-FM-T4C17D9630F **Wear Ring, Impeller, Fairbanks Morse P/N T4C17D 9630F**

	Part Inventory in 1301.1	**1.0**
WER-FM-T4C17D9630F	Wear Ring, Impeller, Fairbanks Morse P/N	**1.0**

WER-GLD-52110247003 **Wear Plate, Gould P/N 52-110-247-003**

	Part Inventory in 1301.1	**1.0**
WER-GLD-52110247003	Wear Plate, Gould P/N 52-110-247-003	**1.0**

WER-GLD-52110259003 **Wear Ring, Gould P/N 52-110-259-003**

	Part Inventory in 1301.1	**2.0**
WER-GLD-52110259003	Wear Ring, Gould P/N 52-110-259-003	**2.0**

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WER-R-HYD4.5X5.25X.7	**Wear Ring, Hydromatic 4.500" X 5.250" X 0.715"**		
		Part Inventory in 1301.1	**1.0**
	WER-R-HYD4.5X5.25X.7	Wear Ring, Hydromatic 4.500" X 5.250" X	**1.0**
WER-R-HYD5.5X6.6X0.6	**Wear Ring, Hydromatic, 5.50" X 6.60" X 0.632"**		
		Part Inventory in 1301.1	**1.0**
	WER-R-HYD5.5X6.6X0.6	Wear Ring, Hydromatic, 5.50" X 6.60" X 0.	**1.0**
WER-SS-122X138X20mm	**Wear Ring, Stainless Steel, 122.0 mm X 138.0 mm X 20.0 mm**		
		Part Inventory in 1301.1	**1.0**
	WER-SS-122X138X20mm	Wear Ring, Stainless Steel, 122.0 mm X 1	**1.0**
WER-TC-10532A15990	**Wear Plate, Tencarva P/N 10532A 15990**		
		Part Inventory in 1301.1	**0.0**
	WER-TC-10532A15990	Wear Plate, Tencarva P/N 10532A 15990	**0.0**
WER-VOL-FLYGT-189mm	**Wear Ring, Volute, Flygt (189mm impeller)**		
		Part Inventory in 1301.1	**2.0**
	WER-VOL-FLYGT-189mm	Wear Ring, Volute, Flygt (189mm impeller)	**2.0**
WER-WAS-T4C16AF9630F	**Wear Ring, for WAS Pump, P/N T4C16AF 9630F/O**		
		Part Inventory in 1301.1	**1.0**
	WER-WAS-T4C16AF9630F	Wear Ring, for WAS Pump, P/N T4C16AF	**1.0**
WER-WAS-T4C17D9630F	**Wear Ring, for WAS Pump, P/N T4C17D 9630F**		
		Part Inventory in 1301.1	**1.0**
	WER-WAS-T4C17D9630F	Wear Ring, for WAS Pump, P/N T4C17D 9	**1.0**
WER-WILO-6009239	**Wear Ring, Stationary, Wilo P/N 600 92 39**		
		Part Inventory in 1301.1	**1.0**
	WER-WILO-6009239	Wear Ring, Stationary, Wilo P/N 600 92 39	**1.0**
WER-WILO-6009247	**Wear Ring, Volute, Wilo P/N 600 92 47**		
		Part Inventory in 1301.1	**2.0**
	WER-WILO-6009247	Wear Ring, Volute, Wilo P/N 600 92 47	**2.0**
WER-WILO-6009340	**Wear Ring, Mobile, Wilo P/N 600 93 40**		
		Part Inventory in 1301.1	**0.0**
	WER-WILO-6009340	Wear Ring, Mobile, Wilo P/N 600 93 40	**0.0**
WER-WILO-6009372	**Wear Ring, Impeller, Wilo P/N 600 93 72**		
		Part Inventory in 1301.1	**2.0**
	WER-WILO-6009372	Wear Ring, Impeller, Wilo P/N 600 93 72	**2.0**
1300 Parts Warehouse 13 N P St			
WLD-44#SPOOL-MLDSTL	**Spool, Mild Steel, 44 Pounds**		
		Part Inventory in 1301.1	**0.0**
	WLD-44#SPOOL-MLDSTL	Spool, Mild Steel, 44 Pounds	**0.0**
WLD-8WMIGPLR	**Pliers, 8 Way MIG**		

	Part Inventory in 1301.1	**0.0**
WLD-8WMIGPLR	Pliers, 8 Way MIG	**0.0**
WLD-FILLROD-3/32X3SS	**Filler Rod, Stainless Steel, 3/32" X 36" #10**	
	Part Inventory in 1301.1	**0.0**
WLD-FILLROD-3/32X3SS	Filler Rod, Stainless Steel, 3/32" X 36" #1(	**0.0**
WLD-FLUXCOREWIRE.035	**Flux Core Wire, 0.035 dia.**	
	Part Inventory in 1301.1	**1.0**
WLD-FLUXCOREWIRE.035	Flux Core Wire, 0.035 dia.	**1.0**
WLD-TIPDRILLSET	**Tip Drill Set**	
	Part Inventory in 1301.1	**0.0**
WLD-TIPDRILLSET	Tip Drill Set	**0.0**
WLD-TUNGSTEN-GRN1/8	**Tungsten, Green, Pure, 1/8"**	
	Part Inventory in 1301.1	**0.0**
WLD-TUNGSTEN-GRN1/8	Tungsten, Green, Pure, 1/8"	**0.0**
WLD-TUNGSTEN-RED3/32	**Tungsten, Red, 2%, 3/32"**	
	Part Inventory in 1301.1	**0.0**
WLD-TUNGSTEN-RED3/32	Tungsten, Red, 2%, 3/32"	**0.0**

Attachment 17
Supplemental Environmental Project (SEP)

Fort Smith Utility Department
Supplemental Environmental Project (SEP) – Private Service Line Replacement Program Annual Report for 2016
February 16, 2017

Table 1 includes the following information regarding the Supplemental Environmental Project (SEP) – Private Service Line Replacement Program as required in Section D, Subparagraph 3 of Appendix F ("Reporting Schedule") of the Consent Decree:

- Deposit of funds to the Escrow account by the City;
- Disbursement of funds from the Escrow account by the Escrow Agent and to whom disbursements are made to pay plumbers/contractors, or eligible property owners or to the City for services completed;
- The current balance of funds held in the Escrow account; and,
- List of locations (addresses) of residential property owners where services have been performed under the SEP program.

Table 1
Fort Smith Utility Department
Supplemental Environmental Project (SEP) Escrow Journal
Private Service Line Replacement Program
January 1, 2016 through December 31, 2016

Date	Description	Deposit	Disbursement	Balance
1/1/2016	Beginning Market Value			$199,683.52
12/31/2016	No disbursements were made during Year 2016 to pay plumbers/ contractors or property owners or to the City for services completed. There were no locations where residential property owners had services performed under the SEP program during Year 2016.		$ -	
12/31/2016	Ending Market Value			$204,961.75*

* Net gain of $5,278.23 due to Income Interest and Dividends, Accrued Income, and Unrealized Appreciation.

The following describes other tasks performed in 2016 for SEP to prepare for 2017 activity.

1. Drafted and implemented process and procedures for the SEP to work in conjunction with the CDBG Program through the City of Fort Smith Community Development Department.
2. Updated the list of qualified plumbers/contractors who can perform the services at agreed-upon costs for standard scopes of work and in accordance with current plumbing code requirements.
3. Updated the process to notify residential property owners of the program.
4. Updated the financial hardship qualifications for eligibility for the SEP.
5. Updated system to maintain records of disbursement of funds from the Escrow and records of location data of residential property owners that have had services performed on their property as part of the SEP program.

The SEP is directly related and tied to the Private Service Line Program, which is a twenty-four (24) month deliverable and was submitted in December 2016 to the EPA for review and approval. Since the Private Service Line Program was not finished until the end of 2016 and was not approved by EPA, SEP money disbursement was not available in 2016.

At the end of 2016, The City of Fort Smith Utility Department moved forward with the SEP Program by developing a partnership with the City of Fort Smith Community Development Department to aid in identifying citizens who would meet the income/poverty limits and actionable defects of Infiltration & Inflow for disbursal of SEP funds beginning 2017.

Attachment 18
Revised Sanitary Sewer Overflow Documentation and Reporting Program Plan

CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

REVISED Sanitary Sewer Overflow Documentation and Reporting Program Plan*

February 2017

* *Includes non-material changes to original Program Plan, originally approved by EPA on July 5, 2016, which reflect the implementation of ADEQ's revised Online SSO Reporting Form*

REVISED Sanitary Sewer Overflow Documentation and Reporting Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, or expressly stated in the City of Fort Smith Sewer Use Ordinance, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program and Summary Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than two (2) years from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of 13 separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the long-term requirements of EPA and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements for the Sanitary Sewer Overflow (SSO) Documentation and Reporting Program Plan

The SSO Documentation and Reporting Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 47 of the Consent Decree and must be submitted to EPA for review within twelve (12) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2015). Following EPA's approval, the City will initiate the implementation of the SSO Documentation and Reporting Program. **Table 1-1** includes a list of the Consent Decree requirements for the SSO Documentation and Reporting Program and the corresponding section of this document that addresses each requirement.

Table 1-1 Summary of Consent Decree Requirements for the SSO Documentation and Reporting Program

Consent Decree Paragraph	Consent Decree Requirement	SSO Documentation and Reporting Program Plan Section
47.a.	Immediate SSO Reporting: All SSOs shall be reported to both the EPA and ADEQ utilizing ADEQ's Sanitary Sewer Overflow (SSO) Online Report system, available on ADEQ's website, within twenty-four (24) hours of when the City first became aware of the SSO.	3.1
	In instances where the ADEQ online reporting system is not available, the City shall meet the immediate reporting requirement by submission to ADEQ's Enforcement Branch of the Water Division by facsimile using a printed version of ADEQ's online report form, or a form which presents the ADEQ required information in essentially the same format. The completed form should be faxed to (501) 682-0880.	3.1.3
	In instances where the ADEQ online reporting and ADEQ facsimile reporting are not available, the City shall report to ADEQ's Enforcement Branch of the Water Division on or before the next business day by telephone at (501) 682-0640.	
47.b.	Monthly Reporting Requirements: With the City's Monthly Discharge Monitoring Reports ("DMR's"), the City shall continue to provide printed copies to EPA of all Immediate SSO Reports submitted to ADEQ during the reporting period, directed to 6EN-WC-Water Enforcement and to ADEQ, directed to NPDES Enforcement Section, Water Division.	3.2
47.c.	Annual Reporting Requirements: The City shall submit a Tabulation of the SSOs occurring in each Calendar Year as part of the Annual Report for that Calendar Year in accordance with Section X "Reporting" of the Consent Decree.	3.3

Section 2
Purpose and Goals of the SSO Documentation and Reporting Program

The purpose of the City of Fort Smith's SSO Documentation and Reporting Program is to facilitate the prompt and appropriate reporting of any observed SSO to satisfy the reporting requirements of both the Arkansas Department of Environmental Quality (ADEQ) and EPA. The reporting procedures described herein shall apply to all SSOs in the WCTS, regardless of where the SSO occurs, or whether the SSO occurs during dry weather or wet weather.

The SSO Documentation and Reporting Program must be coordinated with the Sanitary Sewer Overflow Emergency Response Program (OERP) which identifies the response measures to protect public health and environment from SSO events. The SSO Documentation and Reporting Program includes SSO reporting procedures for both the EPA and ADEQ; thereby ensuring both regulatory agencies are informed of all SSOs and resulting response measures in a timely manner.

Private Service Line Releases are not considered SSOs and are excluded from the SSO Documentation and Reporting Program.

Section 3
SSO Documentation and Reporting Procedures and Responsibilities

The administration and implementation of the SSO Documentation and Reporting Program requires adequate staff, equipment, software/hardware resources, and pre-planning. This section discusses the procedures and responsibilities for reporting SSOs on an immediate, monthly, and annual basis.

This plan defines internal and external communication required to report an SSO. Agencies, departments, and personnel that must be notified are identified, including associated telephone numbers or other pertinent information. The procedures described in this plan apply only to the WCTS.

3.1 Immediate Reporting

3.1.1 Chain of Responsibility

Accurate and timely reporting by the Fort Smith Utility Department is the foundation of the procedures outlined within this plan. In following the City's Organizational Chart (effective January 1, 2016), the Sewer System Program Manager will ultimately be responsible for inputting data into the ADEQ electronic reporting form. The Sewer System Program Manager's reporting responsibilities will encompass any and all SSOs, whether occurring within the City's gravity sewer system, force mains, pump stations, or at the plants, with the exception of wastewater treatment plant (WWTP) bypasses.

In instances where the Sewer System Program Manager is unavailable, the chain of responsibility for reporting the SSO will pass to the Deputy Director of Systems, and then to the Director of Utilities.

For the purposes of this plan, WWTP bypasses, if any, are excluded from being reported as SSOs on the ADEQ's Online Sanitary Sewer Overflow Reporting Form. Instead, any WWTP bypass shall be reported under the NPDES permit Discharge Monitoring Report (DMR) for the WWTP.

3.1.2 ADEQ Online Overflow Reporting Form

Within 24 hours of when the City first becomes aware of an SSO within the WCTS, such as being alerted by way of a citizen's call, the System Control Group will initiate the response procedures as outlined in the OERP Plan. Upon verification and response, the Sewer System Program Manager will report the event to ADEQ and EPA using the ADEQ's Online Sanitary Sewer Overflow Reporting Form. Timeframes appropriate for information gathering are detailed in the OERP Plan.

The ADEQ online form is located at the following address:

https://www.adeq.state.ar.us/water/enforcement/sso/submit.aspx

See **Figure 3-1** for a screenshot of ADEQ's Online Sanitary Sewer Overflow Reporting Form. For the purposes of the SSO Documentation and Reporting Program, the following information should be entered for an SSO event:

1. Facility/Permit Information:

   The facility name and permit number given will be the WWTP service area in which the sanitary sewer overflow has occurred.

   - P Street WWTP – NPDES Permit No. AR0033278
   - Massard WWTP – NPDES Permit No. AR0021750

2. Date/Time Overflow Range:

   The Date and Time Overflow Began is the date and time the System Control Operator recorded notification of a possible SSO.

   The Date and Time Overflow Ended is the date and time when discharge has ceased.

   If the discharge is unable to be halted within the 24-hour period, see instructions included as part of Section 3.1.3 of this plan.

3. Location Information:

   The location of the SSO will be documented by the asset identification number and street address. If that information is not available, other appropriate location identifiers should be included, such as latitude and longitude or geographic description. For an SSO on Private Property, both the street address and the asset identification number for the nearest manhole should be used.

   The location field will also include where the overflow went, such as yard, ditch, stream, storm sewer, building, etc.

4. Description of Problem:

   Type of Overflow

   The type(s) of overflow will be identified by checking all that apply from the following options:

   - Manhole
   - Lift Station
   - Main Line
   - Service Line
   - Other (including a brief description of the type of SSO will be entered)

   Cause of Overflow

   The cause(s) of overflow will be identified by checking all that apply from the following options:

   - I&I – Rainfall

- Roots
- Grease
- Debris
- Equipment Failure
- Construction
- Vandalism
- Power Failure
- Line Failure/Break
- Other (including a brief description of the cause of SSO will be entered)

Volume of Overflow

The estimated volume of the SSO will be entered in gallons.

If the volume of the discharge is unknown at time of the report's submission (i.e. the SSO has not been halted within the 24-hour period), see instructions included as part of Section 3.1.3 of this plan.

Impact of SSO Overflow Incident:

The impact of overflow will be identified by selecting the first category that applies from the following list:

- SSO Reached Receiving Water (river, stream)
- SSO Reached Public Land Only (ground)
- SSO Affected Private Property (ground)
- Basement Backup
- SSO Occurrence at Treatment Plant

5. Environmental Damage:

   The environmental damage will be identified by checking all that apply from the following options:

   - OEHC-Observed or Evidence of Human Contact
   - OEEI-Observed or Evidence of Environmental Impact
   - EFK-Evidence of Fish Kill
   - NEAH-No Evidence of Adverse Health/Environmental Impact

6. Action Taken:

   The actions taken to address the SSO will be identified by checking all that apply from the following options:

   - Machine Rodded
   - Jet-Vac
   - Hand Rodded

- Used Generator to Power Pumps/Equipment
- Disinfected and Deodorized
- Hydro Cleaned
- Spread Line on Affected Area
- Public Notification
- Other (including a brief description of the actions taken to address the SSO will be entered)

7. Reported By:

   The following information will be input into for person completing the SSO form:

   - Name
   - Title
   - Phone
   - Email a Copy of this Report to the Following Email Address

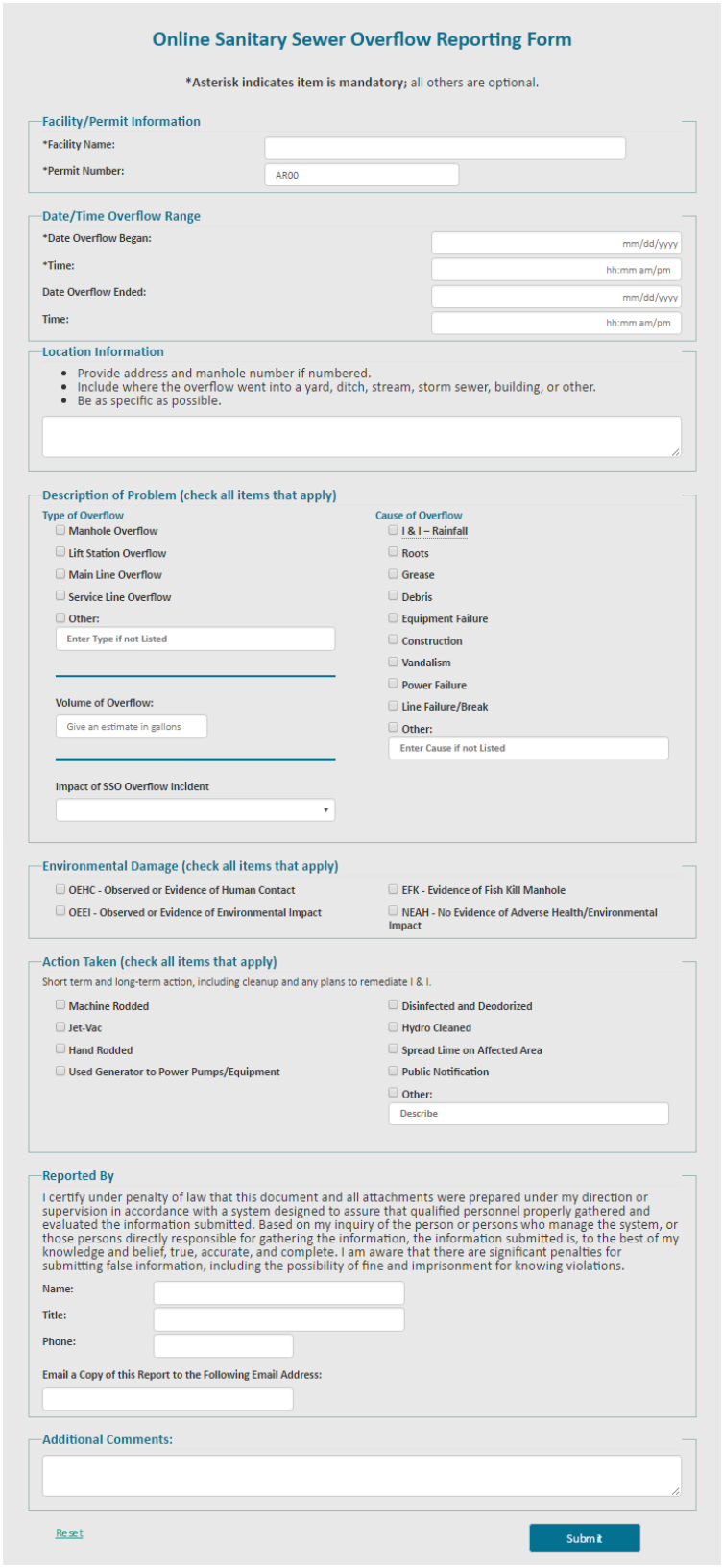
   A copy of the SSO report will be emailed to the Utility for confirmation and records retention purposes, the following email address will be entered based upon whether the Report is complete or whether it is incomplete at the time of submittal and a follow-up, 5-day Report is required:

   - Complete reports: SSORptConfirm@FortSmithAR.gov
   - Incomplete reports: SSORptConfirm5Day@FortSmithAR.gov

   These email addresses serve as distribution lists within the City, documenting submittal of the report and notifying appropriate personnel of the occurrence and status of an SSO.

8. Additional Comments (if Needed):

   This section should only be utilized if additional information is required (i.e. if the SSO is still discharging or if further investigation is necessary, and the reason(s) why SSO has not been ceased).



Online Sanitary Sewer Overflow Reporting Form

***Asterisk indicates item is mandatory;** all others are optional.

Facility/Permit Information

*Facility Name:

*Permit Number: AR00

Date/Time Overflow Range

*Date Overflow Began: mm/dd/yyyy

*Time: hh:mm am/pm

Date Overflow Ended: mm/dd/yyyy

Time: hh:mm am/pm

Location Information

- Provide address and manhole number if numbered.
- Include where the overflow went into a yard, ditch, stream, storm sewer, building, or other.
- Be as specific as possible.

Description of Problem (check all items that apply)

Type of Overflow

- Manhole Overflow
- Lift Station Overflow
- Main Line Overflow
- Service Line Overflow
- Other:

Enter Type if not Listed

Volume of Overflow:

Give an estimate in gallons

Impact of SSO Overflow Incident

Cause of Overflow

- I & I – Rainfall
- Roots
- Grease
- Debris
- Equipment Failure
- Construction
- Vandalism
- Power Failure
- Line Failure/Break
- Other:

Enter Cause if not Listed

Environmental Damage (check all items that apply)

- OEHC - Observed or Evidence of Human Contact
- OEEI - Observed or Evidence of Environmental Impact
- EFK - Evidence of Fish Kill Manhole
- NEAH - No Evidence of Adverse Health/Environmental Impact

Action Taken (check all items that apply)

Short term and long-term action, including cleanup and any plans to remediate I & I.

- Machine Rodded
- Jet-Vac
- Hand Rodded
- Used Generator to Power Pumps/Equipment
- Disinfected and Deodorized
- Hydro Cleaned
- Spread Lime on Affected Area
- Public Notification
- Other:

Describe

Reported By

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Title:

Phone:

Email a Copy of this Report to the Following Email Address:

Additional Comments:

Reset

Submit

Figure 3-1
Sample SSO Online Report

3.1.3 SSO Events Not Halted within 24-Hour Period

If the "total duration of [ ] overflow[s]" is not known when the 24-hour SSO online form is submitted, the online ADEQ SSO reporting page provides the following instructions:

> *If the "total duration of the overflow" is not known when the 24-hour SSO online report is submitted, then a follow-up report (5-day report) giving a detailed account of the overflow and the steps taken to resolve it must be submitted within 5 days of the overflow's discovery. This report can be submitted by email at ssoadeq@adeq.state.ar.us or by mail (include Attn: Water Quality Enforcement).*

For these cases, the Sewer System Program Manager will assign the continued monitoring of the SSO to the response personnel until the SSO event has been halted and complete information is available. At that time, and no later than five (5) days from the start date/time of the SSO, the Sewer System Program Manager (or Deputy Director of Systems or Director of Utilities, in this priority) will prepare and submit to ADEQ a 5-day Report, email at ssoadeq@adeq.state.ar.us or by mail (include Attn: Water Quality Enforcement). If a complete report cannot be submitted within five days, a 5-day Report will be submitted that provides an update in the additional comments portion of the report detailing this information. Once complete information is available, e.g. the SSO has ceased, an additional report will be submitted to ADEQ via the same email or mail delivery method.

3.1.4 Reporting Procedures if Online Reporting Form is Unavailable

In instances where the ADEQ online reporting system is not available, the City shall meet the immediate reporting requirement by submission to ADEQ's Water Quality Enforcement of the Water Division by phone at (501) 682-0638, or by email at ssoadeq@adeq.state.ar.us. Reporting via phone or email shall include the same information as outlined is Section 3.1.2.

3.2 Monthly Discharge Monitoring Reports (DMRs)

The Discharge Monitoring Reports (DMRs), submitted by the authorized signatory or his/her designee, are required monthly to ensure compliance with permits and regulations. As of spring 2016, the City of Fort Smith submits monthly DMR data using the Network Discharge Monitoring Report (NetDMR) web-based application. The NetDMR application includes a specific field for entering the number of SSO events occurring during the reporting month, as well as the cumulative volume released for that month. Additionally, NetDMR allows attachments to be included as part of the electronic DMR submittals. Therefore, when a monthly DMR submission is being completed via the NetDMR application, PDF copies of the SSO Reports for the reporting period shall be included as attachments as part of the final electronic submittal. This submittal will serve as a dual submission to both the 6EN-WC-Water Enforcement Branch of EPA and NPDES Enforcement Section, Water Division, of ADEQ, to meet the submittal requirements outlined in the Consent Decree.

3.3 Annual Reporting

The City of Fort Smith shall prepare and submit to the EPA and ADEQ, in accordance with the Consent Decree, an Annual Report documenting its compliance activities for each Calendar Year.

Information to be included in the Annual Report will be compiled from the data gathered during each individual SSO report.

The Annual Report shall include a tabulation of SSOs which occurred in the Annual Report Year including, but not limited to:

a. The location of the SSO by the asset identification number, street address, and/or other appropriate location identifiers, such as latitude and longitude or geographic description. For an SSO on Private Property, both the street address and the asset identification number for the nearest manhole should be used.

a. Name of the receiving water (stream, lake, wetland, etc.), if any

b. Date and time the SSO started

c. Date and time the SSO ceased

d. Estimate of the volume (in gallons) of wastewater released

e. Identification of the WCTS component from which the SSO was released, including, but not limited to, manhole, lift station, main line, or service line.

f. An explanation of the potential impact of the SSOs, if any, on public health and/or water quality in the receiving water body;

g. Cause(s) or suspected cause(s) of the SSO;

h. Steps taken to respond to the SSO;

i. Steps taken to reduce, eliminate, and/or prevent recurrence of the SSO, including WCTS investigations;

j. Copies of all SSO notifications sent to the public or other agencies or departments, as warranted; and

k. If an SSO is a Recurring SSO, the following additional information shall be reported:

    i. The dates within the previous three (3) Calendar Years that other SSOs occurred at this location;

    ii. The previous steps taken, if any, to reduce, eliminate, and/or prevent a recurrence of SSOs at this location; and

    iii. The additional steps that City shall take to eliminate future SSOs from this location.

Section 4
Record Keeping and Reporting

4.1 SSO Records

As required by the Consent Decree, records related to SSOs will be saved in the City's document management system and maintained as required under the records retention policy.

The City's plan for modifying its Information Management System (IMS), as described in Article Seven, Paragraph 50 of the Consent Decree, was submitted to EPA for approval in December of 2016 (prior to the twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016) deadline).

4.2 Reporting

This SSO Documentation and Reporting Program Plan describes reporting requirements related to SSOs.

4.3 Periodic Review, Evaluation, and Revision

As part of the annual reporting process, this Plan shall be reviewed and evaluated by City personnel in order to determine whether the objectives set forth by the Consent Decree are being met or improvements to the plan are needed. If an element of this Plan is identified as being ineffectual or impracticable, then the City will propose the necessary amendments, or submit a revised plan, as part of the Annual Report.

Section 5
Training and Standard Operating Procedures

5.1 Training

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the City's employees. The CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (June 28, 2016). The CTP will be directly related to the operation and maintenance of the WCTS for the purpose of responding to and preventing SSOs.

5.2 Standard Operating Procedures (SOPs)

Although the City does not anticipate developing SOPs specifically related to the SSO Documentation and Reporting Program, the plan and schedule for developing SOPs for general operation and maintenance of all components of the WCTS is detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (June 28, 2016) per the Consent Decree.