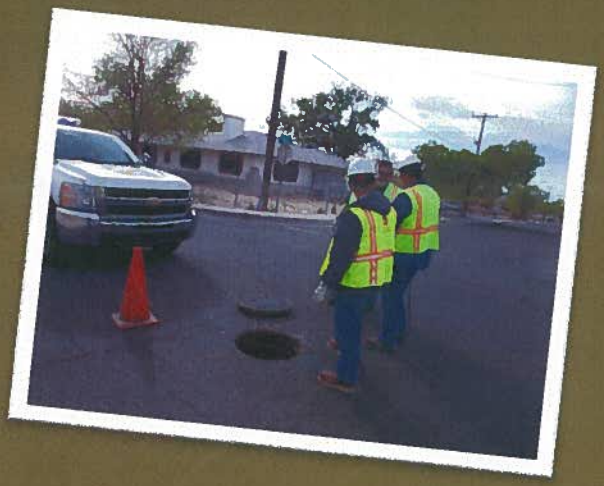
CMOM ANNUAL REPORT FY2014

September 26, 2014



Albuquerque Bernalillo County
Water Utility Authority

Contents

Capacity, Management, Operations and Maintenance (CMOM) Plan Overview

In accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. NM0022250 (Permit), the Albuquerque Bernalillo County Water Utility Authority (Water Authority) prepared a Capacity, Management, Operations and Maintenance (CMOM) Plan with Emphasis on the Fats, Oils and Grease (FOG) Policy. The effective date of the Water Authority's permit is October 1, 2012.

The CMOM Plan consists of the following documents:

1. FOG Policy
2. CMOM Annual Report
3. CMOM Program Self-Assessment

The first CMOM Annual Report FY2013 was dated September 27, 2013 and can be accessed at http://www.abcwua.org/uploads/FileLinks/145d206bb1ee48bc9346bb61b177ceca/CMOMPlan_AnnRpt_FY2013.pdf. This CMOM Annual Report FY2014 is the Water Authority's second CMOM Plan.

Report Purpose

This CMOM Annual Report covers the July 1, 2013 to June 30, 2014 time period. The CMOM Annual Report provides summary descriptions of CMOM activities (past and planned) and is intended to be a communication tool. The report is intended for Water Authority staff, regulatory authorities, customers, and the general public.

As indicated by its name, the CMOM Annual Report will be reissued by or before each October 1st to describe CMOM activities in the previous fiscal year (July 1 to June 30).

Permit Requirements

The Water Authority discharges to the Rio Grande under authority of NPDES Permit No. NM0022250 (Permit). Under this Permit, the Water Authority operates the Southside Water Reclamation Plant (SWRP) and the Collection System. The following are the Permit requirements that impact the collection system.

1. The Water Authority must submit a (monthly) Discharge Monitoring Report (DMR) in tabular form for all overflows. (Part I, Paragraph C.6).
2. The Water Authority must develop a Capacity, Management, Operation and Maintenance (CMOM) Plan with emphasis on the Fats, Oils and Grease (FOG) Policy. The FOG Policy will be a re-evaluation of the existing FOG Sewer Use and Wastewater Control (SCO) Ordinance. The goal of the FOG Policy will be to reduce Sanitary Sewer Overflows (SSOs). The FOG Policy may address such items as an inventory of repeat Food Service Establishments (FSE) sources of SSO and routine grease trap inspection

programs at FSE with increased frequencies at repeat FOG SSO FSEs. Additional elements of the FOG Policy may be sewer line inspections, such as video recording and required sewer line cleaning activities if warranted at repeat sites.

CMOM Program Self-Assessment

Attached is the updated CMOM Program Self-Assessment (Self-Audit) prepared by the Water Authority. The Self-Audit is encouraged by EPA as part of a CMOM. See EPA link: http://cfpub.epa.gov/npdes/sso/featuredinfo.cfm?program_id=4 . Near the bottom of this webpage, under "CMOM Program Self-Assessment Checklist", the following link provides a pdf document: http://www.epa.gov/npdes/pubs/cmomselfreview.pdf. This document from EPA includes a discussion of what CMOM is and how to use this checklist (Self-Audit).

The cited document was the basis of creating the Self-Audit. EPA supports the Self-Audit for two purposes. The primary purpose is for a utility to perform a self-examination in an organized way and see where proactive improvements are needed. The second purpose is that if and when EPA audits in the future, they can look at the Self-Audit to obtain a fundamental description of the status of the Authority's collection system, history, and performance.

While the basic self-audit format and structure were kept so the EPA will be familiar with the structure, modifications were made to recognize the Water Authority's unique system.

1. Every system has unique features. For instance, the Water Authority added information on the vacuum system.
2. Similarly, the Collection System is a separate system, i.e., does not handle storm drainage, and has minimal inflow-infiltration (I-I) problems.
3. EPA's discussion states that a significant number of "no" answers will be an indication of an area of weakness. In many cases, the questions are inappropriate for the Albuquerque system. Therefore, a "NA" column was added in addition to the "Yes" and "No" columns so the questions could be answered without causing undue concern.
4. Comments were added to many questions to allow for explanations and clarifications.

Because the data provided in the Self-Audit does not significantly change year-to-year, updates are proposed for each five years going forward. Therefore, the next update will coincide with the FY2019 CMOM Report.

FOG Policy

The Water Authority's FOG Policy is a separate document. The FOG Policy was developed as a requirement of the NPDES Permit effective on October 1, 2012. The policy was developed to work in conjunction with the Water Authority Sewer Use and Wastewater Control Ordinance (SUO) and Enforcement Response Plan (ERP) to reduce the rate of SSOs in the collection

system and decrease FOG loading at the SWRP. The policy describes expectations for FOG dischargers such as Food Service Establishments (FSEs) and waste haulers, and the steps the Water Authority is taking to mitigate FOG.

The FOG Policy sets a Water Authority goal of inspecting every FSE once every three years. Details of what is expected of the FSE in terms of Grease Removal System (GRS) functionality, pumping schedule, maintenance, and recordkeeping are identified. The FOG policy explains the Water Authority use of the 25% solids and grease rule (25 Percent Rule) to determine if a GRS is filled to capacity. The policy also contains Best Management Practices (BMPs) such as scraping plates, using screens, and not using emulsifiers, etc.

Pumper requirements are also covered in the FOG Policy. Full evacuation of a GRS is required each time pumping occurs. The pumper must leave the FSE documentation in the form of manifests that contain pertinent information such as date, time, volume pumped, and the condition of the GRS. The FOG Policy lists the minimum service to be provided by the pumper.

Enforcement of FOG violations and hauled wastewater violations is described in the FOG Policy. The FOG Policy works in conjunction with the ERP to set administrative assessments for violations.

The FOG Policy also sets forth the process for identifying new sources of FOG. The Water Authority Pretreatment Program will update the FOG database on an annual basis. The FOG Policy sets a goal that the Water Authority will meet with the City of Albuquerque, Bernalillo County, the Village of Los Ranchos, the Village of Corrales, plumbers, and the New Mexico Restaurant Association on a semiannual basis to discuss FOG issues.

In developing the FOG Policy, the Water Authority held a meeting with the hauled wastewater permit holders on July 22, 2013 and a public meeting on July 25, 2013 to discuss the proposed Policy. The final FOG Policy was submitted to the EPA on September 27, 2013 and updated in the Pretreatment Program modification documents sent to EPA on June 2, 2014. No comments from EPA were received regarding either submission.

FOG Enforcement

In FY2014, the Water Authority Pretreatment Program performed 1,013 FSE inspections. Of those inspected, 86% were in compliance. Also during FY 14 (July 1, 2013 – June 30, 2014), the Water Authority issued 175 Notices of Violation (NOVs) to FSEs. Eight of these inspections were conducted in response to a SSO.

Currently FSEs without a GRS have been sent NOVs. The Water Authority is now concentrating on sending NOVs to FSEs that are not adequately maintaining the GRS or documenting maintenance.

SSO Analyses

Permit Requirements

The Permit requires a CMOM Plan with an emphasis on FOG Policy. The Plan goal is to reduce impacts on the sewer system caused by FOG and the Policy goal is to reduce SSOs. The FOG Policy states that the Pretreatment Program will investigate all SSOs related to large amounts of grease. The policy is to take enforcement actions for violations of FOG requirements with priority on FSEs causing repeat SSOs.

SSO Study Team

To meet these requirements, the Water Authority created an SSO Study Team. The Team is comprised of:

1. Collection Section – Assistant Superintendent, Close Circuit Television (CCTV) Supervisor, and Research Analyst;
2. NPDES Pretreatment –Industrial Pretreatment Engineer and Pollution Prevention Specialist.

The Mission Statement for the Study Team is: *The SSO Study Team will work inter-divisionally to study, analyze and determine causes of previous SSOs to mitigate future SSOs in the Collection System.*

The Study Team procedure is:

1. Tabulate all 10-40s, 10-42s and 10-48s (see Table 1 for definitions).
2. Coordinate with CCTV Supervisor to ensure all segments responsible for causing 10-42s and 10-48s are televised (if possible).
3. The Research Analyst will review and analyze all CCTV inspections to determine causes and document findings (if possible).
4. To conduct meetings with the SSO Study Team to review and analyze CCTV that needs further investigation for resolution.
5. Recommend/implement and document mitigations based on analysis (if possible).
6. Coordinate with NPDES Pretreatment concerning grease issues discovered during analysis.

Table 1 Sewer Trouble Definitions

Sewer Trouble Definitions		
10-40	Sewer Backup	A gravity line blockage that does not result in a spill, or in the vacuum system, a low vacuum (low vac) that causes a customer service disruption. Does not result in an SSO Reportable (10-42) or a Property Damage (10-48).
10-42	SSO Reportable	An overflow of sewage from the system that may impact surface waters. These are reported to the EPA and other locally impacted stakeholders.
10-48	Property Damage	An overflow of sewage from the system that results in damage to private property. These are not reportable under current definitions.

Prior to October 1, 2012, a spill of less than 50 gallons was recorded as a 10-40 and was not reported to EPA/NMED. As of October 1, 2012, all spills that may impact surface waters have been recorded as a 10-42 and have been reported. In some cases, the same spill can both impact surface waters and result in property damage. These are all reported to the EPA / NMED. Appendix 1 identifies all 10-42s and 10-48s, and the overflows that resulted in both a 10-42 and a 10-48. When documenting the number of Sewer Troubles of different types, for example in Figure 1, the 10-42 item includes all overflows that may impact surface waters, including those that also had property damage; the 10-48 item includes overflows that only resulted in property damage. This prevents double-counting the number of overflow occurrences.

For FY2014, all 10-42s and -48s were inspected by Water Authority CCTV crews, although only 10-42s are "reportable", i.e., required to be reported to the EPA, et al. All 10-42s and -48s were then examined by the Study Team and a Cause and Mitigation were determined. In addition, all 10-40s were also televised.

Table 2 Types of Causes for SSOs

Cause(s) of SSO from DMR		Causes determined from CCTV
CO - Construction	**DB** - Debris	**SC** - Surcharged
CU-Cause Unknown	**RK**-Rocks	**SL** - Sag in Line
EQ - Equipment Failure	**GR** - Grease	**IT** - Intruding Tap
SGG-Sand, grit or gravel	**RT** - Roots	**MH** - Manhole
LF - Line Failure	**RN** - Rainfall	**OJ** - Offset Joint
V - Vandalism	**RGS**-Rags	
RGR - Roots / Grease	**BP**-Burped	

Causes & Mitigations

The Cause(s) were selected from the above table that identifies SSO causes from the DMR and CCTV. The monthly SSO DMR has a specific list of Causes that are based on system observations made by an Operator or Supervisor at the site of an SSO. The CCTV data provided to the Study Team often results in a different, more refined Cause(s). Table 3 provides the causes determined by the Study team for FY2014.

Table 3 Summary of Causes from SSO Study

FY2014 10-42, 10-48 Causes	Total	% of Total
Burped	5	6%
Cause Unknown	13	17%
Construction	1	1%
Debris	7	9%
Debris/Grease	2	3%
Equipment Failure	5	6%
Grease	10	13%
Grease/Intruding Tap	1	1%
Line Failure	1	1%
Line Failure/Grease	1	1%
Rags	2	3%
Rocks	1	1%
Rocks/Debris	1	1%
Roots	15	19%
Roots/Debris	1	1%
Roots/Grease	2	3%
Roots/Intruding Tap	1	1%
Surcharged/Grease	1	1%
Surcharged/Grease/Debris	1	1%
Sand, Grit or Gravel	1	1%
Sand, Grit or Gravel/Rock	1	1%
Vandalism	3	4%
Vandalism/Grease	1	1%
Grand Total	**77**	**100%**

Mitigations are the steps that the Team identified to prevent a recurrence of an SSO, at least for the identified Cause. Specific Mitigations are very dependent on the conditions observed from the CCTV video and report. Table 4 provides a summary of the various Mitigations. The Mitigations are tracked through completion.

Table 4 Summary Mitigations from SSO Study

FY2014 10-42, 10-48 Mitigations	Total	% of Total
Cut Intruding Tap	2	3%
No Follow Up Needed	27	35%
Pretreatment Notified	4	5%
Pretreatment Notified/Cut Intruding Tap	1	1%
Pretreatment Notified/Short Interval	1	1%
Rehab or Replace	5	6%
Rehab or Replace/Pretreatment Notified	3	4%
Short Interval	7	9%
Short Interval/Special Instructions	7	9%
Special Instructions	16	21%
Special Instructions/Pretreatment	4	5%
Grand Total	**77**	**100%**

SSO Tabulation & Analysis

Appendix 1 contains a list of every 10-42 and 10-48event in FY2014. The table columns are grouped as follows:

1. The type, i.e., 10-42 or -48, is identified on the left. In some cases a single event was both a 10-42 and a 10-48, as indicated.
2. Next to the right are the data included in the monthly SSO DMRs. It is noted that a "Reported Cause" is listed. This is typically based on the observations of the Operator that reported the SSO.
3. Next to the right is data determined by the Study Team:
    a. Cause
    b. Mitigation
    c. If Pretreatment follow-up is necessary
4. To the far right are follow-ups by NPDES Pretreatment
    a. FSEs visited
    b. Notice of Violation issued

Figure 1 shows the sewer troubles for each month of FY2014, along with the averages for FY2013. The SSO Rate is defined as 100 times the number of SSOs in a year divided by the miles of sewer in the system. The Water Authority system has a total of approximately 2,400 miles of line. The reportable 10-42s were 39, 60, and 56 in FY2012, FY2013, and FY2014 respectively, resulting in respective SSO rates of 1.6, 2.5, and 2.3. As noted above, the definition of a 10-42 changed on October 1, 2012, therefore some sewer troubles that were previously recorded as 10-40s are now recorded as a 10-42.

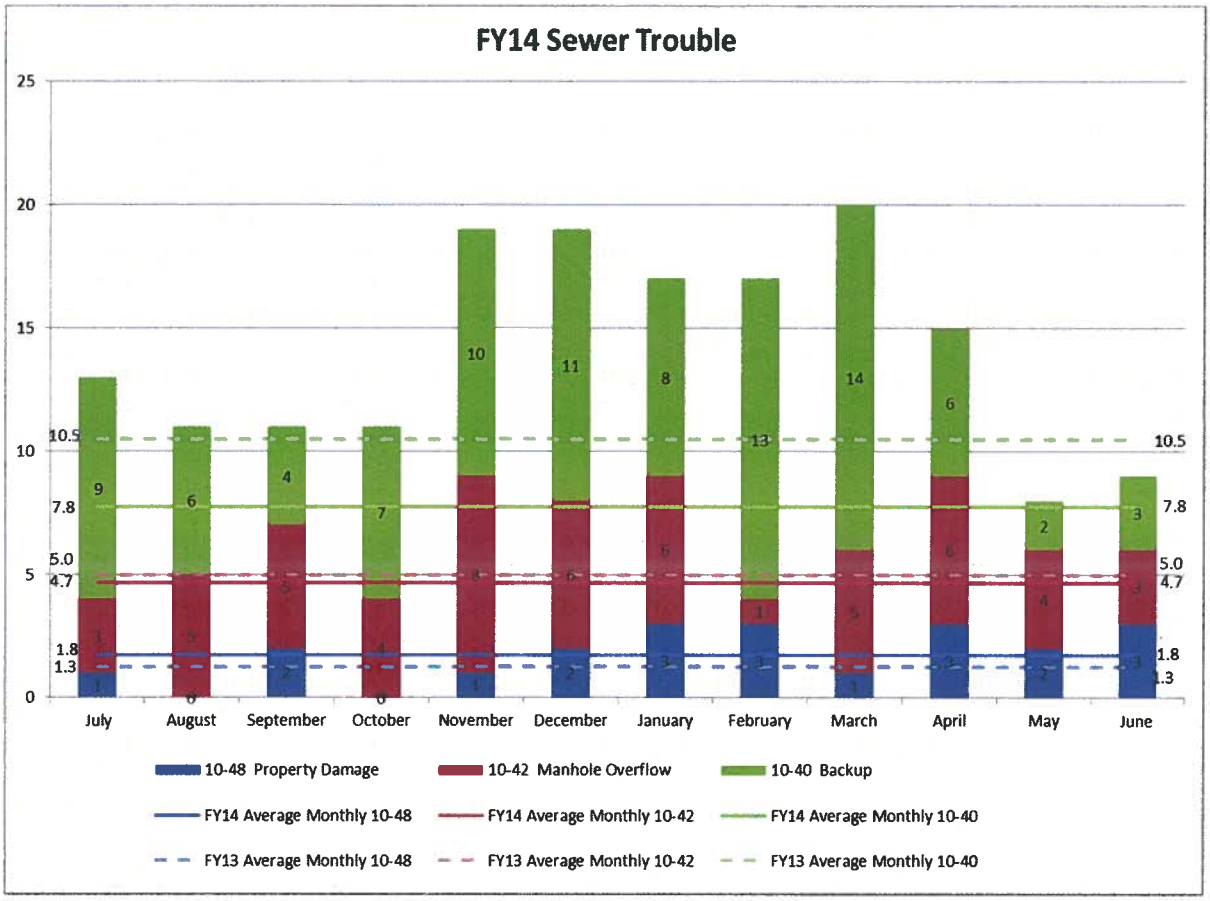


Figure 1 FY2014 Sewer Trouble

Volume Spilled and Recovered

Via the OERP, the Water Authority has implemented a policy of capturing spills and documenting actions. Appendix 2 provides estimated spill volumes and volumes recovered for the 56 reported SSOs for FY2014. In FY2014, it is estimated that approximately 53% of the sewage spilled was captured.

Actions Implemented and On-Going Programs

General

The Water Authority completed the FY2014 portion of all the commitments made in the "Identified Gaps in the Water Authority Processes with Recommendation to Close" portion of the FY2013 CMOM Report. In addition to the commitments made in the FY2013 CMOM Report, the following actions were taken to expand the Water Authority's ability to operate and maintain the system.

1. In FY2014 ordered two new Vactors, which were received in FY2015 and placed into service in September 2014.
2. Mobile devices, primarily iPads and iPhones, were assigned to all Operators or Crew Leaders and are being used to populate Maximo documents, access maps, drawings, etc.
3. Completed a study of collection system grit removal costs comparing various techniques.

Pretreatment:

The following recommendation is made in the FY2013 CMOM Report: "In FY2014, continue the implementation of enforcement activities: 1) Continue enforcement on FSEs that do not have GRSs. 2) Initiate enforcement on FSEs that have non-functional GRSs."

This recommendation is complete. NOVs have been sent to all FSEs that do not have GRSs and continued on those with non-functional GRSs.

In addition, in FY2014:

1. The Sewer Use and Wastewater Control Ordinance was approved by the Water Authority Board on January 29, 2014 and is effective July 1, 2014.
2. The FOG policy was submitted to EPA, no comments were received.
3. A new door hanger flier has been produced in Spanish and English for distribution around SSOs.
4. The Pretreatment Program Modification request that includes the SUO, FOG policy, Technically Based Local Limits calculations, processes and procedure was submitted to the EPA on June 2, 2014. No comments were received.

Collection System Capital Implementation Program (CIP) Funding

The following recommendation is made in the FY2013 CMOM Report: "Based on the need for additional funding, the Water Authority Board approved rate increases for three of the next five fiscal years beginning in FY2014. The rate increases assist the Water Authority in increasing CIP funding for the Collection System."

The FY2014 portion of this recommendation is complete. In FY2014, a rate increase was implemented. The goal continues with additional rate increases recommended for two more fiscal years ending in FY2018.

Overflow Emergency Response Plan (OERP)

The following recommendation is made in the FY2013 CMOM Report: "In FY2014, continue the development and implementation of the OERP. 1) Meet with COA and AMAFCA to review the current OERP and associated procedures and make revisions as necessary. 2) Subsequently meet to review the OERP with Middle Rio Grande Conservancy District (MRGCD), Bernalillo County, and New Mexico Department of Transportation (NMDOT). 3) Implement removal of spilled sewage from storm drains."

This recommendation is complete. On December 6, 2013, the Water Authority met with COA and AMAFCA. On January 31, 2014, the Water Authority met with Bernalillo County, COA, AMAFCA, NMDOT, and MRGCD. In both meetings: 1) Copies of the CMOM Plan and OERP were distributed and discussed; 2) Agreed on OERP modifications that were subsequently made.

As discussed above, spilled sewage is being removed from storm drains.

The Collection Section is the "owner" of the OERP. The Collection Section creates the components of the OERP, routes for internal review (specifically including the Compliance Division), and the completed portions are approved for posting to Maximo by the Collection Section Manager. Appendix 3 provides the OERP which was in effect at the end of FY2014.

In FY2014, the following significant modifications were made to the OERP:

1. Page 3 was added to address spills to pervious areas.
2. Page 4 was modified to include points of contact for COA, the County, and NMDOT (in addition to AMAFCA which was included in the FY2013 OERP). Provisions were added to allow for development of a joint response with an agency whose facility is impacted by an SSO.
3. Page 5 was added to incorporate into the OERP. This adds a previously developed process to follow where it is not immediately apparent if an SSO is occurring due to the Water Authority system. Also added additional points-of-contact for code enforcement.
4. Page 6 was added to document the process for study and mitigation of SSOs.
5. Page 8 was added to document the process used by Pretreatment when the mitigation (OERP Page 6) includes FOG or when the crew responding to an SSO notes evidence of extreme FOG (OERP Page 2) and the process to report evidence of extreme FOG.
6. Similar to Page 4, provision was added to allow for a joint response with the COA when an SSO impacted a COA pump station.
7. Page 10 was added to provide the process for alerting the media in the event of a large or significant impact spill.

While all the major components have now been developed, the OERP will be updated as appropriate.

In accordance with the OERP, the Water Authority coordinated with the appropriate MS4 Permittee on three spills. The 1/8/2014 and 1/15/2014 spills impacted the COA's Barelas Pump Station (Station 32). The Water Authority and the COA worked together in tracking the flow through the system and tested for water quality. The 4/10/2014 spill was upstream of Bernalillo County's Griegos Pond (storm water). At the Water Authority's request, the County inspected the pond after the spill and found no evidence the spill had reached the pond.

Force Main Inspection Program

The following recommendation is made in the FY2013 CMOM Report: "In FY2014, develop and implement a Maximo force main inspection program" and " The Water Authority will implement a program of visually inspecting the surface of each force main route. This inspection will be at a minimum on a semi-annual basis."

This recommendation is complete. In FY2014, the Maximo structure was created, work orders issued and completed. The program will continue with semi-annual inspections. In FY2015, modifications will be made to the program. Valves found in field will be compared to those currently in the GIS mapping. Maximo fields will be developed to store data on which valves was found.

Closed Circuit Television (CCTV)

The following recommendation is made in the FY2013 CMOM Report: "CCTV inspections of the collection system as follows: 1) Small diameter main lines less than 15": In four of five years, televise approximately 5% per year of the small diameter system. Televise high risk lines based on current Asset Management Plan and subsequent in-house analysis. 2) Large diameter lines 15" and larger: Every fifth year, televise as much as possible acknowledging access limitations of the unlined concrete lines 15" and larger. Anticipated schedule: 3) FY2014-17: 5% of the small diameter each year. 2) FY18: Large diameter unlined concrete pipe."

The FY2014 portion of this recommendation is complete. In FY2014, approximately 507,000 LF of small diameter line was televised, compared to approximately 105,000 and 98,000 LF respectively in FY2012 and FY2013.

Approximately 70% of the footage was obtained by third party contract. Notably, the third party data was smoothly transferred using automated techniques into Maximo databases and ITpipes repositories.

The CCTV program will continue. Anticipated schedule:

1. FY15-17: 5% of the small diameter each year.
2. FY18: Large diameter unlined concrete pipe.
3. FY19: 5% of the small diameter each year.

Sub-Basin Cleaning Program

The following recommendation is made in the FY2013 CMOM Report: "By the end of FY15, integrate GIS with Maximo and commence with the process of incorporating all appropriate lines in the Sub-Basin program."

This recommendation is complete. In FY2014, the Water Authority implemented activeG which thereby integrated the Water Authority GIS with Maximo. In addition, the Water Authority created a new Sub-Basin for the old New Mexico Utilities which was acquired in 2009. This system, which increased the Water Authority's sewer system by approximately 8%, is now a part of the Sub-Basin program. The incorporation of missing lines into the Sub-Basin program continues as maintenance effort.

Cleaning Program Goal

The following recommendation is made in the FY2013 CMOM Report: "The Water Authority will establish and monitor a goal of cleaning all gravity small diameter lines every ten years. (This will be accomplished through the existing Sub-Basin program.) The Water Authority will continue the program of high-frequency maintenance of known problem locations within the system. (This will be accomplished through the existing Short Interval program.) The frequency of Short Interval cleaning will vary in accordance with system performance and risk factors, maintenance history, and the latest maintenance findings."

The FY2014 portion of this recommendation is complete. In FY2014, the Water Authority cleaned approximately 311 miles under the Sub-Basin program. This is equal to approximately 17% of the small diameter system which exceeds the 10% pace implicit in cleaning every ten years. Likewise, the Short Interval cleaning program was maintained with approximately an additional 325 miles cleaned. The total length of all types of cleaning was approximately 714 miles.

The cleaning program continues with the same goals.

Odor Complaints

The Water Authority has committed to tabulate odor complaints by month. The EPA has consistently considered odor and corrosion control an issue in collection system O&M, as indicated in the CMOM Program Self-Assessment standard template from the EPA website, includes the Hydrogen Sulfide Monitoring and Control (HSMC) section.

Odor control is a major issue in warm-weather systems such as Albuquerque's. A high correlation has been demonstrated between odor complaints and the sewage temperature (analysis of FY11 & FY12 temperature vs. odor complaint data, $r = 0.89$, $p < 0.02$). Odor complaints are also known as a 10-52. The following graphic shows the odor complaints received by the Water Authority in FY2012 through FY2014. All odor complaints received are

included in this graphic; however, study has indicated that approximately ¾ of the complaints received originate in the private and not the public system.

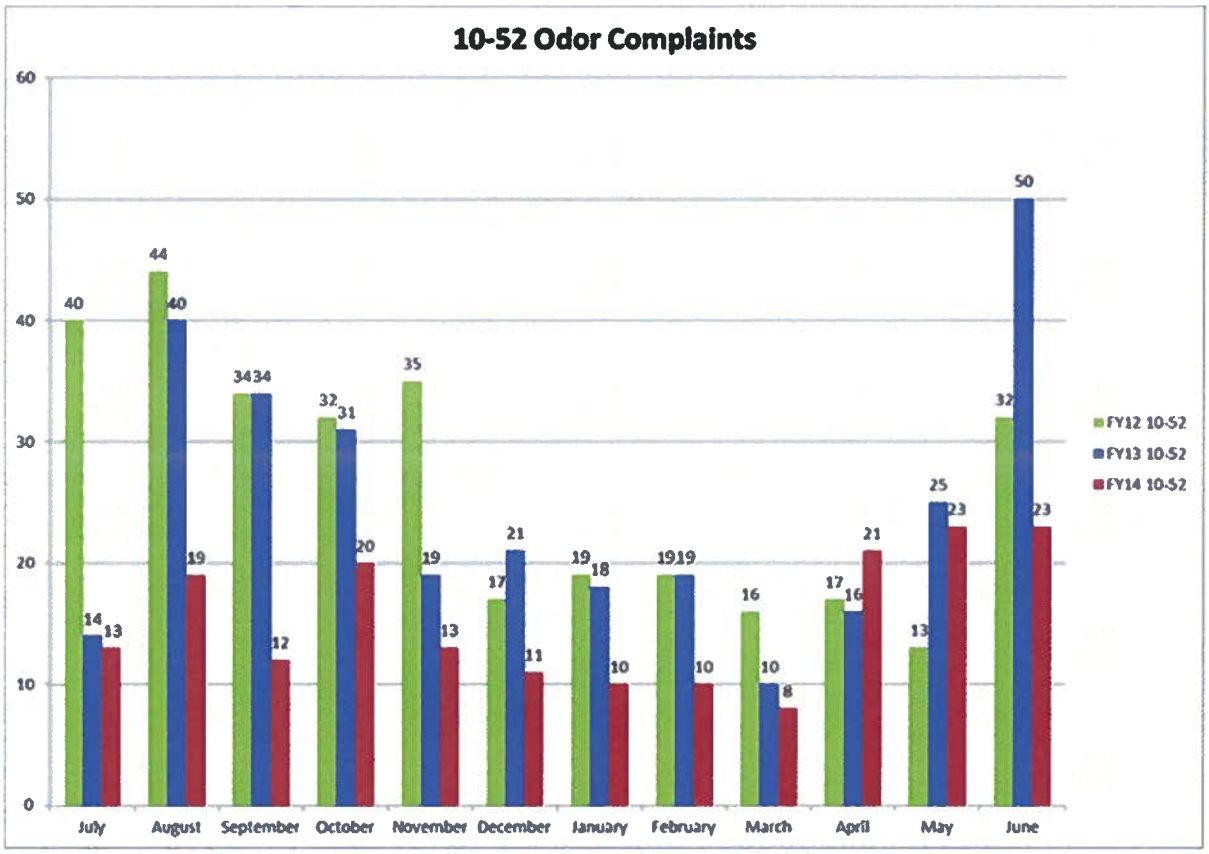


Figure 2 Odor Complaints

The following flow chart describes the process followed by the Water Authority in response to an odor complaint. This specific process in the immediate response and the follow-up to odor complaints is due to the importance placed on customer service. Also, the Water Authority has found that some odor complaints are due to a blockage prior to an overflow; therefore, a quick response can prevent an SSO.

10-52 Odor Complaint Flow Chart

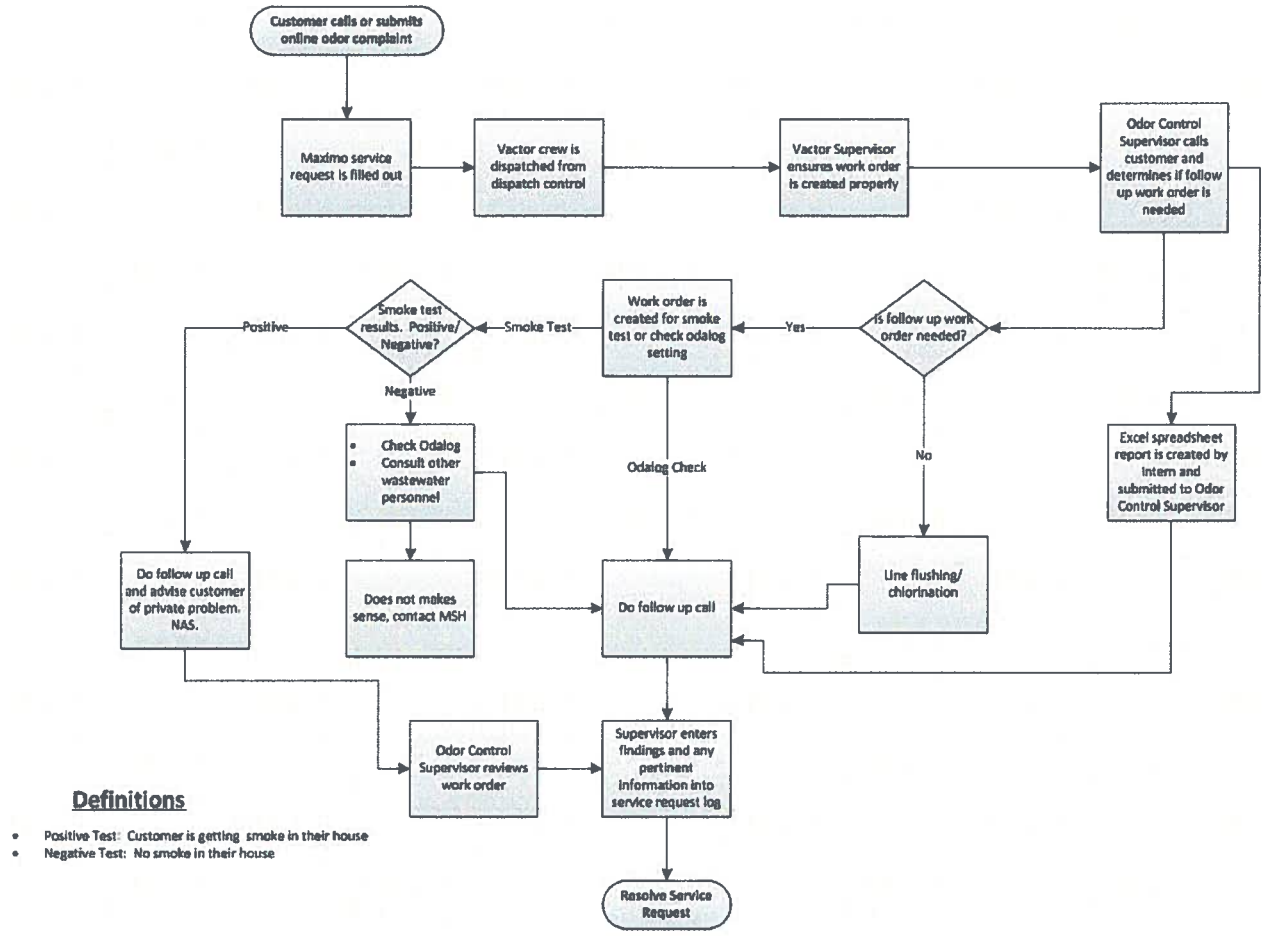


Figure 3 Odor Complaint Flow Chart

Identified Gaps in the Water Authority Processes with Recommendation to Close

In the process of continuous improvement, the Water Authority is committed to identifying and closing gaps. Numerous gaps were identified in the FY2013 CMOM Report with recommendations to close. The Water Authority completed the FY2014 portion of all the recommendations. As discussed above, many of these recommendations are now considered On-Going programs. The following are the current gaps with recommendation to close.

Prohibited Discharges, i.e., SSOs

The EPA has consistently stated that the only acceptable number of prohibited discharges is zero. The Water Authority acknowledges EPA's authority in setting this requirement and accepts the goal of reaching zero SSOs. Similarly, the Water Authority recognizes the national controversy on the zero discharge standard and the possibility that zero SSOs is unattainable in large collection systems such as is operated by the Water Authority.

Recommendation: The Water Authority will strive to meet a long term goal of zero SSOs. The Water Authority will address this goal through:

1. Annual CMOM reports that examine the Water Authority performance and set specific steps to improve in decreasing SSOs and mitigating the impact.
2. A program of continuous improvement in which the improvement steps be selected for those that are most needed to provide the most improvement.

FOG Policy Implementation

Long term recommendations:

1. Develop link between the Linko FOG database utilized by NPDES Pretreatment and the Maximo work order system used by the Collection Section.
2. Develop FSE fliers in languages other than English.
3. Add requirement to Satellite Community agreements that FSE connections be coordinated with the Water Authority.
4. Issue NOVs for not complying with the record keeping requirements of the SUO and FOG policy.
5. Issue NOVs for not complying with the direct access provisions of the SUO and FOG policy.

Cleaning Tools

The following recommendation is made in the FY2013 CMOM Report: "In FY15, assign each Vactor Operator a set of nozzles. Test regularly. Replace inserts when needed."

The FY2015 CIP includes funding for this recommendation which will continue.

Root Foaming

The following recommendation is made in the FY2013 CMOM Report: "Starting in FY15, implement a 3-year pilot program. Root foam selected lines that meet the root infested and / or inaccessibility criteria. Compare effectiveness to mechanical cleaning currently practiced and provide recommendation."

The FY2015 Operating Budget includes funding for this recommended pilot study.

FOG Buster

The following recommendation is made in the FY2013 CMOM Report: "Starting in FY15, implement a 3-year pilot program. Equip two units with FOG Buster equipment and utilize to clean lines known to be impacted by FOG. Compare effectiveness to mechanical cleaning currently practiced and provide recommendation."

The FY2015 Operating Budget includes funding for this recommended pilot program.

Lift Station Telemetry

In FY2014 and as of September 10 of FY2015, six reportable SSOs have occurred at lift stations that became the Water Authority's responsibility with the acquisition of a satellite system, i.e. New Mexico Utilities, Inc. These stations are not currently connected to the telemetry system serving the remainder of the Water Authority's stations. Therefore the Water Authority is not aware of a system failure before an overflow occurs. As a result of these overflows, the following recommendation is made.

Recommendation: During FY2015, install radio telemetry at Stations 80, 81, 82, 83, 84, and 85. Alternately, remove a station from service.

Generator Plan

Portable generators are used during a power failure at stations not having a standby system.

Recommendation: During FY2015, develop an SOP for use of generators. Develop table of loads at AirVac stations and Lift Stations 20 and 24 that can be handled by available generators and make arrangement to procure locally available rental units.

Shunt Trip Testing

The Water Authority has upgraded the Standby Generator Systems at the two largest lift stations, i.e. Lift Stations 20 and 24). It is desired to test these stations replicating an actual failure.

Recommendation: During FY2015, design shunt trips, or equivalent, for Lift Stations 20 and 24.

Appendices

Appendix 1 Sanitary Sewer Overflow Analysis Table

Overflow Analysis Table

Type			DMR												SSO Team Study				Enforcement		
10-42	10-48	10-42 &10-48	Maximo WO #	Diameter	Repeat within 1 year	Date of SSO	Time of SSO	Duration (HH:MM)	Location	Estimated Volume (gallons)	Reported Cause of Overflow	Observed Environmental Impacts	Action Taken	Ultimate Discharge Location	Volume Recovered (gallons)	Cause	Mitigation	Repeat	Pretreatment Follow Up Requested	FSEs Visited	Notice of Violation
X			11477795	10	N	7/12/2013	8:50 AM	2:10	700 WOODWARD RD SE	500	RK	NEAH	CC/HTH	DST	-	DB	NF	N			
X			11484201	8	N	7/19/2013	9:50 PM	2:10	801 GUAYMAS PL NE	200	GR	NEAH	CC/WD/HTH	PST	-	SC/GR/DB	SP	Y			
X			11487919	8	N	7/26/2013	8:50 AM	2:16	EUBANK/ MONTGOMERY NE	3,000	GR/RGS	NEAH	CC/WD/HTH	PST	-	SC/GR	SP/PT	Y	X	1	
	X		11491806	-	N	7/31/2013	3:00 PM	:10	1737 POTOMAC RD SW	-	CU	NEAH	CC	YD	-	CU	NF	N			
X			11495022	8	N	8/2/2013	3:07 PM	4:23	3512 Los Picaros SE	1,315	CU	NEAH	CC	AD	-	CO	NF	N			
X			11495965	8	N	8/5/2013	11:45 AM	720:00	3617 Los Picaros Rd. SE	150	V	NEAH	ENC	AD	-	V	NF	N			
X			11503824	8	N	8/18/2013	10:30 PM	1:45	Barstow Street & Holly Ave. NE	200	GR	NEAH	CC	PST	-	GR	SP/PT	N	X	5	
		X	11507509	8	N	8/23/2013	12:49 PM	:51	7017 Montgomery Blvd. NE	1,500	RGS/SGG	NEAH	CC/CWW/WD/HTH	SD	-	DB	SP	N			
X			11507660	8	N	8/23/2013	8:52 PM	1:08	903 Four Hills Rd. SE	680	RT/DB	NEAH	CC/WD/HTH	AD	-	RT	SI	Y			
X			11519204	8	N	9/2/2013	1:01 PM	2:29	Don Luis Road & Atrisco Drive SW	3,725	GR	NEAH	CC/RP/WD/HTH	AD	-	CU	SP	N			
	X		11521841	-	N	9/4/2013	7:30 AM	-	6367 ISLETA BLVD SW	-	RK	NEAH	WD	PP	-	RK	NF	N			
	X		11521319	8	N	9/6/2013	8:48 AM	1:12	3108 LA SALA CUADRA NE		RT/RGS	NEAH	CC	PP		RT	SI	N			
X			11522023	8	N	9/9/2013	8:23 PM	1:27	10617 EASY ST NW	200	GR/RK	NEAH	CC/RS/HTH	PST	-	SGG/RK	NF	N			
X			11527102	8	N	9/17/2013	9:06 AM	5:35	3541 MONTGOMERY BLVD NE	7,500	GR	NEAH	CC/CWW/WD/RP/HTH	AC	6,000	DB/GR	SP/SI	N			
X			11531422	8	N	9/26/2013	10:40 AM	:50	11716 PALM SPRINGS AVE NE	70	RK	NEAH	CC/WD/RS	PST	70	RT	SP/SI	N			
X			11531428	8	N	9/26/2013	11:45 AM	:37	Juan Tabo & Candelaria Blvd NE	260	RGS	NEAH	CC/WD/HTH	PST	-	RT	SP/SI	N			
X			11538284	10	N	10/6/2013	11:43 AM	4:15	1116 SUMMIT DR. NE	1,275	RGS	NEAH	WD/CWW	SD	127	CU	SP	N			
X			11542498	18	N	10/15/2013	1:15 PM	:05	Paseo Del Norte & Channel NE	50	EQ	NEAH	NA	AC	50	EQ	NF	N			
X			11543487	8	N	10/17/2013	9:00 AM	:35	10316 DELICADO PL NE	50	RT/GR	NEAH	CC/WD/RS/HTH	PST	45	RT	SP	N			
X			11545017	8	N	10/21/2013	7:18 AM	:17	1715 2ND ST SW	40	GR	NEAH	CC/WD/HTH	PST	40	GR	PT	Y	X	1	1
	X		11552078	8	N	11/2/2013	5:12 PM	3:03	313 DARTMOUTH DR SE		RT	NEAH	CC	PP	-	RT	NF	N			
X			11555317	8	N	11/9/2013	8:12 AM	2:11	3300 CANDLELIGHT DR NE	13,100	RGS		CC/RS/HTH/WD	PST	-	RT	SI	N			
X			11557368	8	N	11/16/2013	1:00 PM	2:05	GRACELAND & HOYLE DR NE	100	GR	NEAH	CC/HTH/WD/RS	SD/PST	100	GR	PT/SI	N	X		
X			11558453	8	N	11/19/2013	8:54 PM	:29	CLAREMONT & PALOMAS NE	73	RGS/GR	NEAH	CC/HTH/WD	PST	25	SGG	SP	N			
X			11558791	8	N	11/20/2013	9:50 AM	2:00	901 TRAMWAY BLVD NE	150	RT/GR	NEAH	CC/RP	PST	150	RT	SP/SI	N			
X			11559565	8	N	11/21/2013	2:10 PM	4:20	1001 Central Ave. NE	500	RT/GR	NEAH	ROOTSAW/RS/WD/RP/HTH	PL	400	RT	RH	N			
X			11560011	8	N	11/23/2013	1:00 PM	2:25	BELLAMAH & MONTE LARGO NE	250	GR	NEAH	CC/WD/HTH	SD	250	CU	NF	N			

Overflow Analysis Table

Type			DMR												SSO Team Study				Enforcement		
10-42	10-48	10-42 &10-48	Maximo WO #	Diameter	Repeat within 1 year	Date of SSO	Time of SSO	Duration (HH:MM)	Location	Estimated Volume (gallons)	Reported Cause of Overflow	Observed Environmental Impacts	Action Taken	Ultimate Discharge Location	Volume Recovered (gallons)	Cause	Mitigation	Repeat	Pretreatment Follow Up Requested	FSEs Visited	Notice of Violation
		X	11560105	8	N	11/23/2013	1:30 PM	2:30	12117 MENAUL BLVD NE	2,500	GR	NEAH	CC/WD/RS/HTH	SD	2,500	RT	SI/SP	Y			
X			11561524		N	11/27/2013	4:33 PM	2:12	BLUE FEATHER & LYONS NW	3,300	EQ	NEAH	WD/RP/HTH	SD	2,500	EQ	NF	N			
X			11562971	8	N	12/1/2013	11:30 AM	2:05	1108 DEL MASTRO DR SW	15	GR	NEAH	CWW/CC/HTH	PST	15	GR	SI/SP	N			
		X	11567100	8	N	12/11/2013	11:15 AM	:17	CENTRAL & MULBERRY ST NE	100	GR	NEAH	CC/WD/HTH	PST	-	CU	NF	N			
X			11569100	8	N	12/14/2013	12:10 PM	2:05	14332 LA CUEVA AVE NE	6,250	RT		CC/WD/HTH	AC/PST	-	RT	SP/SI	N			
X			11569099	8	N	12/16/2013	12:00 PM	1:00	5613 LA CORRIDA RD NE	2	RT/GR	NEAH	CC/WD/HTH	PST	2	LF/GR	SP	N			
	X		11570578	12	N	12/18/2013	1:00 PM	1:20	416 COLUMBIA DR SE		RGS	NEAH	RISK	PP		GR/RT	NF	N			
		X	11570877	6	Y	12/19/2013	11:15 AM	4:00	2309 LUCHETTI RD SW	4,488	CU	NEAH	RP	YD	300	CU	NF	Y			
X			11571008	8	N	12/20/2013	11:00 AM	1:10	7517 Gladden / Pennsylvania NE	500	RGS	NEAH	CWW/CC/WD/ HTH	PST	300	CU	SP	N			
	X		11576919	8	Y	12/29/2013	6:30 PM	1:00	2800 AZAR PL NW	-	CO/DB	NEAH	CC	PP	-	CU	CT	Y			
X			11578299	12	Y	1/8/2014	6:35 PM	2:25	903 ARNO ST NE	61,550	RK/DB	NEAH	CC/HTH	SD	56,100	RK/DB	SI	Y			
X			11578926	8	N	1/9/2014	8:40 AM	1:25	13405 MOUNTAIN VIEW AVE NE	625	RT	NEAH	CC/WD/HTH	PST	625	RT	SI	N			
	X		11580258	8	N	1/11/2014	7:30 PM	:30	209 KATHRYN AVE SE	-	GR	NEAH	CC	PP	-	CU	NF	N			
	X		11581492	8	N	1/14/2014	9:55 AM	:35	200 BROADWAY BLVD SE	-	GR	NEAH	CC	PP	-	DB/GR	RH/PT	Y	X	1	
X			11582588	12	Y	1/15/2014	3:30 PM	1:00	LIFT STATION 306- 915 BROADWAY BLVD. NE	61,674	DB	NEAH	CC/CWW/HTH	SD	56,100	DB	SI	Y			
X			11583391	8	N	1/18/2014	7:47 PM	1:33	920 EDITH BLVD SE	1,330	GR/RGS	NEAH	CC/WD/HTH	AC	-	DB	RH	N			
X			11583389	8	N	1/19/2014	9:38 PM	1:47	3310 INDIAN SCHOOL RD NE	5,350	GR/SGG	NEAH	CC/WD/HTH	AC	-	GR/IT	PT/CT	N	X	2	
X			11587760	8	N	1/30/2014	7:47 PM	:53	CARLISLE & MONTGOMERY NE	3,975	GR	NEAH	CC/WD/HTH	AC	-	GR	PT	Y	X	26	1
	X		11589918	8	N	1/31/2014	9:30 AM	1:00	433 Gavilan Pl NW	-	DB	NEAH	CC	PP		BP	NF	N			
	X		11591622	8	N	2/4/2014	11:15 AM	1:20	316 BRYN MAWR DR SE	-	RGS	NEAH	CC	PP		RT	SP	N			
X			11597397	12	N	2/19/2014	8:00 AM	:20	7121 WYOMING BLVD NE	100	GR	NEAH	CC/WD/HTH	PST	1	GR	PT	N	X	6	1
	X		11598936	8	N	2/20/2014	7:15 PM	2:50	1710 CENTRAL AVE SW	-	GR/RGS	NEAH	CC/HTH	PP	-	DB	RH	N			
	X		11602043	8	N	2/25/2014	9:22 PM	:38	815 ANDERSON AVE SE	-	BP	NEAH	NA	PP		BP	RH	N			
X			11604465	12	N	3/4/2014	2:35 AM	1:35	1824 LOMAS BLVD NE	500	GR	NEAH	CC/RP	PST	500	CU	NF	N			
X			11606111	8	N	3/5/2014	9:20 AM	:59	IRON AVE SE/ELM ST SE	500	CU	NEAH	CWW/WD/HTH	PST	-	CU	NF	N			
		X	11607577	8	N	3/8/2014	12:15 PM	6:10	712 IRON AVE SE	100	DB	NEAH	CC/WD/RP	PST	70	RT/DB	RH	Y			
X			11611129	8	N	3/12/2014	11:30 AM	:25	4200 CIBOLA VILLAGE DR NE	125	RGS	NEAH	CWW/CC/RP	PST	125	RT/GR	SP/PT	N	X	2	

Overflow Analysis Table

Type			DMR												SSO Team Study				Enforcement		
10-42	10-48	10-42 &10-48	Maximo WO #	Diameter	Repeat within 1 year	Date of SSO	Time of SSO	Duration (HH:MM)	Location	Estimated Volume (gallons)	Reported Cause of Overflow	Observed Environmental Impacts	Action Taken	Ultimate Discharge Location	Volume Recovered (gallons)	Cause	Mitigation	Repeat	Pretreatment Follow Up Requested	FSEs Visited	Notice of Violation
	X		11613523	8	N	3/12/2014	10:15 AM	1:45	415 YALE BLVD SE	-	DB	NEAH	CC	PP	-	RT/IT	CT	N			
X			11615813	8	N	3/25/2014	10:25 AM	:40	Constitution / Stanford NE	50	GR	NEAH	CC	PST	-	GR	SP	N			
X			11627339	12	N	4/10/2014	10:30 AM	10:30	2401 COMANCHE RD NE	31,500	RK/GR	NEAH	CC/HTH	SD	-	V/GR	NF	N			
X			11627474	8	N	4/11/2014	7:01 PM	:44	ELIZABETH & MENAUL NE	220	RGS	NEAH	CC/WD/HTH	AC	-	DB	NF	N			
	X		11629445	8	N	4/16/2014	7:29 AM	1:46	9440 TASCO DR NE	-	DB	NEAH	CC	PP	-	CU	NF	N			
X			11634324	8	Y	4/25/2014	4:25 PM	2:30	10501 GOLF COURSE NW	7,500	GR	NEAH	CC/HTH/WD	PST/SD	-	EQ	RH/PT	Y	X	1	
X			11635564	8	N	4/25/2014	12:19 PM	2:49	Golf & McMahon	500	RG	NEAH	CC/CWW/WD/HTH	PST	300	EQ	RH/PT	N	X	1	
X			11634578	8	N	4/27/2014	6:53 AM	4:51	George & University SE	85	RGS	NEAH	CC/CWW/WD/HTH	PST	70	DB	SI	N			
X			11636567	6	N	4/30/2014	5:42 PM	1:38	904 BROADWAY BLVD NE	20	LF	NEAH	CWW/HTH/RP	DST	20	LF	NF	N			
	X		11636568	8	N	4/30/2014	5:00 PM	2:20	10409 GUADIANA SW	-	RG	NEAH	CC	PP	-	RGS	NF	N			
	X		11637102	8	N	4/30/2014	5:00 PM	2:20	10408 GUADIANA SW	-	RG	NEAH	CC	PP	-	RGS	NF	N			
	X		11638032	8	N	5/4/2014	1:40 PM	:39	3003 GENERAL STILLWELL ST NE	-	GR	NEAH	CC	PP	-	GR	SP	N			
X			11640872	10	N	5/9/2014	10:32 AM	2:48	5901 HARPER DR NE	100	GR/RGS	NEAH	CWW/CC/WD/HTH	PL	80	CU	NF	N			
	X		11641208	8	N	5/11/2014	2:30 PM	4:15	11500 MENAUL BLVD NE	-	GR	NEAH	CC	PP	-	RT	SP	N			
X			11642737	8	N	5/14/2014	8:00 AM	2:27	4404 MONTGOMERY BLVD NE	735	GR	NEAH	CWW/CC/RS/HTH	PST	500	GR	PT	N	X	9	
X			11643337	8	N	5/15/2014	7:05 AM	1:00	701 Sagewood Ct SE	1,500	RGR	NEAH	CC/WD/HTH	PST	-	RT	SP	N			
X			11643329	12	N	5/15/2014	8:55 AM	1:05	770 JUAN TABO BLVD NE	325	V	NEAH	CC/HTH	O	-	V	NF	N			
	X		11659274	8	N	6/4/2014	8:45 AM	:12	7405 Frank PL NE	-	GR	NEAH	CC	PP	-	BP	SP	N			
	X		11659275	8	N	6/4/2014	8:45 AM	:12	7412 Frank PL NE	-	GR	NEAH	CC	PP	-	BP	SP	N			
X			11660152	8	N	6/8/2014	8:08 PM	5:58	9607 Lyon Rd NW	18,000	EQ	NEAH	CWW/RP/HTH	O	4,000	EQ	NF	N			
		X	11659998	8	N	6/10/2014	8:40 AM	:50	1001 NAKOMIS DR NE	500	GR	NEAH	CC/CWW/WD/HTH	PST	100	GR	SP/PT	N			
X			11666400	8	N	6/19/2014	4:13 PM	:27	10000 Vivald NW	75	V	NEAH	CC/RP/WD/HTH	AD	75	V	NF	N			
	X		11668870	8	N	6/20/2014	5:15 PM	:30	4508 3RD ST NW	-	BP	NEAH		PP	-	BP	SP	N			

Appendix 2 Sanitary Sewer Overflow Volume Captured Analysis Table

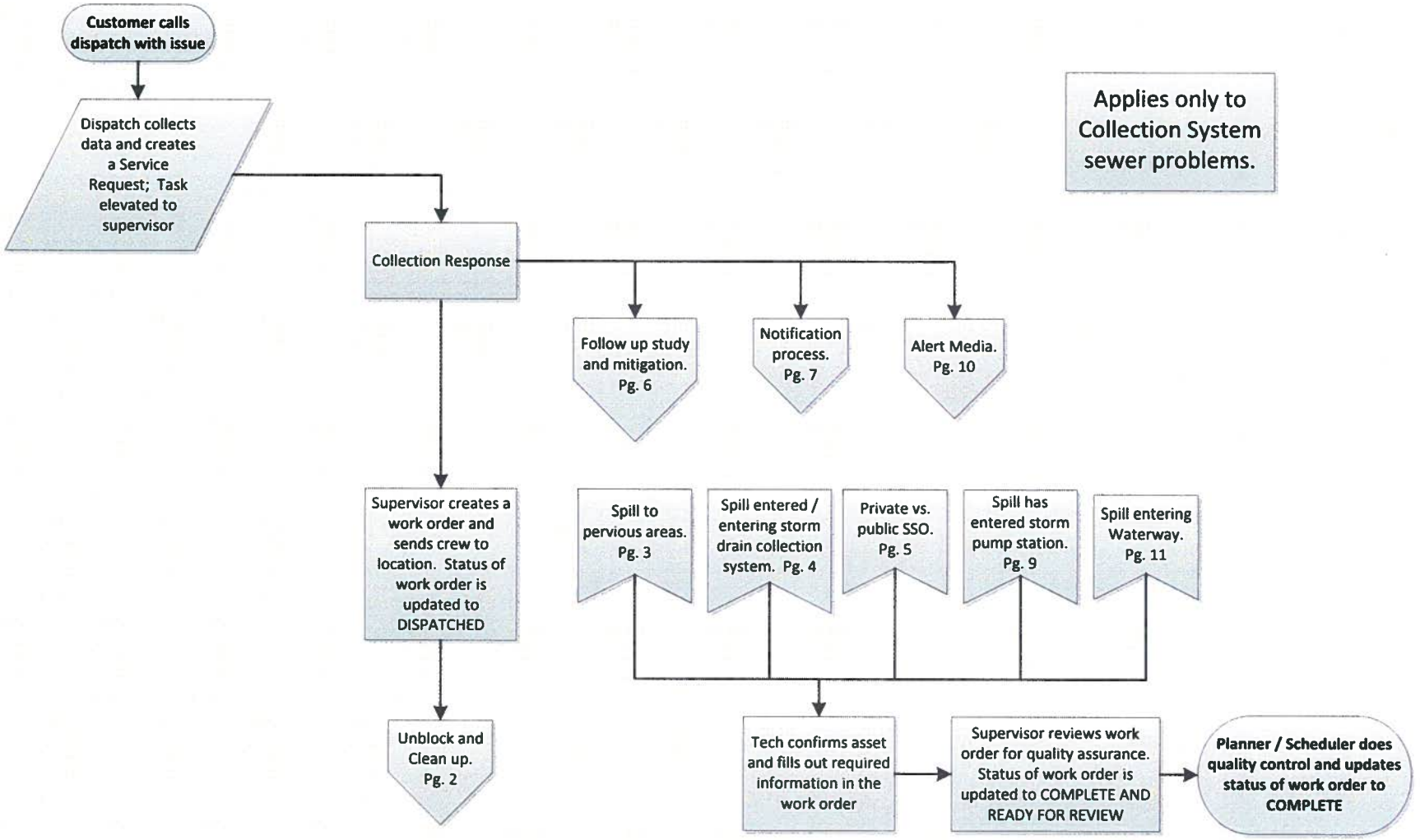
FY 14 10-42 SPILL VOLUME AND VOLUME REMOVED					
Maximo WO #	Date of SSO	Location	Estimated Volume (gallons)	Estimated Volume Recovered (gallons)	% Recovered
11477795	7/12/2013	700 WOODWARD RD SE	500	-	0%
11484201	7/19/2013	801 GUAYMAS PL NE	200	-	0%
11487919	7/26/2013	EUBANK/MONTGOMERY NE	3,000	-	0%
11495022	8/2/2013	3512 Los Picaros SE	1,315	-	0%
11495965	8/5/2013	3617 Los Picaros Rd. SE	150	-	0%
11503824	8/18/2013	Barstow Street & Holly Ave. NE	200	-	0%
11507509	8/23/2013	7017 Montgomery Blvd. NE	1,500	-	0%
11507660	8/23/2013	903 Four Hills Rd. SE	680	-	0%
11519204	9/2/2013	Don Luis Road & Atrisco Drive SW	3,725	-	0%
11522023	9/9/2013	10617 EASY ST NW	200	-	0%
11527102	9/17/2013	3541 MONTGOMERY BLVD NE	7,500	6,000	80%
11531422	9/26/2013	11716 PALM SPRINGS AVE NE	70	70	100%
11531428	9/26/2013	Juan Tabo & Candelaria Blvd NE	260	-	0%
11538284	10/6/2013	1116 SUMMIT DR. NE	1,275	127	10%
11542498	10/15/2013	Paseo Del Norte & Channel NE	50	50	100%
11543487	10/17/2013	10316 DELICADO PL NE	50	45	90%
11545017	10/21/2013	1715 2ND ST SW	40	40	100%
11555317	11/9/2013	3300 CANDLELIGHT DR NE	13,100	-	0%
11557368	11/16/2013	GRACELAND & HOYLE DR NE	100	100	100%
11558453	11/19/2013	CLAREMONT & PALOMAS NE	73	25	34%
11558791	11/20/2013	901 TRAMWAY BLVD NE	150	150	100%
11559565	11/21/2013	1001 Central Ave. NE	500	400	80%
11560011	11/23/2013	BELLAMAH & MONTE LARGO NE	250	250	100%
11560105	11/23/2013	12117 MENAUL BLVD NE	2,500	2,500	100%
11561524	11/27/2013	BLUE FEATHER & LYONS NW	3,300	2,500	76%
11562971	12/1/2013	1108 DEL MASTRO DR SW	15	15	100%
11567100	12/11/2013	CENTRAL & MULBERRY ST NE	100	-	0%
11569099	12/16/2013	5613 LA CORRIDA RD NE	2	2	100%
11569100	12/14/2013	14332 LA CUEVA AVE NE	6,250	-	0%
11570877	12/19/2013	2309 LUCHETTI RD SW	4,488	300	7%
11571008	12/20/2013	7517 Gladden / Pennsylvania NE	500	300	60%
11578299	1/8/2014	903 ARNO ST NE	61,550	56,100	91%
11578926	1/9/2014	13405 MOUNTAIN VIEW AVE NE	625	625	100%
11582588	1/15/2014	LIFT STATION 306- 915 BROADWAY BLVD. NE	61,674	56,100	91%
11583389	1/19/2014	3310 INDIAN SCHOOL RD NE	5,350	-	0%
11583391	1/18/2014	920 EDITH BLVD SE	1,330	-	0%
11587760	1/30/2014	CARLISLE & MONTGOMERY NE	3,975	-	0%
11597397	2/19/2014	7121 WYOMING BLVD NE	100	1	1%
11604465	3/4/2014	1824 LOMAS BLVD NE	500	500	100%
11606111	3/5/2014	IRON AVE SE/ELM ST SE	500	-	0%
11607577	3/8/2014	712 IRON AVE SE	100	70	70%
11611129	3/12/2014	4200 CIBOLA VILLAGE DR NE	125	125	100%
11615813	3/25/2014	Constitution / Stanford NE	50	-	0%
11627339	4/10/2014	2401 COMANCHE RD NE	31,500	-	0%
11627474	4/11/2014	ELIZABETH & MENAUL NE	220	-	0%
11634324	4/25/2014	10501 GOLF COURSE NW	7,500	-	0%
11634578	4/27/2014	George & University SE	85	70	82%
11635564	4/25/2014	Golf & McMahon	500	300	60%
11636567	4/30/2014	904 BROADWAY BLVD NE	20	20	100%
11640872	5/9/2014	5901 HARPER DR NE	100	80	80%
11642737	5/14/2014	4404 MONTGOMERY BLVD NE	735	500	68%
11643329	5/15/2014	770 JUAN TABO BLVD NE	325	-	0%
11643337	5/15/2014	701 Sagewood Ct SE	1,500	-	0%
11659998	6/10/2014	1001 NAKOMIS DR NE	500	100	20%
11660152	6/8/2014	9607 Lyon Rd NW	18,000	4,000	22%
11666400	6/19/2014	10000 Vivald NW	75	75	100%
Grand Total			**248,982**	**131,540**	**53%**

Appendix 3 Overflow Emergency Response Plan (OERP)

Overflow Emergency Response Plan

04-16-2014

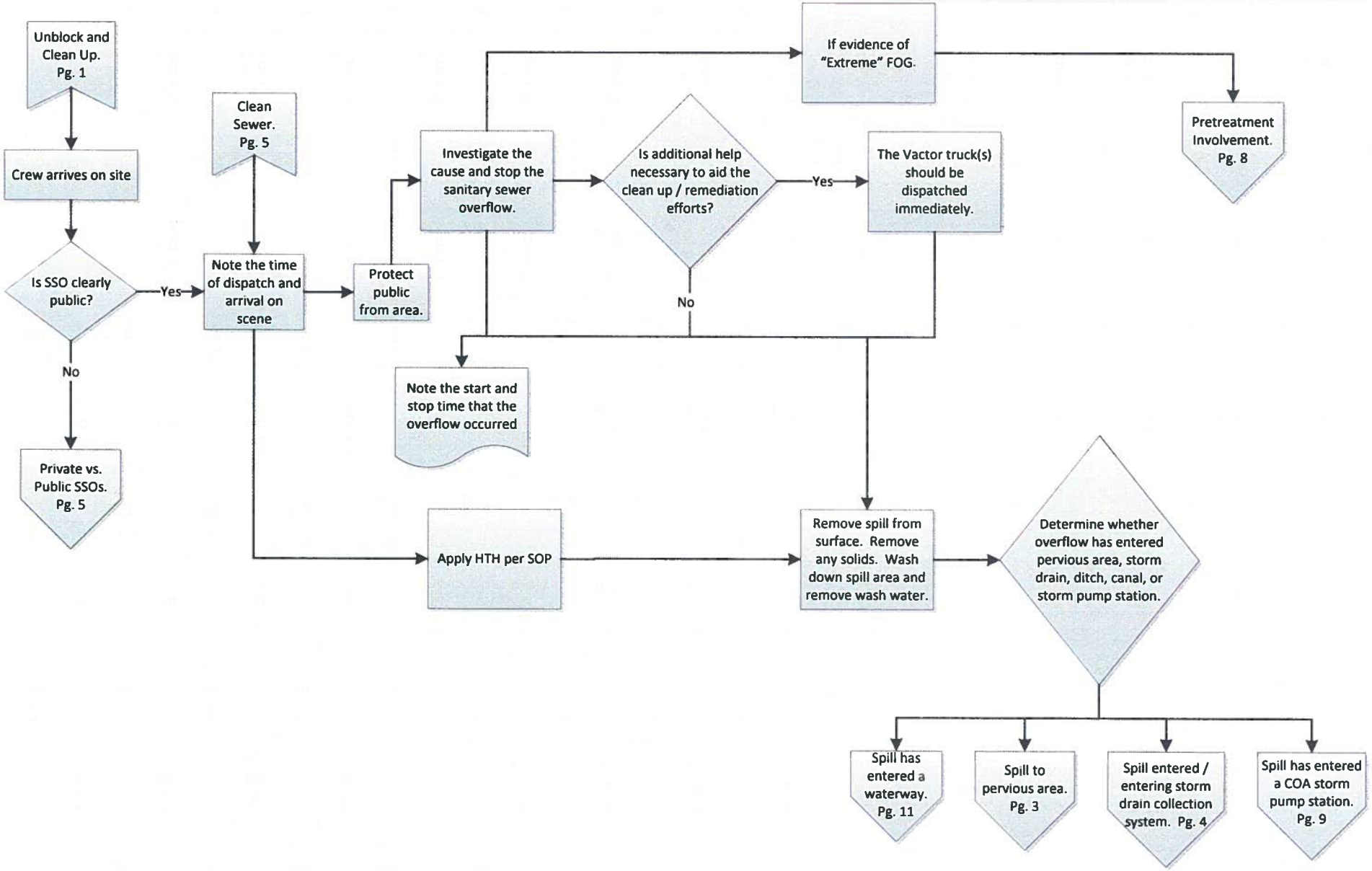
Albuquerque Bernalillo County Water Utility

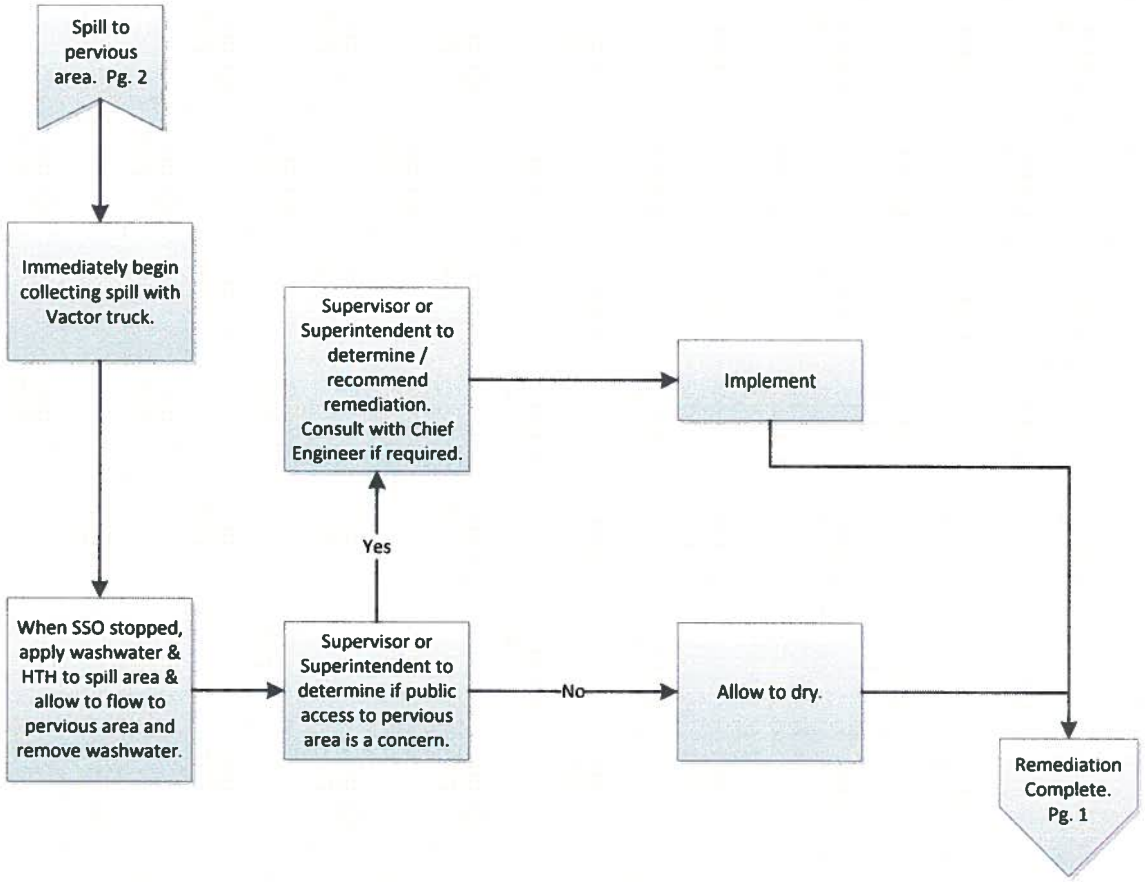


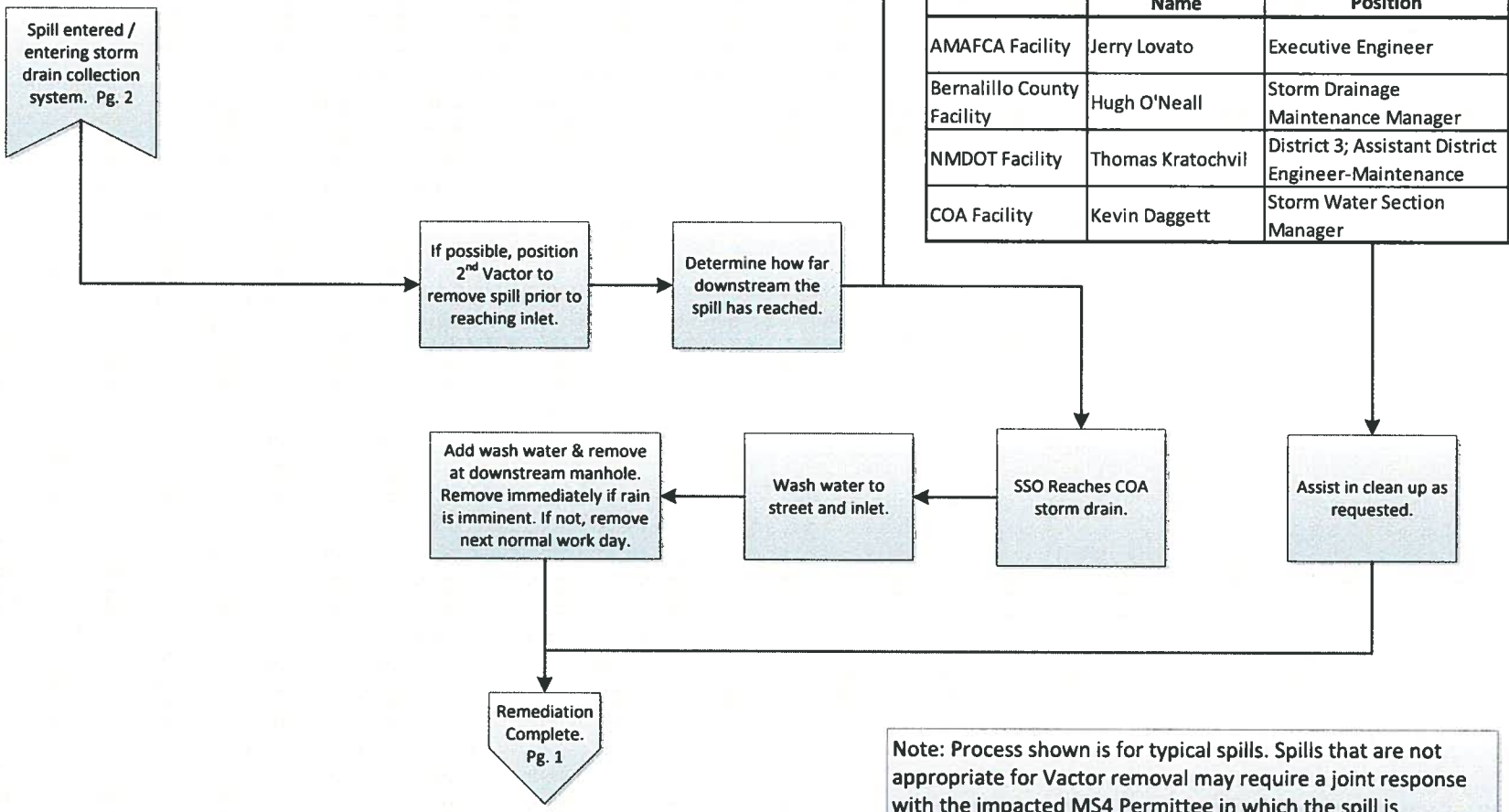
Overflow Emergency Response Plan

04-16-2014

Albuquerque Bernalillo County Water Utility

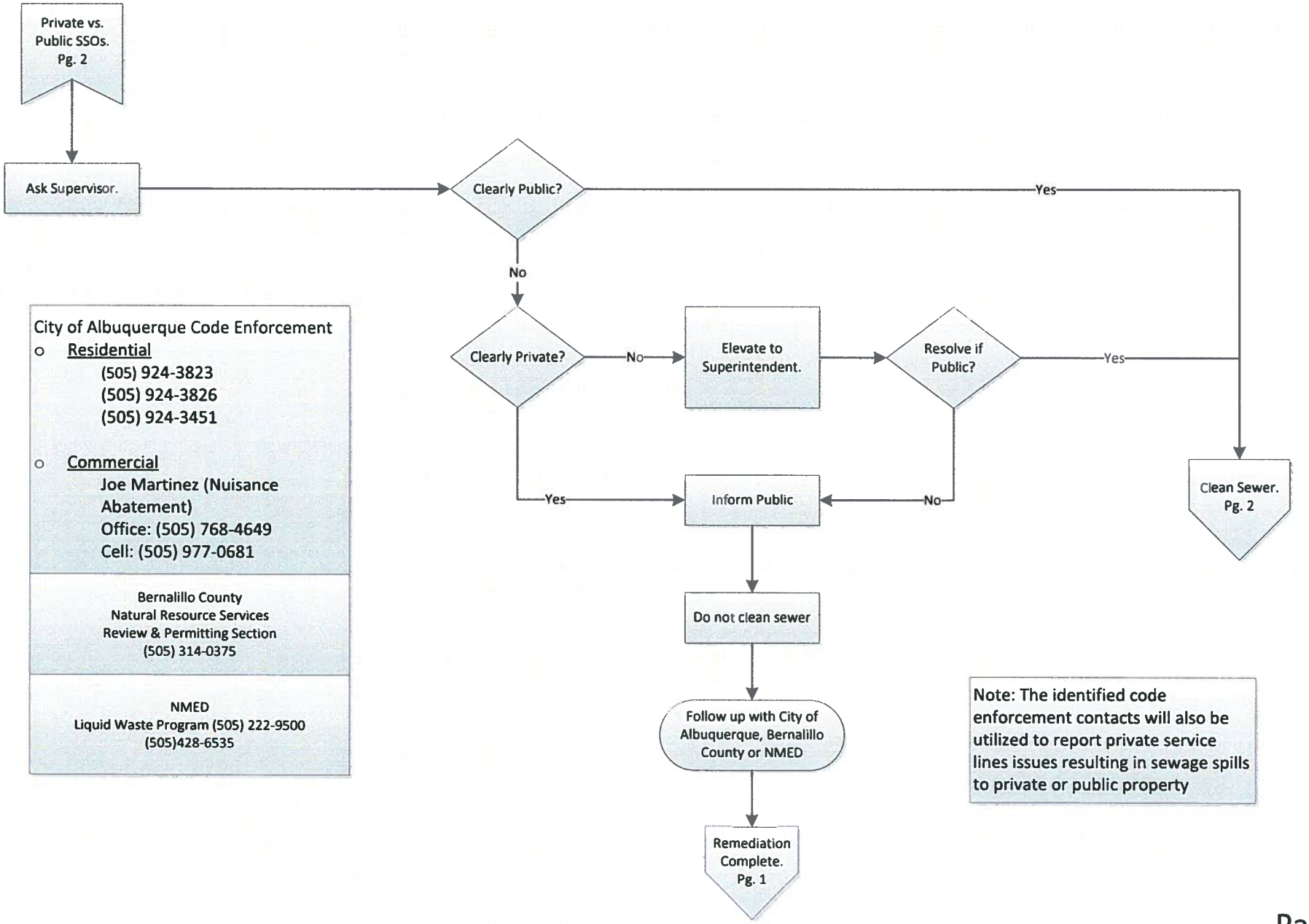


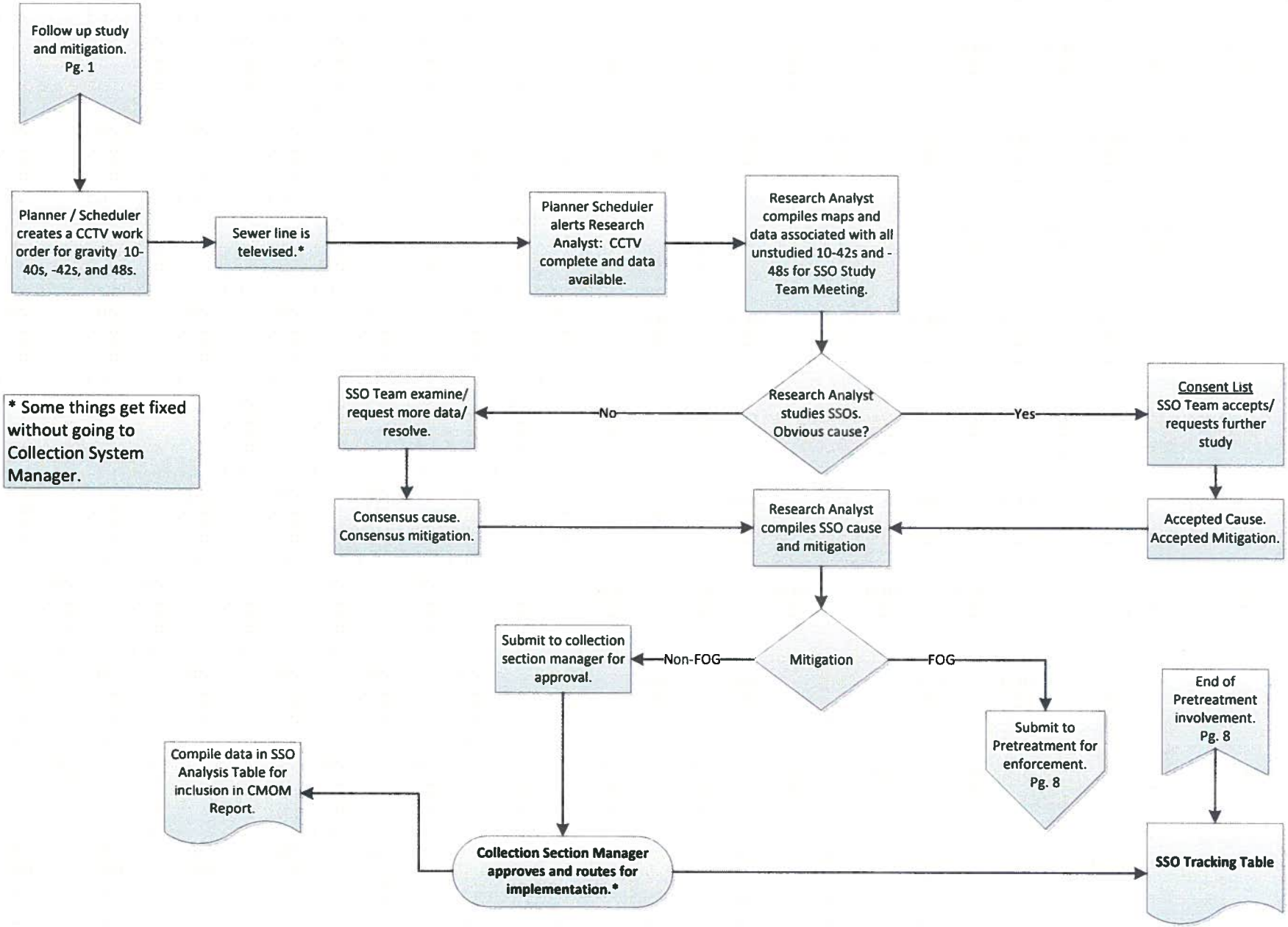

Spill to pervious area. Pg. 2
Immediately begin collecting spill with Vactor truck.
When SSO stopped, apply washwater & HTH to spill area & allow to flow to pervious area and remove washwater.
Supervisor or Superintendent to determine if public access to pervious area is a concern.
Yes
No
Supervisor or Superintendent to determine / recommend remediation. Consult with Chief Engineer if required.
Implement
Allow to dry.
Remediation Complete. Pg. 1

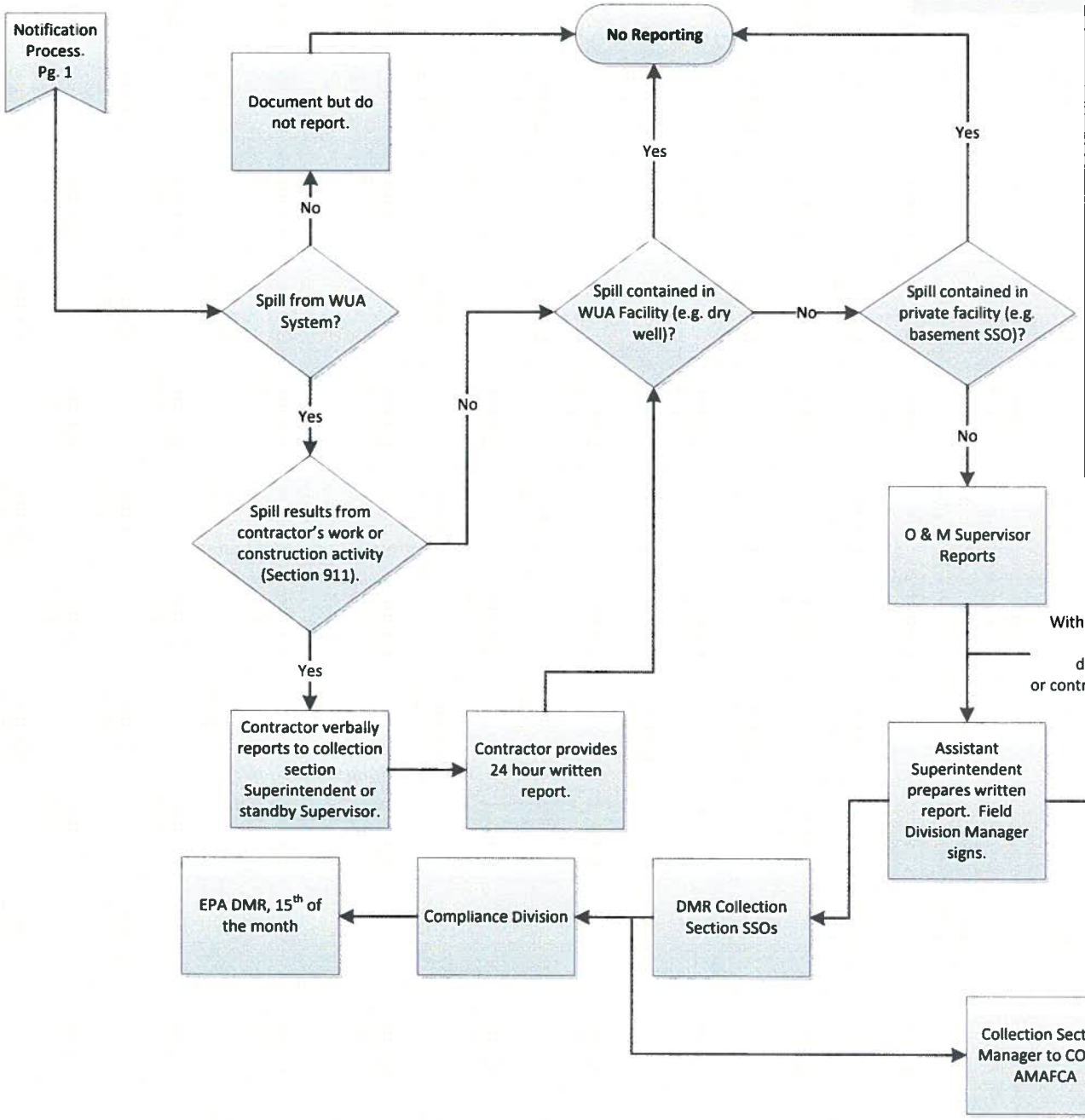


SSO Reaches	Contact			
	Name	Position	Office	Cell
AMAFCA Facility	Jerry Lovato	Executive Engineer	884-2215	362-0020
Bernalillo County Facility	Hugh O'Neall	Storm Drainage Maintenance Manager	848-1505	934-2704
NMDOT Facility	Thomas Kratochvil	District 3; Assistant District Engineer-Maintenance	798-6637	228-8169
COA Facility	Kevin Daggett	Storm Water Section Manager	768-2778	803-8058

Note: Process shown is for typical spills. Spills that are not appropriate for Vactor removal may require a joint response with the impacted MS4 Permittee in which the spill is captured, treated, and determined appropriate for release.


Private vs. Public SSOs. Pg. 2
Ask Supervisor.
Clearly Public?
Yes
No
Clearly Private?
No
Elevate to Superintendent.
Resolve if Public?
Yes
Yes
No
Inform Public
Clean Sewer. Pg. 2
Do not clean sewer
Follow up with City of Albuquerque, Bernalillo County or NMED
Remediation Complete. Pg. 1
City of Albuquerque Code Enforcement
Residential
(505) 924-3823
(505) 924-3826
(505) 924-3451
Commercial
Joe Martinez (Nuisance Abatement)
Office: (505) 768-4649
Cell: (505) 977-0681
Bernalillo County
Natural Resource Services
Review & Permitting Section
(505) 314-0375
NMED
Liquid Waste Program (505) 222-9500
(505)428-6535
Note: The identified code enforcement contacts will also be utilized to report private service lines issues resulting in sewage spills to private or public property


Follow up study and mitigation. Pg. 1
Planner / Scheduler creates a CCTV work order for gravity 10-40s, -42s, and 48s.
Sewer line is televised.*
Planner Scheduler alerts Research Analyst: CCTV complete and data available.
Research Analyst compiles maps and data associated with all unstudied 10-42s and -48s for SSO Study Team Meeting.
Research Analyst studies SSOs. Obvious cause?
No
SSO Team examine/ request more data/ resolve.
Yes
Consent List
SSO Team accepts/ requests further study
* Some things get fixed without going to Collection System Manager.
Consensus cause. Consensus mitigation.
Research Analyst compiles SSO cause and mitigation
Accepted Cause. Accepted Mitigation.
Mitigation
Non-FOG
Submit to collection section manager for approval.
FOG
Submit to Pretreatment for enforcement. Pg. 8
End of Pretreatment involvement. Pg. 8
Compile data in SSO Analysis Table for inclusion in CMOM Report.
Collection Section Manager approves and routes for implementation.*
SSO Tracking Table



GWQB Reporting

Ponded sewage on a pervious area may require additional reporting to the Ground Water Quality Bureau (GWQB). Circumstances presumed to require this reporting will be:

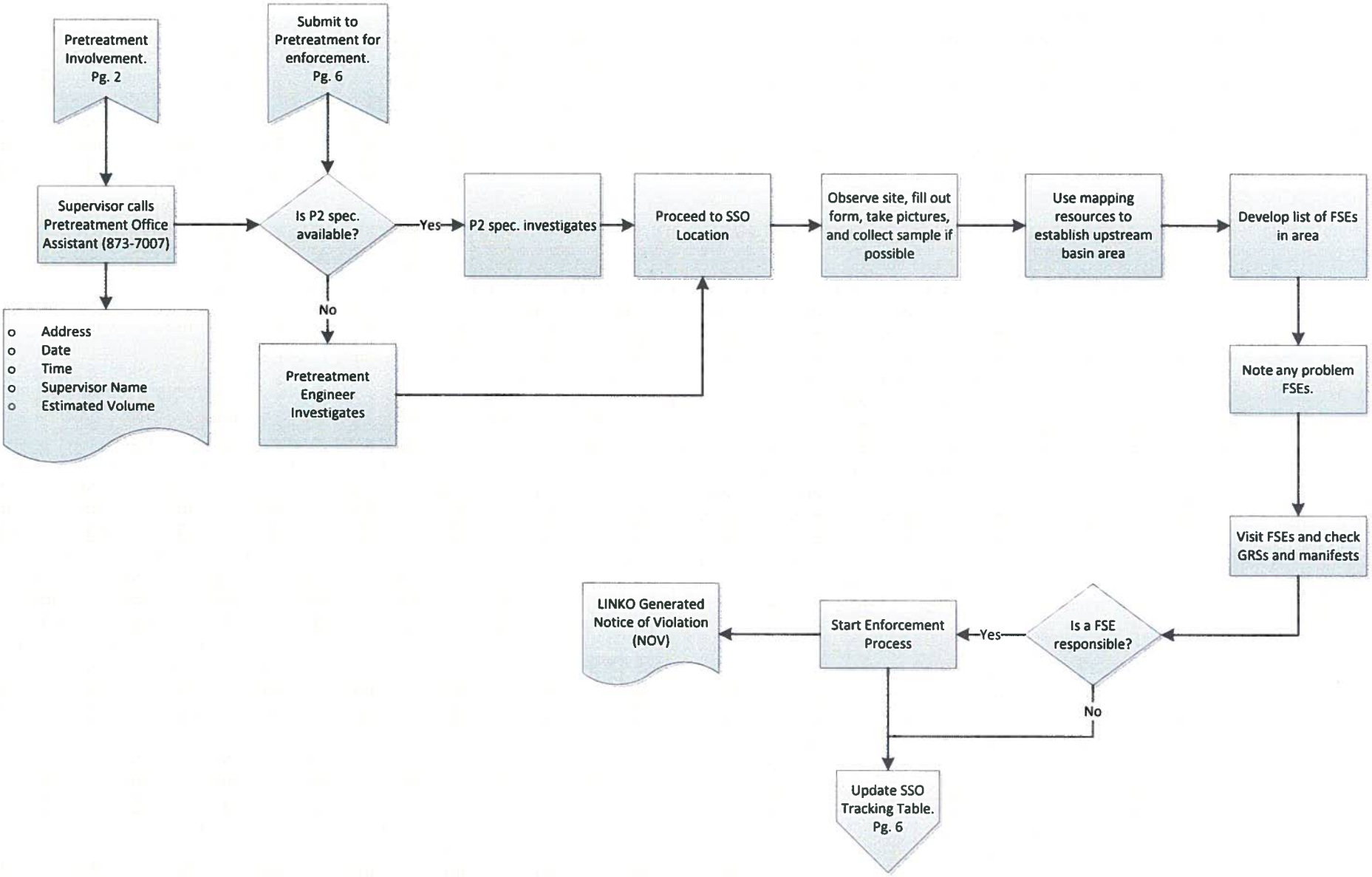
1. A sewage spill that:

a. Is ponded for more than 24 hours and,

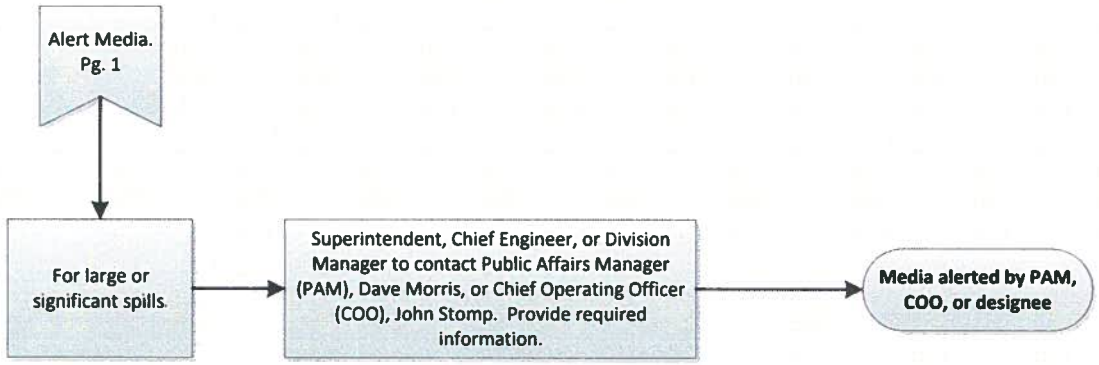
b. At a depth of more than 12 inches over an area of more than 0.1 acre.

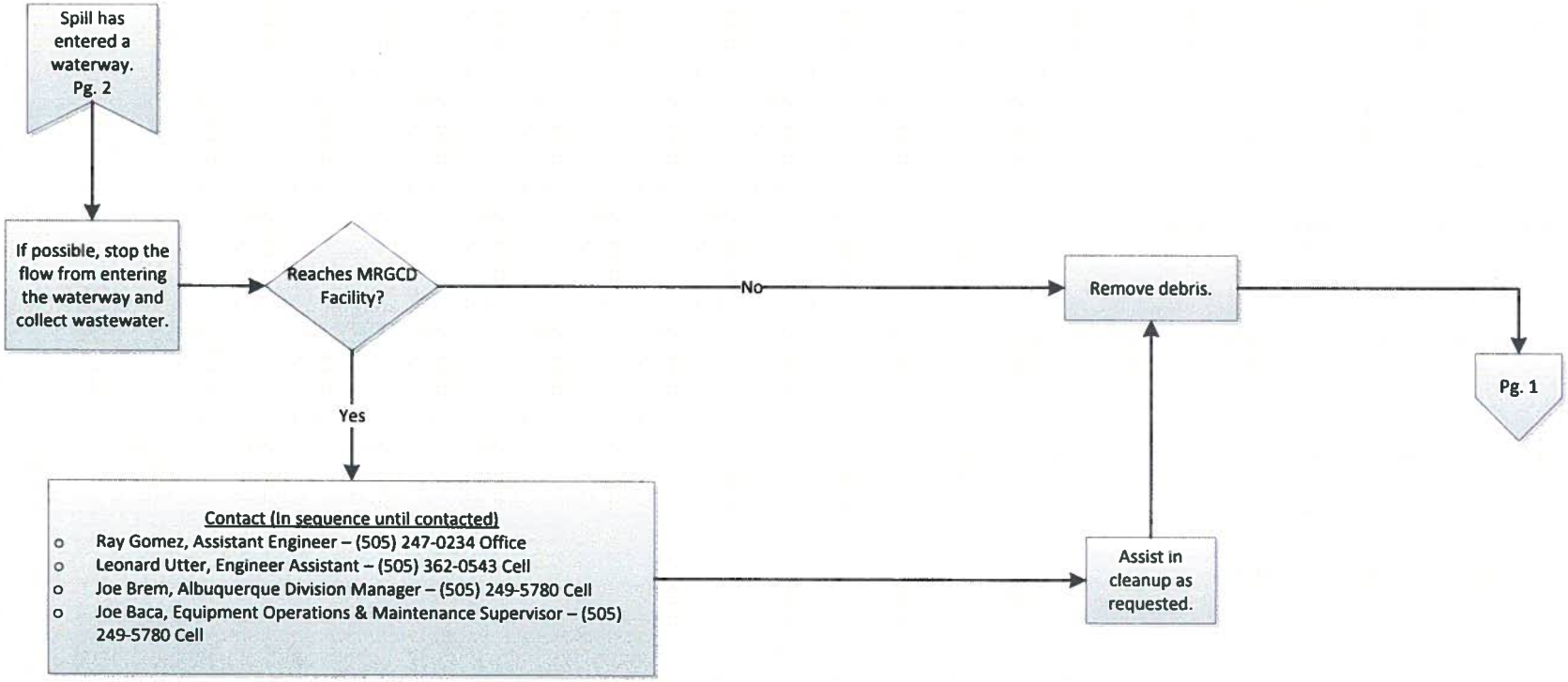
The normal 24-hour call to NMED Surface Water is presumed to meet the requirement for a 24-hour notification to the GWQB. The Collection Section Manager shall be notified and shall be responsible for preparing the following additional reporting:

1. One week written report. Presumed the same as the five day report provided to NMED Surface Water.
2. 15-day Corrective Action Report.


Pretreatment Involvement. Pg. 2
Submit to Pretreatment for enforcement. Pg. 6
Supervisor calls Pretreatment Office Assistant (873-7007)
Is P2 spec. available?
Yes
P2 spec. investigates
Proceed to SSO Location
Observe site, fill out form, take pictures, and collect sample if possible
Use mapping resources to establish upstream basin area
Develop list of FSEs in area
Address
Date
Time
Supervisor Name
Estimated Volume
No
Pretreatment Engineer Investigates
Note any problem FSEs.
Visit FSEs and check GRSs and manifests
LINKO Generated Notice of Violation (NOV)
Start Enforcement Process
Yes
Is a FSE responsible?
No
Update SSO Tracking Table. Pg. 6

Note: Process shown is for typical spills. Some spills may require a joint response with the City of Albuquerque in which the spill is captured, treated, and determined appropriate for release.


Alert Media. Pg. 1
For large or significant spills.
Superintendent, Chief Engineer, or Division Manager to contact Public Affairs Manager (PAM), Dave Morris, or Chief Operating Officer (COO), John Stomp. Provide required information.
Media alerted by PAM, COO, or designee


Spill has entered a waterway. Pg. 2
If possible, stop the flow from entering the waterway and collect wastewater.
Reaches MRGCD Facility?
No
Remove debris.
Pg. 1
Yes
Contact (In sequence until contacted)
Ray Gomez, Assistant Engineer – (505) 247-0234 Office
Leonard Utter, Engineer Assistant – (505) 362-0543 Cell
Joe Brem, Albuquerque Division Manager – (505) 249-5780 Cell
Joe Baca, Equipment Operations & Maintenance Supervisor – (505) 249-5780 Cell
Assist in cleanup as requested.

Appendix 4 Self-Assessment

CAPACITY, MANAGEMENT, OPERATION AND MAINTENANCE (CMOM) PROGRAM SELF-ASSESSMENT

September 26, 2014

Albuquerque Bernalillo County
Water Utility Authority

CAPACITY, MANAGEMENT, OPERATION AND MAINTENANCE (CMOM) Program Self-Assessment

Albuquerque Bernalillo County Water Utility Authority Self-Audit

Compiled By
Mark S. Holstad, PE
Collection Section Manager

Table of Contents

Executive Summary

This is a Self-Assessment (Self-Audit) of the Albuquerque Bernalillo County Water Utility Authority (Water Authority) Collection System. This Self-Audit is required by the Water Authority's Corrective Action Plan to EPA, dated November 19, 2012. This Self-Audit is a part of the Capacity, Management, Operation and Maintenance (CMOM) Plan that is to be submitted to EPA by October 1, 2014.

A Self-Audit is encouraged by EPA as part of a CMOM. See EPA link: http://cfpub.epa.gov/npdes/sso/featuredinfo.cfm?program_id=4 . Near the bottom of this web page, under "CMOM Program Self-Assessment Checklist" the following link provides a pdf document: http://www.epa.gov/npdes/pubs/cmomselfreview.pdf. This document from EPA includes a discussion of what CMOM is, and how to use this checklist (Self-Audit).

This Self-Audit format is based on the EPA template found at: www.epa.gov/npdes/sso. The pdf was converted to Word for editing. The basic format and structure were kept and portions were modified as appropriate to the Water Authority system.

This Self-Audit :

1. Provides an overview of several aspects of the Water Authority Collection System.
2. Identifies areas for improvement.

General Information

Utility Contact Information

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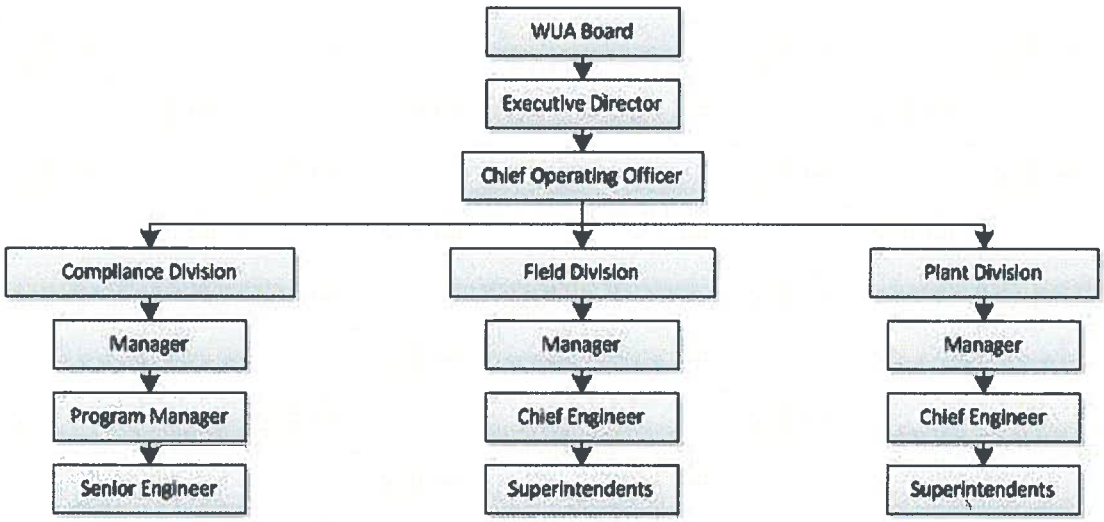
jnogales@abcwua.org



Permitted Treatment, Collection Facilities, and Collection Systems

NPDES Permit # NM0022250

Collection System Description

System Inventory

Note: The system has not changed significantly since the FY2013 report, therefore this portion of the Self-Assessment is not changed, with the exception that decreasing flow rates, average daily and average dry weather, are noted.

Treatment Facilities

# of Treatment Facilities	2 NUMBER	WWTP design capacity	76 MGD
Average Daily Flow	50 MGD	Average dry weather flow	50 MGD

Access & Maintenance

Manholes	46,899 NUMBER	Number of air vacuum relief valves	48 NUMBER

Conveyance & Pumping

			Pump Stations			Vacuum Stations		
	Gravity Sewers		Stations	Force Mains		Stations	Vacuum Lines	Force Mains
Pipes and pumps: Length/quantity	2,209+		34	36.5+		10	154+	14.5+
	MILES		NUMBER	MILES		NUMBER	MILES	MILES
Age of system: 0-25 years old	42.4%		24#	80.8%		10	100%	100.0%
	PERCENT		NUMBER	PERCENT		NUMBER	PERCENT	PERCENT
26-50 years old	38.0%		9#	18.8%		N/A	0	0
	PERCENT		NUMBER	PERCENT		NUMBER	PERCENT	PERCENT
51-75 years old	18.9%		13#	0.4%		N/A	0	0
	PERCENT		NUMBER	PERCENT		NUMBER	PERCENT	PERCENT
>75 years old	0.7%		N/A	N/A		N/A	0	0
	PERCENT		NUMBER	PERCENT		NUMBER	PERCENT	PERCENT
Number of Inverted siphons	8							
	NUMBER							

Service Area Characteristics

Service area	303	Service population	606,000
	SQ. MILES		PEOPLE
Annual precipitation	8.67 inches*		
	NUMBER		

Notes

+ Total pipe length 2414 miles is used for computing the SSO Rate.

Ages are based on installation dates. Older facilities have been upgraded and rehabilitated.

* http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nmalbu

Number of Service Connections

Residential	172,951 NUMBER	Commercial	9,773 NUMBER
Industrial	96 NUMBER	Residential + Commercial + Industrial = Total	182,820 NUMBER

Collection system service lateral responsibility (check one)	
At main line connection only	
From main line to property line or easement/cleanout	
Beyond property line/clean out	
Other: Main line only. Not connection	X
Comments: See Water Authority Sewer Use and Wastewater Control Ordinance	

Combined Sewer System

What percent of sewer system is served by combined sewers (i.e., sanitary sewage and storm water in the same pipe)?	0 % PERCENT

Pipe Diameter

	Gravity Sewers	Force Mains	Vacuum Lines
8 inches or less	82.6% PERCENT	69.5% PERCENT	99.4% PERCENT
9 - 18 inches	11.0% PERCENT	18.8% PERCENT	0.6% PERCENT
19 - 36 inches	3.8% PERCENT	11.7% PERCENT	N/A PERCENT
> 36 inches	2.6% PERCENT	N/A PERCENT	N/A PERCENT

Pipe Materials

	Gravity Sewers	Force Mains	Vacuum Lines
Prestressed concrete cylinder pipe (PCCP)	N/A	N/A	N/A
	PERCENT	PERCENT	PERCENT
High density polyethylene (HDPE)	5.3%	N/A	N/A
	PERCENT	PERCENT	PERCENT
Reinforced concrete pipe (RCP)	3.7%	N/A	N/A
	PERCENT	PERCENT	PERCENT
Polyvinyl Chloride (PVC)	39.8%	84.7%	100.0%*
	PERCENT	PERCENT	PERCENT
Vitrified Clay Pipe	32.0%	N/A	N/A
	PERCENT	PERCENT	PERCENT
Ductile iron	0.7%	12.7%	N/A
	PERCENT	PERCENT	PERCENT
Non-reinforced concrete pipe	13.2%	N/A	N/A
	PERCENT	PERCENT	PERCENT
Asbestos cement pipe	1.3%	N/A	0.0%*
	PERCENT	PERCENT	PERCENT
Cast iron	0.3%	2.6%	0.0%
	PERCENT	PERCENT	PERCENT
Brick	N/A	N/A	N/A
	PERCENT	PERCENT	PERCENT
Fiberglass	0.4%	N/A	N/A
	PERCENT	PERCENT	PERCENT
> 36 inches	3.4%	N/A	0.0%*
	PERCENT	PERCENT	PERCENT

*GIS indicates a small quantity of asbestos cement (0.13%) and unknown (0.07%) that are likely PVC.

Engineering Design (ED)

	Checklist Item	Yes	No	N/A
ED-01	Is there a document which includes design criteria and standard construction details?	X		
	Comments:			
ED-02	Is there a document that describes the procedures that the utility follows in construction design review?	X		
	Comments:			
ED-03	Are WWTP and O&M staff involved in the design review process?	X		
	Comments:			
ED-04	Is there a procedure for testing and inspection new or rehabilitated system elements both during and after the construction is completed?	X		
	Comments:			
ED-05	Are construction sites supervised by qualified personnel (such as professional engineers or certified engineering technicians) to ascertain that the construction is taking place in accordance with agreed upon plans and specifications?	X		
	Comments:			
ED-06	Are new manholes tested for inflow and infiltration?	X		
	Comments:			
ED-07	Are new gravity sewers checked using closed circuit TV inspection?	X		
	Comments: However, post-construction CCTV video and observations are not stored in Maximo for later use.			
ED-08	Does the utility have documentation on private service lateral design and inspection?		X	
	Comments:			
ED-09	Does the utility attempt to standardize equipment and sewer system components?	X		
	Comments: E.g., Flygt pumps and Vactor combination units.			

Satellite Communities and Sewer Use Ordinance (SUO)

Checklist Item		Yes	No	N/A
SUO-01	Does the utility receive flow from satellite communities? IF NO, GO TO NEXT SECTION	X		
	Comments:			
SUO-02	What is the total area from satellite communities that contribute flow to the collection system? *(Acres or square miles)*			
	Comments: Sandia Heights = 1,912 acres; KAFB = 50,352 acres; Tierra West = 102 acres; Village of Tijeras = 20 acres Total acreage = 52,386			
SUO-03	Does the utility require satellite communities to enter into an agreement? IF NO, GO TO QUESTION SUO-06	X		
	Comments: Pursuant to the utility's System Expansion Ordinance, all developments or communities are required to enter into a development agreement for service.			
SUO-04	Does the agreement include the requirements listed in the sewer use ordinance?	X		
	Comments: Agreements state that the user is subject to the ordinances, policies and regulations of the Water Authority and payment of the rates and charges imposed by the Water Authority for wholesale wastewater service. Therefore, all requirements are in current ordinances.			
SUO-05	Do the agreements have a date of termination and allow for renewal under different terms?		X	
	Comments: These agreements are in effect unless one of the parties desires to terminate the agreement.			
SUO-06	Does the utility maintain a legal authority to control the maximum flow introduced into the collection system from satellite communities?		X	
	Comments: This is not considered a problem in the Water Authority system. Systems are sized to receive the maximum possible for the development density. The flows are typically metered and/or the user is billed based on the Water and Sewer Rate Ordinance.			
SUO-07	Are standards, inspections, and approval for new connections clearly documented in a SUO?	X		
	Comments: Significant industrial users are required to do so as a condition of their Wastewater Discharge Permit.			
SUO-08	Does the SUO require satellite communities to adopt the same industrial and commercial regulatory discharge limits as the utility?	X		
	Comments: Each contract requires the satellite system to comply with all appropriate ordinances, including the SUO.			

Checklist Item		Yes	No	N/A
SUO-09	Does the SUO require satellite communities to adopt the same inspection and sampling schedules as required by the pretreatment ordinance?	X		
	Comments: Each contract requires the satellite system to comply with all appropriate ordinances, including the SUO.			
SUO-10	Does the SUO require that satellite communities or the utility to issue control permits for significant industrial users?	X		
	Comments: Each contract requires the satellite system to comply with all appropriate ordinances, including the SUO.			
SUO-11	Does the SUO contain provisions for addressing overstrength wastewater from satellite communities?	X		
	Comments: Each contract requires the satellite system to comply with all appropriate ordinances, including the SUO.			
SUO-12	Does the SUO contain procedures for the following?			
	Inspection standards			X
	Pretreatment requirements	X		
	Building/sewer permit issues	X		
	Comments: Inspection forms are a Pretreatment requirement and are part of the Water Authority Pretreatment Program.			
SUO-13	Does the SUO contain general prohibitions of the following materials?			
	Fire and explosion hazards	X		
	Corrosive materials	X		
	Obstructive materials	X		
	Oils or petroleum	X		
	Material which may cause interference at the wastewater treatment plant	X		
	Comments:			
SUO-14	Does the SUO contain procedures and enforcement actions for the following?			
	Fats, oils, and grease (FOG)	X		
	Infiltration and inflow	X		
	Building structures over the sewer lines			X
	Storm water connections to sanitary lines (downspouts)	X		
	Defects in service laterals located on private property			X
	Sump pumps, air conditioner connections	X		
	Comments: Service lines are private property and as such fall under the jurisdiction of the code enforcement of the governing entity for each industry.			

Organizational Structure (OC)

Checklist Item		Yes	No	N/A
OC-01	Is an organizational chart available that shows the overall personnel structure for the utility, including operation and maintenance staff?	X		
	Comments: Yes. The Water Authority's Human Resources Division maintains an organization chart for all employees in a program called OrgPlus9 which is available on the utility's SharePoint site.			
OC-02	Are up-to-date job descriptions available that delineate responsibilities and authority for each position?	X		
	Comments:			
OC-03	Are the following items discussed in the job descriptions?			
	Nature of work to be performed	X		
	Minimum requirements for the position	X		
	Necessary special qualifications or certifications	X		
	Examples of the type of work	X		
	List of licenses required for the position	X		
	Performance measures or promotion potential			X
	Comments: Performance measures are part of the Employee Performance Evaluation process which is based on competencies aligned with the utility's organization strategies.			
OC-04	What percent of staff positions are currently vacant?	6.25		
	Comments:			
OC-05	On average how long do positions remain vacant? *(months)*	2.5		
	Comments:			
OC-06	What percent of utility work is contracted out?	Varies		
	Comments: 0% Preventive maintenance cleaning. Most pipe rehab is contracted out. In-house construction crews replace manhole covers and perform some pipe repairs.			

Internal Communications (IC)

	Checklist Item	Yes	No	N/A
IC-01	Which of the following methods are used to communicate with utility staff?			
	Regular meetings	X		
	Bulletin boards	X		
	E-mail	X		
	Other (walkie talkie/pager)	X		
	Comments: SharePoint provides up-to-date news and events. The employee newsletter called the Flow is published and provided on a monthly basis. Bulletin boards are used to keep employees informed of programs. The Public Affairs Manager keeps all employees informed on recent events related to the Water Authority. Employee Online is where employee checks, benefits, W-2, Forms and other employment information now reside.			
IC-02	How often are the staff meetings held? *(e.g., Daily, Weekly, Monthly, etc.)*			
	Comments: Collection section meetings are typically scheduled every 2-3 weeks.			
IC-03	Are incentives offered to employees for performance improvements?	X		
	Comments:			
IC-04	Does the utility have an "Employee of the Month/Quarter/Year" program?	X		
	Comments: Every quarter, employees can submit Employee of the Quarter nominations. An internal panel reviews the nominations and allocates reward money and/or vacation time.			
IC-05	How often are performance reviews conducted? *(e.g. Semi-annually, Annually, etc.)*			
	Comments: Annually.			
IC-06	Does the utility regularly communicate/coordinate with other municipal departments?	X		
	Comments:			

Budgeting (BUD)

	Checklist Item	Yes	No	N/A
BUD-01	What is the average annual fee for residential users?			
	Comments: Water = $293.40; Sewer = $210.72 for 6,000 gallons			
BUD-02	How often are user charges evaluated and adjusted? *(e.g. annually, biannually. etc.)*			X
	Comments: Every two years, the utility reviews and updates its rates based on a rate study which is reviewed by the utility's Customer Advisory Committee which is received by the utility governing board. User charges may be adjusted every two to three years. Connection charges (UEC) and water supply charges may be adjusted annually by building cost or construction cost indices.			
BUD-03	Are utility-generated funds used for non-utility programs?		X	
	Comments: The Water Authority is a state created entity separate from any other governmental entity. The utility operates similar to an enterprise fund. Therefore, no utility-generated funds are used for non-utility programs.			
BUD-04	Are costs for collection system operation and maintenance (O&M) separated from other utility services such as water, storm water, and treatment plants? IF NO, GO TO BUD-07	X		
	Comments:			
BUD-05	What is your average annual (O&M) budget?			
	Comments: $6.35 million (Collection Section)			
BUD-06	What percentage of the utility's overall budget is allocated to maintenance of the collection system?			
	Comments: Total collections budget is $6,954,416 which is 3.6% of the overall Utilities Operating Budget.			
BUD-07	Does the utility have a Capital Improvement Plan (CIP) that provides for system repairs/replacements on a prioritized basis?	X		
	Comments: The Water Authority has a ten year CIP that is updated every two years. Replacement/Rehabilitation is based on a risk assessment based on the probability and consequence of failure. In addition, the Water Authority completed a comprehensive Asset Management Plan for all utility assets in 2011. Moreover, the utility developed a ten-year asset management plan for the sanitary sewer system lines in 2011.			
BUD-08	What is your average annual CIP budget?			
	Comments: Currently total average annual basic CIP Budget is $43 million.			

BUD-09	What percentage of the maintenance budget is allotted to the following maintenance?			
	Predictive maintenance - tracking design, life span, and scheduled parts replacements	11%		
	Preventive maintenance - identifying and fixing system weakness which, if left unaddressed, could lead to overflows	66%		
	Corrective maintenance - fixing system components that are functioning but not at 100% capacity/efficiency; for example partially blocked lines	13%		
	Emergency maintenance - reactive maintenance, overflows, equipment breakdowns	6%		
	Comments: Approximate ratios based on assignments of staff within Collection Section.			
BUD-10	Does the utility have a budgeted program for the replacement of under-capacity pipes?			X
	Comments:			
BUD-11	Does the utility have a budgeted program for the replacement of over-capacity pipes?			X
	Comments:			

Training (TR)

	Checklist Item	Yes	No	N/A
TR-01	Does the utility have a formal job knowledge, skills, and abilities (KSA) training program?	X		
	Comments: Formal training programs are available for the Wastewater workersand new supervisors.			
TR-02	Does the training program address the fundamental mission, goals, and policies of the utility?	X		
	Comments:			
TR-03	Does the utility have mandatory training requirements identified for key employees?	X		
	Comments: Supervisor training (see above). Also maintain required licenses or certifications, e.g., PE or Operator Certification.			
TR-04	What percentage of employees met or exceeded their annual training goals during the past year?			
	Comments: Typically 100% of personnel requiring Water Authority training receive that training.			

	Checklist Item	Yes	No	N/A
TR-05	Does the utility provide training in the following areas? (See Comments)			
	Safety	X		
	Routine line maintenance	X		
	Confined space entry	X		
	Traffic control	X		
	Record keeping	X		
	Electrical and instrumentation			X
	Pipe repair	X		
	Bursting / CIPP	X		
	Public relations		X	
	SSO/Emergency response	X		
	Pump station operations and maintenance	X		
	CCTV and trench/shoring	X		
	Other			
	Comments: Answer for Collection Section. Formal training is provided through the wastewater workers training program. Specialized training is also provided through attendance at workshops, equipment shows, factory training, etc.			
TR-06	Are operator and maintenance certification programs used? IF NO GO TO TR-08	X		
	Comments: For appropriate personnel.			
TR-07	Are operator and maintenance certification programs required?	X		
	Comments: For appropriate personnel.			
TR-08	Is on-the-job training progress and performance measured?	X		
	Comments: For affected personnel.			
TR-09	Which of the following methods are used to assess the effectiveness of the training?			
	None	X		
	Periodic testing	X		
	Drills	X		
	Demonstrations	X		
	Comments:			
TR-10	What percentage of the training offered by the utility is in the form of the following?			
	Manufacturer training	10%		
	On-the-job training	40%		
	In-house classroom training	40%		
	Industry-wide training	10%		

	Checklist Item	Yes	No	N/A
	Comments: Approximate			

Safety (SAF)

	Checklist Item	Yes	No	N/A
SAF-01	Does the utility have a written safety policy?	X		
	Comments:			
SAF-02	How often are safety procedures reviewed and revised?			
	Annually			X
	Quarterly			X
	Comments: As appropriate.			
SAF-03	Does the utility have a safety committee?	X		
	Comments:			
SAF-04	Are regular safety meetings held with the utility employees?	X		
	Comments:			
SAF-05	Does the utility have a safety training program?	X		
	Comments:			
SAF-06	Are records of employee safety training kept up to date?	X		
	Comments:			
SAF-07	Does the utility have written procedures for the following?			
	Lockout/tagout	X		
	Material safety data sheets (MSDS)	X		
	Chemical handling	X		
	Confined spaces permit programs	X		
	Trenching and excavations safety	X		
	Biological hazards in wastewater	X		
	Traffic control and work site safety	X		
	Electrical and mechanical systems	X		
	Pneumatic and hydraulic system safety	X		
	Comments: Written procedures are utilized in the training that every Wastewater Worker receives through the Water Authority's in-house training program. However, SOPs need to be developed for use by staff.			
SAF-08	What is your agency's lost-time injury rate?			
	Comments: The Water Authority Employee Health & Safety Severity Rate is 40.			
SAF-09	Are the following equipment items available and in adequate supply?			
	Rubber/disposable gloves	X		
	Confined space ventilation equipment	X		
	Hard hats, safety glasses, rubber boots	X		
	Antibacterial soap and first aid kit	X		

	Checklist Item	Yes	No	N/A
	Tripods or non-entry rescue equipment	X		
	Fire extinguishers	X		
	Equipment to enter manholes	X		
	Portable crane/hoist	X		
	Atmospheric testing equipment and gas detectors	X		
	Oxygen sensors	X		
	H2S Monitors	X		
	Full body harness	X		
	Protective clothing	X		
	Traffic/public access control equipment	X		
	5-minute escape breathing devices		X	
	Life preservers for lagoons	X		
	Life preservers at activated sludge plants	X		
	Fiberglass or wooden ladders for electrical work	X		
	Respirators and/or self-contained breathing apparatus	X		
	Methane gas or optical vector (OVA) analyzer	X		
	Lower explosion limit (LEL) metering	X		
	Comments:			
SAF-10	Are safety monitors clearly identified?	X		
	Comments: Presume this is in reference to H2S monitoring equipment. In the AVOPS group, each Operator has own gas detector that is regularly calibrated. In the Gravity group, gas detectors are checked out from the Warehouse which is responsible for calibrating and maintaining the battery charge. The Warehouse also provides this service for gas detectors used by SWRP staff.			

Customer Service (CS)

	Checklist Item	Yes	No	N/A
CS-01	Does the utility have a customer service and public relations program? IF NO GO TO CS-03	X		
	Comments: The Water Authority has a customer service division, dispatch, and a public affairs manager.			
CS-02	Does the customer service program include giving formal presentations on the wastewater field to the following?			
	Schools and universities	X		
	Community gatherings	X		
	Local officials	X		
	Businesses	X		

	Checklist Item	Yes	No	N/A
	Media	X		
	Citizens	X		
	Building Inspector(s)	X		
	Public utility officials	X		
	Comments: The Water Authority's education program provides formal presentations on the whole wastewater system.			
CS-03	Are employees of the utility specifically trained in customer service?	X		
	Comments: Particularly in Dispatch and Customer Services.			
CS-04	Are there sample correspondence, Q/A's, or "scripts" to help guide staff through written or oral responses to customers?	X		
	Comments: Customer Care Representatives are provided "quick scripts" and trained in the use thereof.			
CS-05	What methods are used to notify the public of major construction or maintenance work?			
	Door hangers	X		
	Public radio or T.V. announcements		X	
	Newspaper		X	
	Fliers	X		
	Signs	X		
	Other			X
	None			X
	Comments: Answers for typical projects.			
CS-06	Is a homeowner notified prior to construction that his/her property may be affected?	X		
	Comments:			
CS-07	Do you provide information to residents on cleanup and safety procedures following basement backups and overflows from manholes when they occur?	X		
	Comments: In the event of a spill into private property that is determined to be caused by a blockage in the Water Authority main, the resident is immediately contacted and given a list of companies that can perform the required cleanup. The Water Authority assures that the company is hired and paid.			
CS-08	Does the utility have a customer service evaluation program to obtain feedback from the community?	X		
	Comments:			
CS-09	Do customer service records include the following information?			
	Personnel who received the complaint or request	X		
	Nature of the complaint or request	X		

	Checklist Item	Yes	No	N/A
	To whom the follow-up action was assigned	X		
	Date of the complaint or request	X		
	Date the complaint or request was resolved	X		
	Total days to end the problem	X		
	Name, address, and telephone number of the customer	X		
	Location of the problem	X		
	Date the follow up action was assigned	X		
	Cause of the problem	X		
	Feedback to customer	X		
	Comments: Answer for calls to Dispatch.			
CS-10	Does the utility have a goal for how quickly customer complaints (or emergency calls) are resolved? IF NO, GO TO NEXT SECTION			X
	Comments: This is not considered a problem in the Water Authority system. Many types of calls are received. Emergency items are addressed and resolved immediately. Odor complaints are addressed immediately or the next day, depending on the type. Information requests, e.g. service line location, and roach spraying are scheduled.			
CS-11	What percentage of customer complaints (or emergency calls) are resolved within the timeline goals?			X
	Comments: This is not considered a problem in the Water Authority system. All emergency calls are issued from Dispatch immediately and a crew is immediately sent to address the issue.			

Equipment and Collection System Maintenance (ESM)

	Checklist Item	Yes	No	N/A
ESM-01	Is a maintenance card or record kept for each piece of mechanical equipment within the collection system? IF NO, GO TO ESM-03	X		
	Comments: A modern CMMS program (Maximo) has replaced old style cards.			
ESM-02	Do equipment maintenance records include the following information?			
	Maintenance recommendations	X	X	
	Instruction on conducting the specific maintenance activity	X	X	
	Other observations on the equipment	X	X	
	Maintenance schedule	X	X	
	A record of maintenance on the equipment to date	X	X	
	Comments: Maximo will include all the above. However, population data is a work in progress and is not complete at all stations.			
ESM-03	Are dated tags used to show out-of-service equipment?	X		
	Comments: Typical practice is to remove out-of-service equipment for repair or to identify with a LOTO (Lock Out Tag Out) tag.			
ESM-04	Is there an established system for prioritizing equipment maintenance needs?	X		
	Comments: Plant Maintenance uses a Priority 1-5 system for CM work orders to serve the Collection Section. The entire rehab program is risk based per the Water Authority's Asset Management program. PACP is used for all CCTV inspections => populates Maximo => assigns cleaning tools.			
ESM-05	What percent of repair funds are spent on emergency repairs?			
	Comments: Answer varies by component. Pump station repairs have not been due to failure, therefore 0%. Piping repairs may be identified due to failure, therefore, 20-75%			
ESM-06	Are collective repair work orders backlogged more than six months?	X	X	
	Comments: No for high priority, i.e. priority 4 and 5. Yes for lower priority items.			
ESM-07	Do collection system personnel coordinate with state, county, and local personnel on repairs, before the street is paved?	X		
	Comments: Work in streets requires a barricade permit. Pavement is replaced by a licensed contractor.			

Equipment Parts (EPI)

	Checklist Item	Yes	No	N/A
EPI-01	Have critical spare parts been identified?	X		
	Comments: Examples Are: A stockpile of root saws is maintained. Selected replacement pumps.			
EPI-02	Are adequate supplies on hand to allow for two point repairs in any part of the system?	X	X	
	Comments: Depends on the repair. Yes for replacing a pipeline break.			
EPI-03	Is there a parts standardization policy in place?	X	X	
	Comments: Depends on the part. All pumps are Flygt.			
EPI-04	Does the utility have a central location for storing spare parts?	X		
	Comments: Location varies. Many parts are stored at the warehouse. Construction materials are stored in a covered and locked location.			
EPI-05	Does the utility maintain a stock of spare parts on its maintenance vehicles?	X		
	Comments:			
EPI-06	Does the utility have a system in place to track and maintain an accurate inventory of spare parts?		X	
	Comments: Utility is currently in the process developing a way of keeping inventory through the use of Maximo.			
EPI-07	For those parts which are not kept in inventory, does the utility have a readily available source or supplier?	X		
	Comments:			

Management Information System (MIS)

	Checklist Item	Yes	No	N/A
MIS-01	Does the utility have a management information system (MIS) in place for tracking maintenance activities? *(Either electronic or good paper files)* IF NO, GO TO NEXT SECTION	X		
	Comments: Maximo			
MIS-02	Are the MIS records maintained for a period of at least three years?	X		
	Comments: Maximo			
MIS-03	Is the MIS able to distinguish activities taken in response to an overflow event?	X		
	Comments:			

MIS-04 Are there written instructions for managing and tracking the following information? (See Comments)

a. Complaint work orders	X		
b. Scheduled work orders	X		
c. Customer service		X	
d. Scheduled preventive maintenance	X		
e. Scheduled inspections	X		
f. Sewer system inventory	X		
g. Safety incidents	X		
h. Scheduled monitoring/sampling	X		
i. Compliance/overflow tracking	X		
j. Equipment/tools tracking	X		
k. Parts inventory	X		

Comments:
Answers are for the Collection Section. Answers will differ for other portions of the Water Authority.

a. Flow chart for Maximo work orders
b. General Maximo work order process flow chart
c. For Dispatch, a high-level SOP is in development. Also, see comment for MIS-05.
d. General Maximo work order process flow chart
e. General Maximo work order process flow chart
f. General Maximo work order process flow chart
g. In worker's comp data base.
h. Pretreatment does have a method of scheduling monitoring of Grease Removal Devices (GRDs) but does not sample them. Pretreatment does monitoring and sampling of industrial users for which written procedures (SOPs) are used and samples are scheduled and tracked in LINKO.
i. Flow charts
j. Each person responsible for Pump Station maintenance, are provided a hand tool allowance and are responsible for those tools.
k. The Warehouse maintains minimum inventory of specific parts.

MIS-05 Do the written instructions for tracking procedures include the following information?

Accessing data and information	X		
Instructions for using the tracking system	X		
Updating the MIS	X		
Developing and printing reports	X		

Comments: Written instructions are contained in the "Maximo 6.2.5 Work Order User Guide" that is used in training new Maximo users. However, no written guide can keep up with the continuing updates and modifications of a

	modern CMMS like Maximo. The Collection Section Planner/Scheduler/Assistant Superintendent is a Maximo "Super User" and, along with WUA-IT, is responsible and available to train and mentor the Collection Section staff.			
MIS-06	How often is the management information system updated?			
	Immediately	X		
	Monthly			
	Within one week of the "incident"			
	As time permits			
	Comments: Upon receipt of a public report, e.g., an SSO, Dispatch creates a Service Request. This updates Maximo.			

System Mapping (MAP)

	Checklist Item	Yes	No	N/A
MAP-01	Are "as built" plans (record drawings) or maps available for use by field crews in the office and in the field?	X		
	Comments: Record drawings are available via Image Repository. Currently this requires logging in at the office.			
MAP-02	Is there a procedure for field crews to record changes or inaccuracies in the maps and update the mapping system?	X		
	Comments: This is reported to and updated by the in-house Research Analyst.			
MAP-03	Do the maps show the date the map was drafted and the date of the last revision?			X
	Comments: GIS mapping is via computer access.			
MAP-04	Do the sewer line maps include the following? (See comments)			
	Scale	X		
	North arrow	X		
	Date the map was drafted			X
	Date of last revision			X
	Service area boundaries	X		
	Property lines	X		
	Other landmarks (Roads, water bodies, etc.)	X		
	Manhole and other access points	X		
	Location of building laterals		X	
	Street names	X		
	SSOs occurrences/CSOs outfalls		X	
	Flow monitors			X
	Force mains	X		
	Pump stations	X		
	Lined sewers	X		

	Checklist Item	Yes	No	N/A
	Main, trunk, and interceptor sewers	X		
	Easement lines and dimensions		X	
	Pipe material	X		
	Pipe diameter	X		
	Installation date	X		
	Slope	X		
	Manhole rim elevation	X		
	Manhole coordinates	X		
	Manhole invert elevation	X		
	Distance between manholes	X		
	Comments: Answers are for the GIS-based mapping accessed using mobile devices. For clarity in field use, some items, e.g., manhole coordinates are not shown but are available.			
MAP-05	Are the following sewer attributes recorded?			
	Size	X		
	Shape	X		
	Invert elevation	X		
	Material	X		
	Separate/combined sewer			X
	Installation date	X		
	Comments: In GIS			
MAP-06	Are the following manhole attributes recorded?			
	Shape	X		
	Type (e.g., precast, cast in place, et.)	X		
	Depth	X		
	Age	X		
	Material	X		
	Comments: In GIS			
MAP-07	Is there a systematic numbering and identification method/system established to identify sewer system manhole, sewer lines, and other items (pump station, etc.)	X		
	Comments:			

Internal TV Inspection (TVI)

	Checklist Item	Yes	No	N/A
TVI-01	Does the utility have a standardization pipeline condition assessment program?	X		
	Comments: PACP			
TVI-02	Is internal TV inspection used to perform condition assessment? IF NO, GO TO NEXT SECTION	X		
	Comments:			
TVI-03	Are there written operation procedures and guidelines for the internal TV inspection program?	X		
	Comments:			
TVI-04	Do the internal TV record logs include the following?			
	Pipe size, type, length, and joint spacing	X	X	
	Distance recorded by internal TV	X		
	Results of the internal TV inspection (including a structural rating)	X	X	
	Internal TV operator name	X		
	Cleanliness of the line	X		
	Location and identification of line being televised by manholes	X		
	Comments: Joint spacing is not recorded but can be determined from observation of the CCTV. Joint spacing is an issue for grouting programs, which are neither needed nor utilized in Albuquerque. See MAN-06 for further discussion. Structural rating is determined through the Asset Management program.			
TVI-05	Is a rating system used to determine the severity of the defects found during the inspection process?	X		
	Comments: PACP			
TVI-06	Is there documentation explaining the codes used for internal TV reporting?	X		
	Comments: PACP			
TVI-07	Approximately what percent of the total defects/issues determined by TV inspection during the past 5 years were the following?			
				Percent
	Debris			X
	Debris/Grease			X
	Debris/Roots			X
	Grease			X
	Grease/Roots/Debris			X
	Grease/Sag In Line			X
	Intruding Tap/Roots			X

	Checklist Item	Yes	No	N/A
	Intruding Tap			X
	Line Failure			X
	Offset Joint/Grease			X
	Roots			X
	Roots/Debris			X
	Roots/Grease			X
	Roots/Grease/Debris			X
	Roots/Intruding Tap			X
	Roots/Line Failure			X
	Surcharged			X
	Sag In Line/Debris			X
	Sag In Line/Grease			X
	Total			**X**
	Comments: This information is updated annually. See the current CMOM Annual Report.			
TVI-08	Are main line and lateral repairs checked by internal TV inspection after the repair(s) have been made?	X		
	Comments: Laterals are private and therefore repairs are typically the responsibility of property owner and not CCTVed after repair.			

Sewer Cleaning (CLN)

	Checklist Item	Yes	No	N/A
CLN-01	What is the system cleaning frequency? (the entire system is cleaned every "X" years)			
	Comments: As addressed in the 2013 Annual Report: The Sub-Basin cleaning rate equates to less than ten years. However, portions of the system are not included in the Sub-Basin program and need to be added...			
CLN-02	What is the utility's plan for system cleaning (% or frequency in years)?			
	Comments: As addressed in the 2013 Annual Report: The Water Authority commits to a goal to clean the entire small diameter gravity within the next ten years.			
CLN-03	What percent of the sewer lines are cleaned, even high/repeat cleaning trouble spots, during the past year?			
	Comments: As addressed in the 2013 Annual Report: The average cleaning rates for the past two years are 275 miles / year for Sub-Basin cleaning and 215 miles / year for Short Interval. The small diameter portion of the gravity system is approximately 1980 miles. This equates to approximately 25%.			

	Checklist Item	Yes	No	N/A
CLN-04	Is there a program to identify sewer line segments, with chronic problems, that should be cleaned on a more frequent schedule?	X		
	Comments: Short Interval			
CLN-05	Does the utility have a root control program?	X	X	
	Comments: Remove through periodic cleaning. No current foaming program.			
CLN-06	Does the utility have a fats, oils, and grease (FOG) program?	X		
	Comments:			
CLN-07	What is the average number of stoppages experienced per 100 miles of sewer pipe per year?			
	Comments: This information is updated annually. See the current CMOM Annual Report.			
CLN-08	Has the number of stoppages increased, decreased, or stayed the same over the past 5 years?			
	Increased			X
	Decreased			X
	Stayed the same			X
	Comments This information is updated annually. See the current CMOM Annual Report.			
CLN-09	Are stoppages plotted on maps and correlated with other data such as pipe size and material or location?	X		
	Comments: SSOs are carefully studied by the SSO Study Team and are correlated to many factors, including pipe parameters and location. Stoppages (10-40s, -42s, and -48s) are plotted using GIS.			
CLN-10	Do the sewer cleaning records include the following information?			
	Date and time	X		
	Cause of stoppage	X		
	Method of cleaning	X		
	Location of stoppage or routine cleaning activity	X		
	Identity of cleaning crew	X		
	Further actions necessary/initiated	X		
	Comments:			
CLN-11	If sewer cleaning is done by a contractor are videos taken before and after cleaning?	X		
	Comments:			

Manhole Inspection and Assessment (MAN)

	Checklist Item	Yes	No	N/A
MAN-01	Does the utility have a routine manhole inspection and assessment program? IF NO, GO TO MAN-06		X	
	Comments: Pipeline assessment is underway and is higher priority than manhole assessment.			
MAN-02	Are the results and observations from the routine manhole inspection recorded?			X
	Comments:			
MAN-03	Does the utility have a goal for the number of manholes inspected annually?			X
	Comments:			
MAN-04	How many manholes were inspected during the past year?			X
	Comments:			
MAN-05	Do the records for manholes/pipe inspection include the following?			
	Conditions of the frame and cover			X
	Evidence of surcharge			X
	Offsets or misalignments			X
	Atmospheric hazards measurements (especially hydrogen sulfide)			X
	Details on the root cause of cracks or breaks in the manhole or pipe including blockages			X
	Recording conditions of (corbel, walls, bench, trough, and pipe seals)			X
	Presence of corrosion			X
	If repair is necessary			X
	Manhole identifying number/location			X
	Wastewater flow characteristics (flowing freely or backed up)			X
	Accumulation of grease, debris, or grit			X
	Presence of infiltration, location, and estimated quantity			X
	Inflow from manhole covers			X
	Comments:			
MAN-06	Does the utility have a grouting program?		X	
	Comments: Grouting programs address infiltration at pipe joints. This would address a problem the Water Authority does not experience, therefore no.			

Pump Stations (PS)

	Checklist Item	Yes	No	N/A
PS-01	Are Standard Operating Procedures (SOPs) and Standard Maintenance Procedures (SMPs) used for each pump station?	X	X	
	Comments: Written SOPs are not available for operations. However, the Water Authority does have an Operator training program that standardizes procedures. SOJPs are utilized while making many of the standard maintenance repairs at the pump stations. Maintenance uses SMJP's for preventative and repetitive maintenance actions. All PM'S have a job plan attached to the work order. For corrective maintenance and repairs, the maintenance section uses general maintenance troubleshooting and product manufacturer's technical documents (equipment O&M Manuals).			
PS-02	Are there enough trained personnel to properly maintain all pump stations?	X		
	Comments:			
PS-03	Is there an emergency operating procedure for each pump station?		X	
	Comments:			
PS-04	Is there an alarm system to notify personnel of pump station failures and overflow?	X		
	Comments:			
PS-05	Percent of pump stations with backup power sources	100%		
	Comments: Four have standby generators on-site. The remainder have connections to portable generators.			
PS-06	Does the utility use the following methods when loss of power occurs?			
	On-site electrical generators	X		
	Portable electric generators	X		
	Vacuum trucks to bypass pump station	X		
	Alternate power source	X		
	Other			
	Comments:			
PS-07	Is there a procedure for manipulating pump operations (manually or automatically) during wet weather to increase in-line storage of wet weather flows?			X
	Comments:			
PS-08	Are wet well operating levels set to limit pump start/stops?	X		
	Comments:			
PS-09	Are the lead, lag, and backup pumps rotated regularly?	X		
	Comments:			
PS-10	Are operation logs maintained for all pump stations?	X		

	Checklist Item	Yes	No	N/A
	Comments:			
PS-11	Are the original manuals that contain the manufacturers recommended maintenance schedules for all pump station equipment easily available?	X	X	
	Comments: Gap. Will be adding to Maximo or Image Repository.			
PS-12	On average, how often were pump stations inspected during the past year?			X
	Comments: 3 times/week / per station is a reasonable estimate.			
PS-13	Are records maintained for each inspection?		X	
	Comments:			
PS-14	Average annual labor hours spent on pump station inspections			X
	Comments: This information is not available from the current CMMS.			
PS-15	Percent of pump stations with pump capacity redundancy	98%		
	Comments: All but one.			
PS-16	Percent of pump stations with dry weather capacity limitations	0%		
	Comments:			
PS-17	Percent of pump stations with wet weather capacity limitations	0%		
	Comments:			
PS-18	Percent of pump stations calibrated annually			
	Comments: 1) At the non-manhole stations, pump meters allow the Operator to periodically check the pump discharge and, if the rate drops, something needs to be fixed. Generally this is a wear ring. 2) In the AirVac system, pit controllers are routinely calibrated (approximately every work day) and balanced when a lack of vacuum is detected at the end of the system. Chart recorders are checked at each station during every Operator visit to check for vacuum levels.			
PS-19	Percent of pump stations with permanent flow meters	5%		
	Comments:			

Capacity Assessment (CA)

	Checklist Item	Yes	No	N/A
CA-01	Does the utility have a flow monitoring program?		X	
	Comments: The Water Authority does not have an on-going flow monitoring program. This is because a sewer model was developed which included flow monitoring throughout the system which was used for calibration. Additional flow rate monitoring has been obtained during rehab design. Flow rates do not change quickly enough to justify on-going monitoring.			
CA-02	Does the utility have a comprehensive capacity assessment and planning program?	X		
	Comments: The Water Authority owns and maintains a sewer model. This model has been calibrated to existing conditions and has the capability to project future flow conditions under various scenarios selected by the modeler.			
CA-03	Are flows measured prior to allowing new connections?			X
	Comments: There are no capacity limitations in the system that would make this appropriate.			
CA-04	Do you have a tool (hydraulic model, spreadsheet, etc.) for assessing whether adequate capacity exists in the sewer system? IF NO, GO TO CA-06.	X		
	Comments:			
CA-05	Does your capacity assessment tool produce results consistent with conditions observed in the system?	X		
	Comments:			
CA-06	What is the ratio of peak wet weather flow to average dry weather flow at the wastewater treatment plant?			
	Comments: No difference is noted by SWRP O&M.			
CA-07	How many permanent flow meters are currently in the system? *(Include meters at pump stations and wastewater treatment plants)*			
	Comments: There are four permanent ultrasonic meters at the SWRP. Two meters on the flow to the Primary Clarifiers provide a measurement of the flow into the SWRP. Two meters on the channels to the Rio Grande provide a measurement of flow discharged from the SWRP. There are also permanent mag meters at the two largest pump stations in the Collection System, i.e., LS24 and LS20.			
CA-08	How frequently are the flow meters checked?			
	Comments: Estimated at 1-2 times / year.			
CA-09	Do the flow meter checks include the following?			
	Independent water level			X
	Checking the desiccant			X
	Velocity reading		X	

Checklist Item		Yes	No	N/A
	Cleaning away debris			X
	Downloading data			X
	Battery condition			X
	Comments: The meters are checked per manufacturer recommendations.			
CA-10	Are records maintained for each inspection? IF NO, GO TO CA-12	X		
	Comments:			
CA-11	Do the flow monitoring records include the following?			
	Descriptive location of flow meter	X		
	Type of flow meter	X		
	Frequency of flow meter inspection	X		
	Frequency of flow meter calibration	X		
	Comments:			
CA-12	Does the utility maintain any rain gauges or have access to local rainfall data?		X	
	Comments: Other than the publicly accessible Weather Service data on the Internet.			
CA-13	Does the utility have any wet weather capacity problems?		X	
	Comments:			
CA-14	Are low points or flood-plain areas monitored during rain events?	X		
	Comments: Rainfall in Albuquerque is associated with electrical power failures; therefore, crews and operators are aware that rainfall likely means stations will need power to be reset. Therefore, the Pump Station Supervisor and AVOPS Superintendent do proactively monitor conditions.			
CA-15	Does the utility have any dry weather capacity problems?		X	
	Comments:			
CA-16	Is flow monitoring used for billing purposes, capacity analysis, and/or inflow and infiltration investigations?	X		
	Comments: Flow monitoring is described in CA-01. Inflow and infiltration is not considered a problem in the Water Authority system.			

Tracking SSOs (TRK)

Checklist Item		Yes	No	N/A
TRK-01	How many SSO events have been reported in the past 5 years?			X
	Comments: This information is updated annually. See the current CMOM Annual Report.			

	Checklist Item	Yes	No	N/A
TRK-02	What percent of the SSOs were less than 1,000 gallons in the past 5 years?			X
	Comments: This information is updated annually. See the current CMOM Annual Report.			
TRK-03	Does the utility document and report all SSOs regardless of size?	X		
	Comments:			
TRK-04	Does the utility document basement backups?	X		
	Comments:			
TRK-05	Are there areas that experience frequent basement or street flooding?		X	
	Comments: However, repeat locations receive additional study beyond normal SSO study.			
TRK-06	Approximately what percent of SSOs discharges were from each of the following in the last 5 years?			
	Manholes			X
	Lift/Vacuum Systems (Revised term)			X
	Main and trunk sewers			X
	Lateral and branch sewers			X
	Grand Total			**X**
	Comments: This information is updated annually. See the current CMOM Annual Report.			
TRK-07	Approximately what percent of SSOs discharges were caused by each of the following in the last 5 years? (Revised terms)			
	Cause			**Percent**
	Construction			X
	Cause Unknown			X
	Debris			X
	Debris/Grease			X
	Debris/Roots			X
	Equipment Failure			X
	Grease			X
	Grease/Roots/Debris			X
	Grease/Sag In Line			X
	Intruding Tap/Roots			X
	Intruding Tap			X
	Line Failure			X
	Manhole/Surcharged			X
	Offset Joint/Grease			X
	Roots			X

	Checklist Item	Yes	No	N/A
	Roots/Debris			X
	Roots/Grease			X
	Roots/Grease/Debris			X
	Roots/Intruding Tap			X
	Roots/Line Failure			X
	Surcharged			X
	Sag In Line/Debris			X
	Sag In Line/Grease			X
	Grand Total			**X**
	Comments: This information is updated annually. See the current CMOM Annual Report.			
TRK-07A	What percentage of SSOs were released to:			
	Ultimate Discharge Location	%		
	Arroyo (Concrete)			X
	AD - Arroyo (Dirt)			X
	Street (Dirt)			X
	Private Property			X
	Street(Pavement)			X
	Storm Sewer			X
	Yard			X
	Grand Total			**X**
	Comments: This information is updated annually. See the current CMOM Annual Report.			
TRK-07B	For surface water releases, what percent are to areas that could affect:			
	Contact recreation (beaches, swimming areas)			X
	Drinking water sources			X
	Shellfish growing areas			X
TRK-08	How many chronic SSO locations are in the collection system?			
	Comments: This information is updated annually. See the current CMOM Annual Report.			
TRK-09	Are pipes with chronic SSOs being monitored for sufficient capacity and/or structural condition?			X
	Comments: System does not have chronic capacity issues. Structural condition issues are examined and evaluated by post-SSO CCTV.			
TRK-10	Prior to collapse, are structurally deteriorating pipelines being monitored for renewal or replacement?	X	X	
	Comments: Some lines are identified and rehabilitated prior to collapse. Others			

Checklist Item		Yes	No	N/A
	are not.			

Overflow Emergency Response Plan (OERP)

Checklist Item		Yes	No	N/A
OERP-01	Does the utility have a documented OERP available for utility staff to use? IF NO, GO TO OERP-04	X		
	Comments:			
OERP-02	How often is the OERP reviewed and updated? *(Annually, Biannually, etc.)*			X
	Comments: The OERP is was largely completed in FY2014.			
OERP-03	Are specific responsibilities detailed in the OERP for personnel who respond to emergencies?	X		
	Comments:			
OERP-04	Are staff continuously trained and drilled to respond to emergency situations?	X		
	Comments: Substitute "regularly" for "continuously".			
OERP-05	Do work crews have immediate access to tools and equipment during emergencies?	X		
	Comments:			
OERP-06	Does the utility have standard procedures for notifying state agencies, local health departments, the NPDES authority, the public, and drinking water authorities of significant overflow events?	X		
	Comments:			
OERP-07	Does the procedure include a current list of the names, titles, phone numbers, and responsibilities of all personnel involved?	X		
	Comments:			
OERP-08	Does the utility have a public notification plan?		X	
	Comments: This will be addressed in the OERP.			
OERP-09	Does the utility have procedures to limit public access to and contact with areas affected with SSOs? *(procedure can be delegated to another authority)*		X	
	Comments: This will be addressed as the OERP is updated. See FY2014 CMOM Annual Report.			
OERP-10	Does the utility use containment techniques to protect the storm drainage system?			X
	Comments: The OERP includes removal of spills that may impact a storm			

	Checklist Item	Yes	No	N/A
	drain.			
OERP-11	Do the overflow records include the following information?			
	Date and time	X		
	Cause(s)	X		
	Names of affected receiving water(s)	X		
	Location	X		
	How it was stopped	X		
	Any remediation efforts	X		
	Estimated flow/volume discharged	X		
	Duration of overflow	X		
	Comments:			
OERP-12	Does the utility have signage to keep public from affected area?		X	
	Comments:			

Smoke and Dye Testing (SDT)

	Checklist Item	Yes	No	N/A
SDT-01	Does the utility have a smoke testing program to identify sources of inflow and infiltration?			X
	Comments: The smoke testing program is utilized but not to identify inflow and infiltration which is believed to not be issue in this system.			
SDT-01A	Does the utility have a smoke testing program to identify sources of inflow and infiltration in illegal connectors?			X
	Comments: The smoke testing program is utilized but not to identify inflow and infiltration which is believed to not be an issue in this system.			
SDT-01B	Does the utility have a smoke testing program to identify sources of inflow and infiltration in house laterals (private service laterals)?			X
	Comments: The smoke testing program is utilized but not to identify inflow and infiltration which is believed to not be an issue in this system.			
SDT-02	Are there written procedures for the frequency and schedule of smoke testing?			X
	Comments:			
SDT-03	Is there a documented procedure for isolating line segments?			X
	Comments:			

	Checklist Item	Yes	No	N/A
SDT-04	Is there a documented procedure for notifying local residents that smoke testing will be conducted in their area?	X		
	Comments:			
SDT-05	What is the guideline for maximum amount of the line to be tested at one time? *(Feet or Miles)*			X
	Comments:			
SDT-06	Are there guidelines for the weather conditions under which smoke testing should be conducted?			X
	Comments:			
SDT-07	Does the utility have a goal for the percent of the system smoke tested each year?			X
	Comments:			
SDT-08	What percent of the system has been smoke tested over the past year?			X
	Comments:			
SDT-09	Do the written records contain location, address, and description of the smoking element that produced a positive result?			X
	Comments:			
SDT-10	Does the utility have a dye testing program?	X		
	Comments: The dye testing program is utilized as needed but not to identify inflow and infiltration which is believed to not be an issue in this system.			
SDT-11	Are there written procedures for dye testing?			
	Comments: Written procedures are utilized in the training that every Wastewater Worker receives through the Water Authority's in-house training program. However, SOPs need to be developed for use by staff.			
SDT-12	Does the utility have a goal for the percent of the system dye tested each year?			X
	Comments:			
SDT-13	What percent of the main collection system had been dye tested over the past year?			X
	Comments:			
SDT-14	Does the utility share smoke and dye testing equipment with another utility?		X	
	Comments:			

Hydrogen Sulfide Monitoring and Control (HSMC)

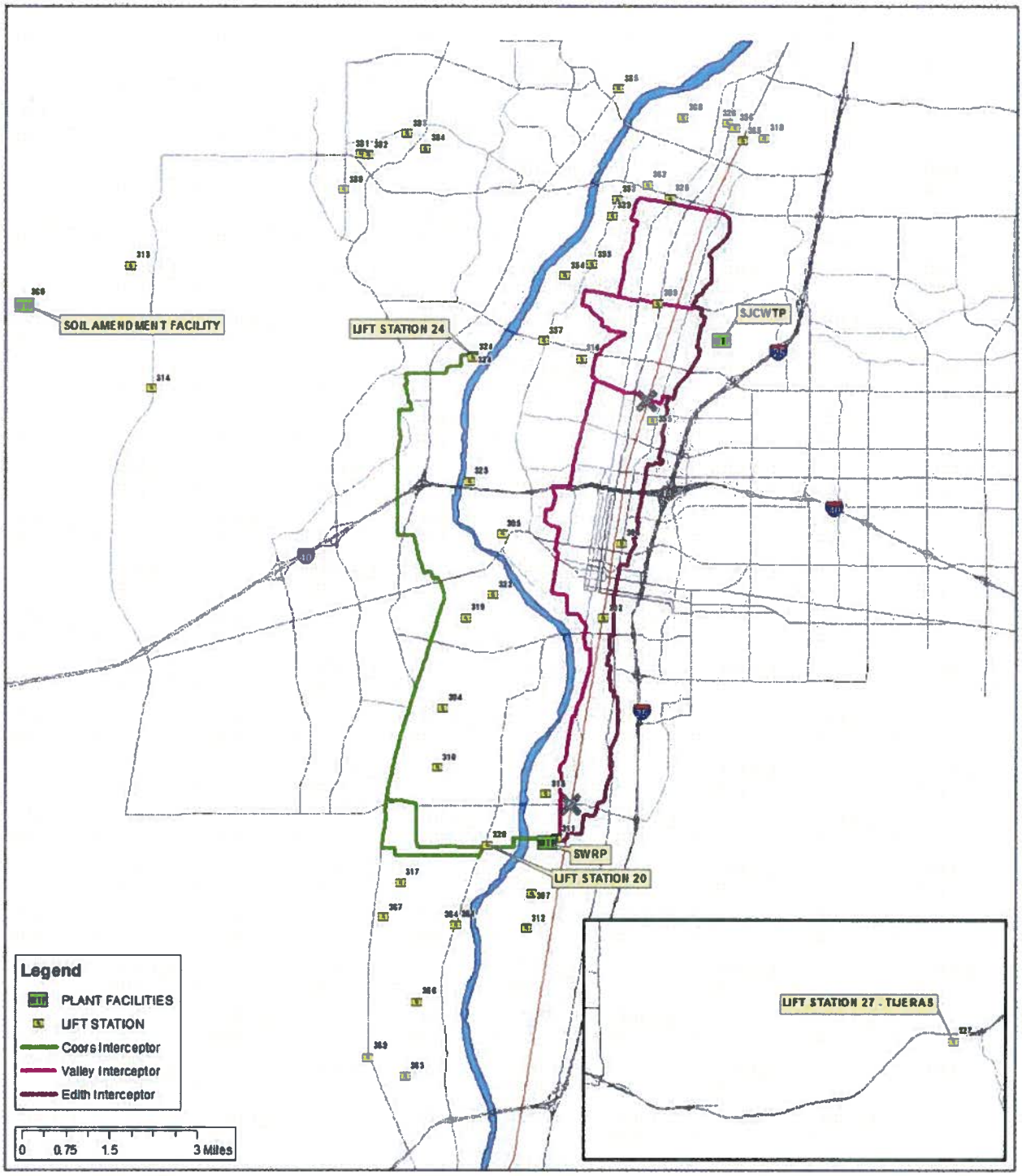
	Checklist Item	Yes	No	N/A
HSMC-01	How would you rate the system vulnerability for hydrogen sulfide corrosion?			
	Not a problem			
	Only in a few isolated areas			
	A major problem		X	
	Comments:			
HSMC-02	Does the utility have a corrosion control program?	X		
	Comments: New and rehab design incorporate corrosion resistant materials. An aggressive odor program results in significant corrosion reductions.			
HSMC-03	Does the utility take hydrogen sulfide corrosion into consideration when designing new or replacement sewers?	X		
	Comments: Only corrosion resistant pipe materials are used. Manholes are coated where corrosion is anticipated.			
HSMC-04	Does the utility have written procedures for the application of chemical dosages?			X
	Comments: 1) The Water Authority utilizes a sophisticated system of odor control in which specific chemicals are implemented based on the system needs. The largest system is the Peroxide Regenerated Iron – Sulfide Control (PRI-SC) process in which ferric chloride is dosed from three stations and regenerated at five stations (plus two that are currently off-line). Dosing sufficiency is determined by monitoring at 12 locations that are downloaded and uploaded on a bi-weekly basis. 2) Written procedures are utilized in the training that every Wastewater Worker receives through the Water Authority's in-house training program. However, SOPs need to be developed for use by staff.			
HSMC-05	Are the chemical dosages, dates, and locations documented?	X		
	Comments:			
HSMC-06	Does the utility document where odor is a continual problem in the system?			X
	Comments: All odor complaints (10-52s) are documented in Maximo. Complaints are resolved and while some are recurring, none are continual.			
HSMC-07	Does the utility have a program in place for renewing or replacing severely corroded sewer lines to prevent collapse?	X		
	Comments:			
HSMC-08	Are the following methods used for hydrogen sulfide control?			
	Aeration		X	
	Iron Salts	X		

Checklist Item		Yes	No	N/A
	Enzymes		X	
	Activated charcoal canisters	X		
	Chlorine		X	
	Sodium hydroxide		X	
	Hydrogen peroxide	X		
	Potassium permanganate		X	
	Biofiltration	X		
	Other			
	Comments:			
HSMC-09	Does the system contain air relief valves at the high points of the force main system?	X		
	Comments:			
HSMC-10	How often are the valves maintained and inspected? *(Weekly, Monthly, etc.)*			X
	Comments: The Water Authority will be developing an ARV PM program.			
HSMC-11	Does the utility enforce pretreatment requirements?	X		
	Comments:			

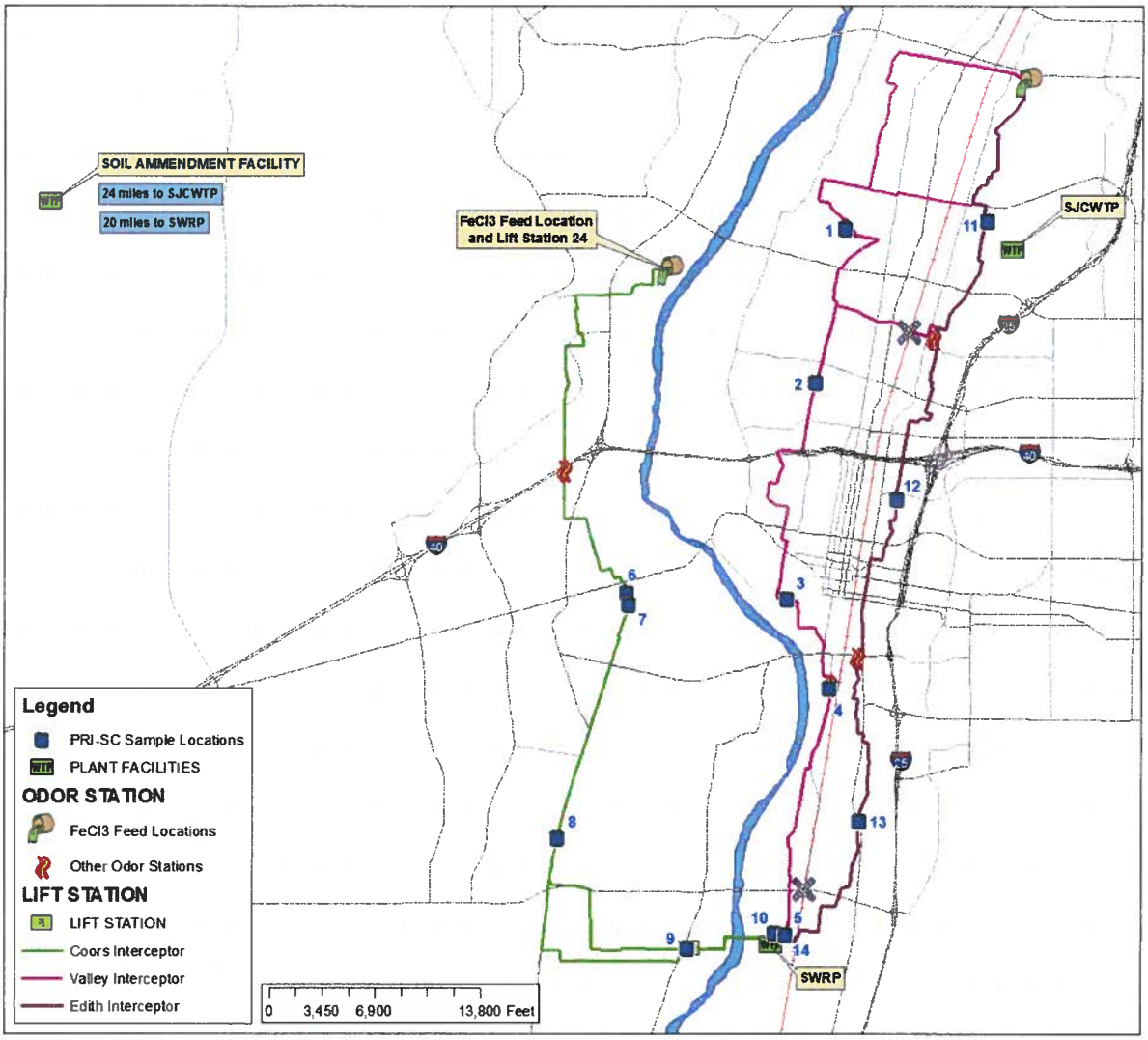
Summary
Attachments and Appendixes

Service Area map

Lift Station Map

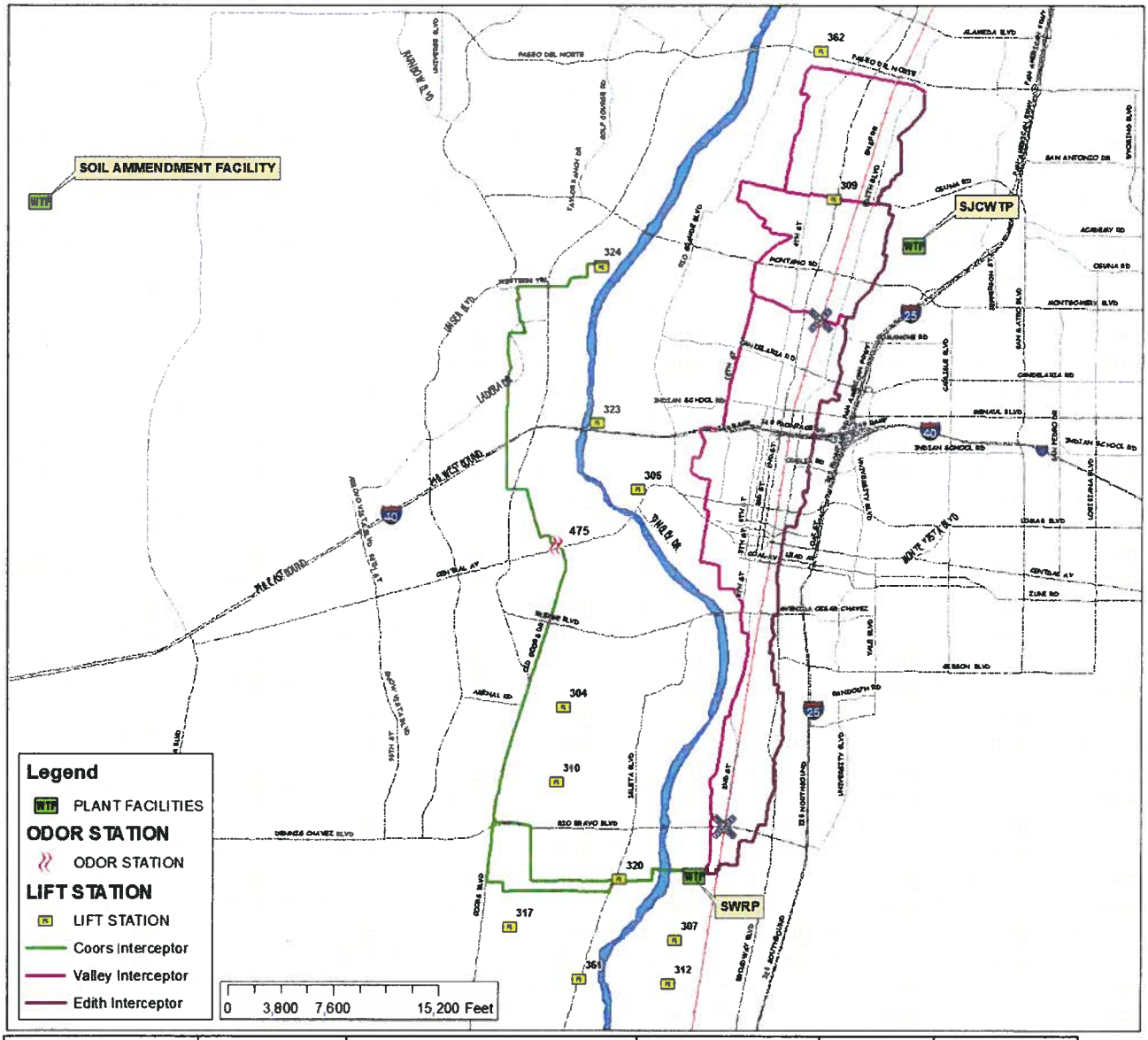


Peroxide Regenerated Iron-Sulfide Control (PRI-SC) map



Map Ref #	Location
1	Floretta & Kensington
2	CS # 4
3	12th. & Stover
4	2nd Street
5	Treatment Plant 2.1 (Valley Interceptor)
6	Old Coors before Lift Station #1 Injection
7	Old Coors (North of Gonzales)
8	Blake & Coors Rd.
9	Lift Station 20
10	Plant Influent
11	Willow & Locust
12	Edith & Cordero
13	Broadway
14	Treatment Plant 2.1 (Tijeras Interceptor)

Carbon Odor Control Locations



Station Number	Location	Address	Carbon Filter Type	# of Carbon Tanks	Weight per Vessel (LBs)
Lift Station #4	Arenal	2255 Arenal Rd SW	Vessel	1	225
Lift Station #5	New York	2502 New York Ave NW	PE Barrels	6	160
Lift Station #7	Heather	621 Heather Ln SW	Long Vessel	1	225
Lift Station #9	2nd and Osuna	201 Sandia View Rd SW	Vessel	1	350
Lift Station #10	Blake	2700 Blake Rd SW	Vessel	1	225
Lift Station #12	Cuatro	5931 Barr Rd SW	Long Vessel	1	225
Lift Station #17	Apple Valley	2709 Apple Valley SW		1	240
Lift Station #20	Isleta	4022 Isleta SW	Vessel	1	2500
Lift Station #23	Duranes	3241 Duranes NW	Vessel	1	225
Vacuum Station #61		5816 Isleta Blvd SW	Vessel	1	4500
Vacuum Station #62		1011 Paseo del Norte NE	FRP Canister	1	2500
Odor Station #75	Yucca/Central		Vessel	2	3000