

CITY OF OAKLAND



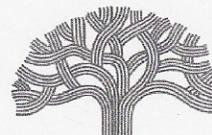
Sanitary Sewer Collection System

Annual Report

July 1, 2016 to June 30, 2017

Consent Decree, Consolidated Case Nos. C 09-00186-RS and C 09-05684-RS

CITY OF OAKLAND



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September 28, 2017

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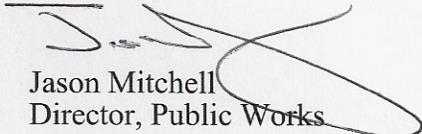
RE: Consent Decree--City of Oakland Annual Report

Dear Mr. Greenberg, et al.:

In accordance with the 2014 Consent Decree, enclosed is the City of Oakland's Annual Report for the period from July 1, 2016 to June 30, 2017.

If you have any questions about this report, please contact Mr. Jimmy Mach, Principal Civil Engineer, at 510-238-3303.

Sincerely,


Jason Mitchell
Director, Public Works

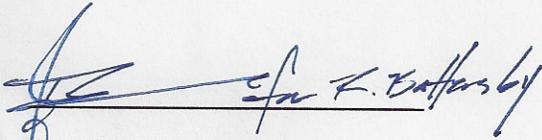
cc: Nicole C. Sasaki (Bay Keeper)
Christopher A. Sproul (Environmental Advocates)
Christopher Dinsmore (EBMUD)
Chris Chan (Port of Oakland)

Attachments: 2016-17 Annual Report

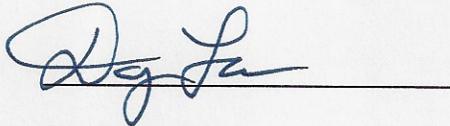
Certification

I certify under penalty of law that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to assure that qualified and knowledgeable personnel properly gathered and presented the information contained herein. I further certify, based on my personnel knowledge or on my inquiry of the individuals immediately responsible for obtaining the information, that to the best of my knowledge and belief the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing and willful submission of a materially false statement.

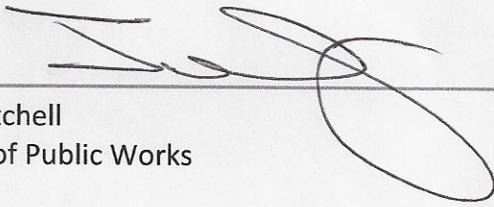
Reviewed by:



Richard Battersby
Acting Assistant Director
Bureau of Infrastructure & Operations



Danny Lau
Assistant Director
Bureau of Design & Construction



Jason Mitchell
Director of Public Works

9/28/17

Date

Table of Contents

	Page
Executive Summary	4
Section 1. Introduction	8
Section 2. Annual Report of Sanitary Sewer Overflows (SSO)	9
Section 3. Asset Management Implementation Program	13
Section 4. Infiltration and Inflow Reduction Work	
4.1 Sewer Main and Maintenance Hole Rehabilitation	14
4.2 Sewer Main and Maintenance Hole Inspection	18
4.3 Development of Regional Standards	20
4.4 Sewer Lateral Inspection and Repair	21
4.5 Inflow and Rapid Infiltration Identification and Elimination	24
Section 5. SSO Reduction Work	
5.1 Capacity Assurance	25
5.2 Post SSO Inspection	31
5.3 Acute Defects	31
5.4 Sewer Main Cleaning	32
5.5 Root Cleaning	34
5.6 Hot Spot Cleaning	37
5.7 Fats, Oil and Grease Control	38
5.8 Pump Station Renovation	40
Section 6. Deliverables	41
Section 7. Known Noncompliance with Consent Decree	41
Section 8. Assessment of Stipulated Penalties	42
Section 9. Recommended Changes to Required Work	43

Appendix Summary

Appendix	Table Name	Table Number
A	List of Sanitary Sewer Overflows (SSOs) in FY 2016-17	Table 2-1
B	Collection System Spot Repair Work (July 1, 2016 – June 30, 2017)	Table 4-5
C	Notice to Abate Sample Letter	Figure 4-3
D	Acute Defect Lists	Table 5-3
E	Cleaning by Sub-Basin	Figure 5-1
F	High Frequency PM Locations	Table 5-5
G	City-Owned Sewer Laterals	Table 4-12
H	Port of Oakland Sewer Collection System Annual Report for July 1, 2016 – June 30, 2017.	-

Executive Summary

The City of Oakland's Consent Decree for operation and maintenance of its Sewer Collection System was approved by state and federal regulatory agencies with an Effective Date of September 22, 2014. The City is pleased to submit this Annual Report as required by the Consent Decree (CD) for Fiscal Year 2016-17 (July 1, 2016 to June 30, 2017). The City of Oakland is in overall compliance with the Consent Decree. The cumulative sewer rehabilitation work is significantly ahead of schedule and the City's sewer budget, staffing, and equipment have increased this Fiscal Year. It is the City's full intent to continue to meet its obligations under the Consent Decree.

Sanitary Sewer Overflows (SSO): The City of Oakland's Sewer Collection System had 83 SSO events during FY 2016-17. This is a 6% reduction compared to the 88 SSO events in FY 2015-16. In FY 2016-17, the total volume reached surface water was 203,560 gallons from 16 SSO events.

Asset Management Implementation Program (AMIP): The City has implemented its revised AMIP dated October 31, 2014.

Infiltration And Inflow Reduction Work:

Sewer Main and Maintenance Hole Rehabilitation. As of June 30, 2017, the City of Oakland has Rehabilitated 322,914 feet (61.2 miles) of Sewer Main. This exceeds the Consent Decree requirement to rehabilitate 221,760 feet (42 miles) by June 30, 2017.

As of June 30, 2017, the City of Oakland had Rehabilitated an additional 16,385 feet (3.1 miles) of Sewer Main as shown in Table 4-3. This exceeds the Consent Decree requirement to rehabilitate 15,840 feet (3 miles) by June 30, 2017. The City have included sewer mains rehabilitated from both the capital improvement program and minor repairs performed by City crews.

The City's Sewer Main Rehabilitation Program is ahead of schedule.

One maintenance hole was found to be in poor condition in FY 2016-17. This maintenance hole was replaced in December of 2016. There are no outstanding maintenance holes in poor condition identified that needs replacement.

Sewer Main and Maintenance Hole Inspection. As of June 30, 2017, 1,911,585 feet (362 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,700,160 feet (322 miles) by June 30, 2017.

The City of Oakland is in compliance regarding maintenance hole inspections. Between July 1, 2016 and June 30, 2017, 1,704 maintenance hole inspections were performed.

Development of Regional Standards. The City bases its construction plans and specifications on The “Greenbook”: Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry.

In this reporting period, the City has begun incorporating these Standards in the design of its capital projects. The Defendants have and will continue to discuss the Regional Standards, its effectiveness, and potential revisions and improvements at coordination meetings.

EBMUD’s Sewer Lateral education and Outreach Program. The City continues to work with EBMUD in implementation of the program.

Sewer Lateral Inspection and Repair. In FY 2016-17, the City finalized 318 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000. All 318 building permits received Compliance Certificates issued by EBMUD which met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year.

Inflow and Rapid Infiltration Identification and Elimination. The City will continue to work with EBMUD in implementation of the program.

On September 29, 2016, EBMUD submitted to the City FY 2015-16 Annual Satellite Notification. The City provided a response on December 16, 2016. EBMUD did not find any linear and non-linear high priority sources. 24 private sources were found. Of those 24, the City has determined one to be a high priority source. The one location was abated within the required twenty-four months of making the designation.

SSO Reduction Work:

Capacity Assurance. The Consent Decree requires the City to increase sewer capacity in certain locations when sewer flows reach within one foot of the Maintenance Hole rim. In FY 2016-17 the City experienced a total of seven locations that reached within one foot of the Maintenance Hole rim. All flows were contained within the system and no SSO event occurred at any of these six locations. One location was suspected to be capacity related. Six locations were non-capacity related.

Acute Defects.

- 27 New Acute Defects were found in FY 2016-17.
- 16 FY 2016-17 identified Acute Defects were repaired.
- 3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement.
- 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.
- No Sanitary Sewer Overflows occurred because of delays in Repair of Acute Defects.
- The status of each repair pertains to the FY initially identified. Outstanding repairs for each FY will be updated annually until repaired in which the record will be added to the associated repaired reporting.

Sewer Main Cleaning. As of June 30, 2017, 4,402,534 unique feet (834 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 4,118,400 feet (780 miles).

Root Cleaning (Foaming). As of June 30, 2017, the City had root foamed 1,227,132 feet (232.4 miles) of Sewer Mains, which exceeds the Consent Decree requirement of 1,056,000 feet (200 miles).

On December 9, 2016, the City submitted an evaluation report of the root control program to EPA for review and approval. On February 27, 2017, EPA rejected the City’s proposal to foam 23.4 miles of sewer mains per year and directed to continue treating 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree. The City requests for a more substantial response and its reconsideration for a conditional approval.

Hot Spot Cleaning. As of June 30, 2017, 155 locations were identified as hot spots by staff. Each of these locations was cleaned at least once in FY 2016-17.

Fats, Oil and Grease (FOG) Control. In FY 2016-17, 39 SSOs were thought to be associated with FOG. These locations were referred to EBMUD for investigation.

Pump Station Renovation. The City is significantly ahead of schedule with its Pump Station Improvement Program. One pump station was completed in 2012. One construction contract which consists of three pump stations begun construction in November 2016. Three more pump stations, in which design has been completed, are scheduled to begin in 2018. The completion of all pump stations will be completed by 2019, three years ahead of schedule.

Known Noncompliance with Consent Decree. Paragraph 91 of the Consent Decree provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement. 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.

In the Consent Decree, the City is required to comply in accordance with the requirement described in Paragraph 85a of the Consent Decree in which *“Within 90 Days of identifying a Sewer Lateral as defective the City of Oakland shall notify the affected owner in writing.”*

5 notices were sent beyond the 90-day requirement, one of which was repaired. 2 notices were not sent, two of which have been repaired.

Assessment of Stipulated Penalties. Paragraph 186 of the Consent Decree: For each SSO that reaches waters of the United States, a stipulated penalty may be assessed as follows, with “gallons” referring to the total size of the overflow, spill or release:

Penalty Per SSO for SSOs totaling:		
Less than 1,000 gallons	1,000 to 9,999 gallons	10,000 gallons or more
\$200	\$1,000	\$25,000

In FY 2016-17, the total volume reached surface water was 203,560 gallons from 16 SSO events. Table 2-1 provides the number of SSOs for SSOs totaling in each of the three categories of volume.

The total potential assessed stipulated penalty from FY 2014-17 for SSOs Reached Waters of United States is \$191,600 as detailed below.

The City believes that Stipulated Penalties should not be assessed for the SSO events that reached surface waters. The spills were caused by a variety of reasons such as grease deposits, root intrusion, debris, and heavy storms

and are considered non-point sources. The City has been meeting the cleaning and rehabilitation goals annually since FY 2014 and have responded quickly to SSOs. A penalty would impact the ability of the City to meet future goals as the rehabilitation costs have significantly increased due to market conditions. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Recommended Changes to Required Work. The City proposed to foam 23.4 miles of sewer mains per year instead of the 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree.

Section 1. Introduction

Paragraph 139 of the Consent Decree (Case Nos. C09-00186 and C09-05684) requires:

“By September 30th of each Fiscal Year...each Defendant shall submit to Plaintiffs, with a copy to Intervenors, an annual progress report (“Annual Report”) covering the period July 1st through June 30th of the prior Fiscal Year.”

This Annual Report has been prepared pursuant to the requirements of the Consent Decree. The following sections of this report present the required information for Fiscal Year 2016-17 (July 1, 2016 to June 30, 2017):

		Page
Section 1.	CD Para 139 Introduction	8
Section 2.	CD Para 144 Annual Report of Sanitary Sewer Overflows (SSO)	9
Section 3.	CD Para 165 Asset Management Implementation Plan Status	13
Section 4.	CD Para 166 Infiltration and Inflow Reduction Work	
4.1	CD Para 166.a.i Sewer Main and Maintenance Hole Rehabilitation	14
4.2	CD Para 166.a.ii Sewer Main and Maintenance Hole Inspection	18
4.3	CD Para 166.a.iii Development of Regional Standards	20
4.4	CD Para 166.b Sewer Lateral Inspection and Repair	21
4.5	CD Para 166.c I&I Identification and Elimination	24
Section 5.	CD Para 167 SSO Reduction Work	
5.1	CD Para 167.a Capacity Assurance	25
5.2	CD Para 167.b Post SSO Inspection	31
5.3	CD Para 167.c Acute Defects	31
5.4	CD Para 167.d Sewer Main Cleaning	32
5.5	CD Para 167.e Root Cleaning	34
5.6	CD Para 167.f Hot Spot Cleaning	37
5.7	CD Para 167.g Fats, Oil and Grease (FOG) Control	38
5.8	CD Para 167.h Pump Station Renovation	40
Section 6.	CD Para 141 Deliverables	41
Section 7.	CD Para 142 Known Noncompliance with Consent Decree	41
Section 8.	CD Para 172 Assessment of Stipulated Penalties	42
Section 9.	CD Para 143 Recommended Changes to Required Work	43

Section 2. Annual Report of Sanitary Sewer Overflows

Paragraph 144 of the Consent Decree requires:

“A Sanitary Sewer Overflow Report that includes the location of SSOs; the start and end date and time of each SSO; the SSO volume including gross volume, amount recovered, and amount not recovered; the destination of each SSO; the probable cause(s) of the SSOs; the location(s) of repeat SSOs; a list of any SSOs at locations where the Sewer Main had been Rehabilitated in the previous ten (10) Fiscal Years; and a description of measures taken to help prevent these SSOs in the future.”

Number of SSOs

The City of Oakland’s Sewer Collection System had 83 SSO events during FY 2016-17. This is a 6% reduction compared to the 88 SSO events in FY 2015-16.

The total volume spilled in FY 2016-17 was 234,934 gallons, representing a 729% increase in volume compared to the previous Fiscal Year. Of the total amount spilled, 11% was contained and returned to the system. The total volume reached surface water was 203,560 gallons from 16 SSO events. Table 2-1 provides the number of SSOs for SSOs totaling in each of the three categories of volume as described in Paragraph 186 of the Consent Decree.

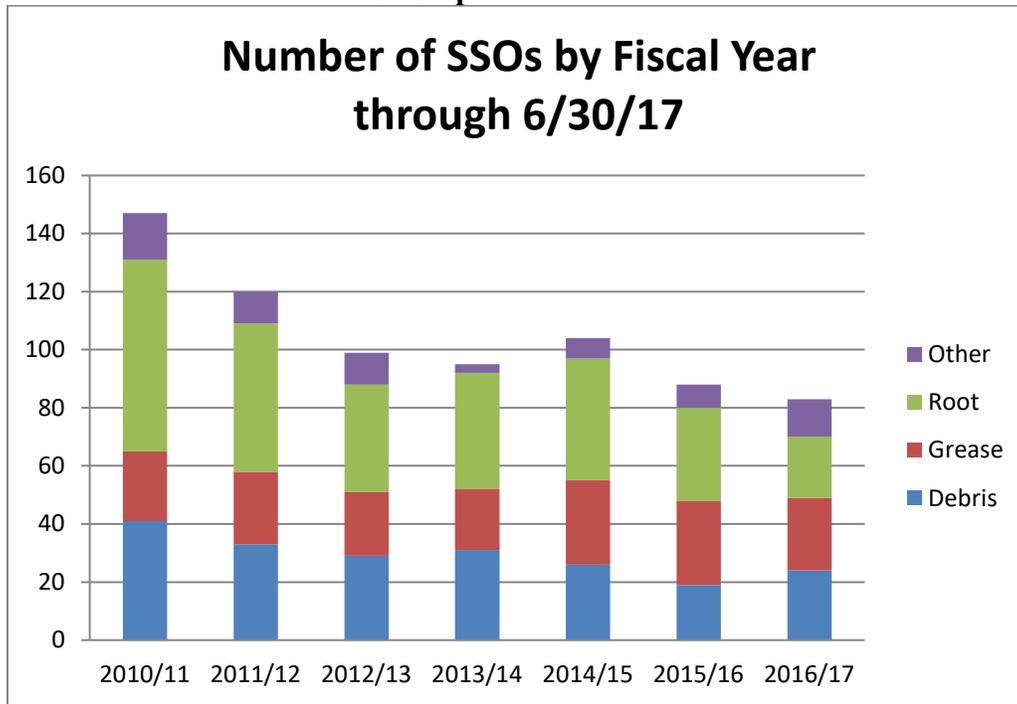
Table 2-1 SSOs Reached Waters of United States

FY	# of SSOs for SSOs totaling Less than 1,000 gallons	# of SSOs for SSOs totaling 1,000 to 9,999 gallons	# of SSOs for SSOs totaling 10,000 gallons or more
FY 2014-15	6	7	2
FY 2015-16	3	0	0
FY 2016-17	4	7	5

There was unusually high precipitation in the winter of 2016-17, resulting in higher amount of wet weather discharge. Five SSO events between January 10, 2017 and March 20, 2017 account for 75% of the spill volume for FY 2016-17.

Figure 2-1 shows the number of SSO events by Fiscal Year for the last 7 Fiscal Years, as well as the primary cause of the SSO.

**Figure 2-1.
SSOs per Fiscal Year**



A detailed list of SSOs is shown in Table 2-1 of **Appendix A**.

Number and Location of Repeat Overflows

In Fiscal Year 2016-17, the City had 14 locations (14 SSO’s) in which a second sewer overflow occurred within a three-year period. Table 2-2 below lists the number and location of overflows occurring at repeat locations along with a description of measures taken to prevent future SSO’s at these locations. All locations below have been added to the High Frequency Cleaning List ‘Hot Spots’. Additionally, the City is analyzing root-related pipes for potential pipe rehabilitation.

Table 2-2 Repeat SSO Locations, FY 2016-17

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
3759 Brookdale Av, 3745 Brookdale Av (same pipe)	830288,	FOG	11/29/16,	Repaired - Project # C228910 12/16/16	10414
	820985	Pipe Structural Failure	12/2/15		
400 Capistrano Dr, 116 Catron Dr (same pipe)	826602,	Debris General	7/19/16,	Added to the 6 month PM list on 1/23/2016	124
	799319	Debris General	9/29/13		
4100 Redwood Rd, 4120 Redwood Rd (same pipe)	833823,	Rags, Debris,	3/21/17,	Added to the 6 month PM list on 6/20/2017	14243
	804902	Roots, Root Intrusion	3/24/14		

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
3822 Whittle Av, 3816 Whittle Av (same pipe)	830735, 812055	Root Intrusion Grease Dispostion, FOG	12/10/16, 1/1/15	Added to the 6 month PM list on 1/26/2017	15829
3500 Mountain Blvd	829670, 806722	Root Intrusion, Root Intrusion	11/6/16, 6/3/14	Added to the 6 month PM list on 11/16/2016	16341
2289 Melvin Rd	831789, 821016	Root Intrusion Debris General	1/14/17, 1/14/16	Added to the 6 month PM list on 1/25/2017	18651
84th Av & G St, 85th Av & G St (same pipe)	826584, 812920	Debris General FOG	7/19/16, 2/4/15	Added to the 6 month PM list on 1/19/2017	2077
83 Castle Park Way, 74 Castle Park Way (same pipe)	830918, 822546	Debris general Root Intrusion	12/14/16, 2/27/16	Added to the 6 month PM list on 1/19/2017	21002
345 Pershing Dr	827401, 804297	Root Intrusion Root Intrusion	7/28/16, 1/28/14	Added to the 12 month PM list on 1/19/2017	21865
885 69th Av, 69th Av & Snell St (same pipe)	831762, 810394	Surcharged Pipe Wet Weather, FOG	1/10/17, 10/26/14	Added to the 6 month PM list on 1/05/2016	2971
8420 International Blvd, 8432 International Blvd (same pipe)	835768 813615	FOG Debris General	5/19/17, 2/28/15	Added to the 12 month PM list on 6/20/2017	3148
8701 Hillside St, 2320 87th Av (same pipe)	835360, 821935	Pipe Structure Problem Failure, FOG	5/19/17, 2/9/16	Repaired on 5/20/2017 Work order # 845316	3243
5741 Elizabeth St	831770, 831394	Rainfall exceeded design, Surcharged due to heavy rain event	1/10/17, 12/15/16	Added to the 6 month PM list on 2/15/2017	6205
7415 Circle Hill Dr, 7420 Circle Hill Dr (same pipe)	828915, 800508	Root Intrusion FOG	10/7/16, 10/31/13	Added to the 12 month PM list on 1/26/2017	8336

Sewer Overflows in Rehabilitated Areas

In FY 2016-17, 3 SSOs occurred in areas rehabilitated since July 1, 2006 (within the last ten years) as shown in Table 2-3 below. Of these locations, all 3 SSO's were FOG related problems. Corrective actions, as detailed below, include cleaning, CCTV inspection, and addition to the "Hot Spot" list.

**Table 2-3
SSO Locations within Rehabilitated Areas, FY 2016-17**

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Rehab Year	Pipe ID
601 Webster St	830730	Grease	12/14/16	Hydro Flushed 12/16/2016 Televised 12/16/2016 Added to High Frequency cleaning list 12 months 8/08/2017	2010	12760
2201 Valley St	829105	Grease	10/15/16	Televised 10/18/2016 Power Rod 2/22/2017 Hydro Flush 2/22/2017 Added to High Frequency cleaning list 12 months 8/08/2017	2010	19471, 19472
1115 62nd Av	835188	Grease	5/15/17	Hydro Flush 5/15/17 Televised 5/18/2017 Added to High Frequency cleaning list 12 months 8/08/2017	2011	3789 3729 3726

Section 3. Implementation of Asset Management Implementation Plan (AMIP)

Paragraph 165 of the Consent Decree requires:

“The City shall summarize implementation of each element of its AMIP. The summary shall include any proposed revisions to the AMIP, including, but not limited to, revisions to maintenance, construction, and Rehabilitation schedules, along with any associated changes to its financial plan, and an explanation of how those revisions are consistent with its obligations under the Consent Decree.”

On October 31, 2014, the City submitted a new AMIP which had been revised to comply with the new Consent Decree. The AMIP provided new maintenance, construction and rehabilitation schedules, as well as a revised financial plan. The City is implementing both the new AMIP and the Consent Decree.

Chapter 1, Introduction, of the new AMIP presented revised goals, organization and responsibilities for implementation of the AMIP and CD.

Chapter 2, Condition Assessment, revised Sewer Main and Maintenance Hole inspection, Sewer Lateral inspection and capacity monitoring. Sections 4.2, 4.4 and 5.1 of this Annual Report describe work in these areas implemented during FY 2016-17.

Chapter 3, Operations and Maintenance, revised sewer maintenance, hot spot cleaning, root control, and FOG control. Sections 5.4, 5.5, 5.6 and 5.7 of this report describe work in these areas implemented during FY 2016-17.

Chapter 4, Capital Improvements, described revision of design and construction standards, Sewer Main Rehabilitation, elimination of Acute Defects, pump station and capacity improvements, Rehabilitation of City owned Sewer Laterals, and provided a ten-year CIP and financial plan. Sections 4.1, 4.3, 5.3 and 5.8 of this report describe work implemented during FY 2016-17.

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Maintenance Hole Rehabilitation

Paragraph 166.a.i. of the Consent Decree requires that the Annual Report contain:

“Rehabilitation: all Sewer Main and Maintenance Hole Repair and Rehabilitation activities completed...”

Paragraph 83.a. of the Consent Decree requires:

“Between January 1, 2014 and June 30, 2016, the City of Oakland shall rehabilitate 158,400 feet [30 miles] of Sewer Main....When the City rehabilitates a Sewer Main, it shall also Rehabilitate, as needed, all Maintenance Holes associated with the Sewer Main and ensure that abandoned Sewer Laterals are not connected to that Sewer Main.”

Sewer Mains Rehabilitated

As of June 30, 2017, the City of Oakland had Rehabilitated 322,914 feet (61.2 miles) of Sewer Main as shown in Table 4-1. This exceeds the Consent Decree requirement to rehabilitate 221,760 feet (42 miles) by June 30, 2017. The City’s Sewer Main Rehabilitation Program is ahead of schedule.

Table 4-1
Length of Rehabilitated Sewer Mains

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement **
1/11/14-6/30/14	131,653’ (24.9 miles)	131,653’ (24.9 miles)	-----
FY 2014-15	60,546’ (11.5 miles)	192,199’ (36.4 miles)	-----
FY 2015-16	71,751’ (13.6 miles)	263,950’ (50.0 miles)	158,400’ (30 miles)
FY 2016-17	58,964 (11.2 miles)	322,914’ (61.2 miles)	221,760’ (42 miles)

**Cumulative total beginning 01/01/14

Table 4-2 provides details of projects completed in FY 2016-17.

Table 4-2
Sewer Main Rehabilitation Projects Completed in FY 2016-17

Project Number	Description	SubBasin Number	Lateral Connections	Structure	Length (Feet)	Length (Miles)	Construction Costs
C329145	21st Avenue, 17th St, 24th Ave, and 27th Ave	60-06	208	39	12,452	2.36	\$1,959,328
C329151	24th St, 19th Ave, Beaumont Ave, and 33rd St	58-02,58-04	366	88	22,455	4.25	\$3,357,010
C329149	Campus Dr, Mountain Blvd, Knoll Ave, and Access	83-502	65	58	7,484	1.42	\$1,825,790
C329148	Rehabilitation of Sanitary Sewers Subbasin 83-501	83-501	69	43	5,784	1.10	\$1,194,839
C329147	Rehabilitation of Sanitary Sewers Subbasin 83-013	83-013	84	65	7,223	1.37	\$1,205,179
C482950	Rehabilitation of Sanitary Sewers Subbasin 60-04	60-04	0	14	2,623	0.50	\$456,569
C329143	Rehabilitation of Sanitary Sewers Subbasin 54-16	54-16	36	117	786	0.15	\$120,329
BRT	AC Transit Bus Rapid Transit Utility Relocation	60-04	0	0	157	0.03	N/A
C228910	On-Call Sanitary Sewer Manholes	81-102, 83-002, 52-08	0	3	0	0	\$30,000
Total			828	427	58,964	11.2	\$10,149,044

Additional Sewer Mains Rehabilitated

Paragraph 83.b. of the Consent Decree requires:

“...In addition to the Work required under paragraph 83(a), beginning on July 1, 2014, the City shall complete, by the end of each Fiscal Year, Rehabilitation of no less than 5,280 feet of Sewer Main, anywhere within the City’s Collection System, based on a cumulative total (i.e., 5280 feet by June 30, 2015; 10,560 feet by June 30, 2016; 15,840 feet by June 30, 2017; etc.) for the duration of the Consent Decree.”

As of June 30, 2017, the City of Oakland had Rehabilitated 16,385 feet (3.1 miles) of Sewer Main as shown in Table 4-3. This exceeds the Consent Decree requirement to rehabilitate 15,840 feet (3 miles) by June 30, 2017. The City have included sewer mains rehabilitated from both the capital improvement program and minor repairs performed by City crews.

Table 4-3
Length of Additional Sewer Mains Rehabilitated

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement
FY 2014-15	*5,539'+946'=6,485' (1.2 miles)	6,485' (1.2 miles)	5280' (1 mile)
FY 2015-16	*5,424'+673'=6,097' (1.2 miles)	12,582' (2.4 miles)	10,560' (2 miles)
FY 2016-17	3,803' (0.7 miles)	16,385' (3.1 miles)	15,840' (3 miles)

*Updated length rehabilitation by adding minor repairs summarized in Table 5-2.

Table 4-4
Additional Sewer Mains Rehabilitated in FY 2016-17

Project No	Description	Completion Date	SubBasin No	Lateral Connections	Structure	Length (feet)	Length (Miles)	Construction Cost
C455620	On-Call Sanitary Sewer	6/30/2017	50-18, 85-204, 82-003	54	22	3,360	0.64	\$ 249,743
-	FY 2016-17 Minor Repairs	Varies	Varies	N/A	N/A	443	0.08	N/A
Total				54	22	3,803	0.7	\$ 249,743

Maintenance Holes

Paragraph 166.a.i.C. of the Consent Decree requires that the Annual Report contain:

“...the number of Maintenance Holes associated with Rehabilitated Sewer Mains and the number of Maintenance Holes Rehabilitated;”

As shown in Tables 4-2 and 4-4, as part of its Sewer Main Rehabilitation Program in FY 2016-17 the City Repaired or Rehabilitated 449 Maintenance Holes.

Abandoned Sewer Laterals

Paragraph 166.a.i.D. of the Consent Decree requires that the Annual Report contain:

“...a statement that the City did not reconnect any abandoned Sewer Laterals that the City found to be connected to the Sewer Main;”

The City sealed off any abandoned sewer laterals which were encountered during construction. No abandoned laterals were reconnected to Sewer Mains. Abandoned or inactive house connection sewers shall be cut back two feet from the main and plugged with Class C mortar, at least six inches into the abandoned/inactive house connection sewer.

Sewer Main Rehabilitation Budget and Expenditures

Paragraph 166.a.i.F. of the Consent Decree requires that the Annual Report contain:

“...the Rehabilitation budget and dollars spent on Sewer Main Rehabilitation;”

During FY 2017-18, the City budgeted \$17,309,400 for capital improvements of the sewer collection system. Improvements include rehabilitating or replacing sewer mains, lower laterals, and associated sewer structures. This budgeted amount is intended to cover hard construction costs and soft costs associated with design and construction management. It must be noted that capital budget is not typically spent in one fiscal year as project activities and expenditures span over 2 to 3 years.

2017-18 Proposed Sewer Main Rehabilitation Projects

Paragraph 166.a.i.G of the Consent Decree requires that the Annual Report contain:

“...the Sewer Mains targeted to be Rehabilitated in the next Fiscal Year;”

In FY 2017-18, the City plans to complete 7 Sewer Main Rehabilitation projects as listed in Table 4-6 below. These projects will rehabilitate approximately 15.27 miles of sewer mains. All appurtenant sewer structures will also be rehabilitated as needed as part of these projects. The locations of these projects are selected from Appendix H of the Consent Decree and various locations for the 1 additional mile of sewer main rehabilitation required under Paragraph 83.b. The locations for the 1 mile will be developed in response to complaints and requests from the acute defect list. Appendix H lists Oakland's Collection System sub-basin priorities.

**Table 4-6
FY 2017-18 Proposed Sewer Main Rehabilitation Projects**

No.	Project No.	Description	Length (Miles)
1	1001173 Task 2	Sanitary Sewer Upgrade Park Blvd	0.7
2	1001173 Task 3	Sanitary Sewer Upgrade Trestle Glen Rd	0.1
3	1000980	Rehab of SS Chelton Dr, Ascot Dr, HolyRood Dr, and Castle Dr (Subbasin 56-07)	2.91
4	1001039	Rehab of SS Castle Dr, Chelton Dr, Ascot Dr, and Mountain Blvd (Subbasin 56-07)	2.83
5	1000668	Rehabilitation of Sanitary Sewer in the Area bounded by Chelton Dr, Skyline Blvd, Holyroad Dr, and Ascot Dr. (56-07)	4.21
6	1000654	Rehabilitation of Sanitary Sewer in the Area bounded by E Wetmore Road, MacArthur Boulevard, Mountain Boulevard, and Reinhardt Drive (83-012)	1.71
7	1000673	Rehabilitation of Sanitary Sewer in the Area bounded by Seminary Avenue, Avenal Avenue, Bancroft Avenue, 65th Avenue, and International Boulevard (83-103)	2.81

Revisions to Appendix H

Paragraph 166.a.i.H. of the Consent Decree requires that the Annual Report contain:

“...an explanation of any revisions that were made to Appendix H, or the financial plan associated with future Sewer Main Repair and Rehabilitation...”

In FY 2016-17, no revisions were made to Appendix H.

4.2 Sewer Main and Maintenance Hole Inspection

Paragraph 83.c. of the Consent Decree requires:

“For the duration of this Consent Decree, the City of Oakland shall inspect, using CCTV or other equally effective methods, and document condition assessment of, its Collection System at an annual rate of no less than 10 percent of its Sewer Mains per Fiscal year (at least 485,760 feet of Sewer Mains per Fiscal Year) on a cumulative basis (i.e., 242,880 feet by June 30, 2014; 728,640 feet by June 30, 2015; 1,214,400 feet by June 30, 2016; etc.).”

Paragraph 166.a.ii. of the Consent Decree requires the Annual Report to contain:

“Inspections: inspections and condition assessment completed...”

Sewer Main Condition Assessment

As shown in Table 4-7, 1,911,585 feet (362 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,700,160 feet (322 miles) by June 30, 2017.

**Table 4-7
Length of Sewer Mains Inspected and Assessed**

Fiscal Year	Mains Assessed **	Cumulative Total ***	CD Requirement
FY 2013-14*	182,935' (35 miles)	182,935' (35 miles)	242,880' (46 miles)
FY 2014-15	618,991' (117 miles)	801,926' (152 miles)	728,640' (138 miles)
FY 2015-16****	619,913' (117 miles)	1,408,769' (267 miles)	1,214,400' (230 miles)
FY 2016-17	502,816' (95 miles)	1,911,585 (362 miles)	1,700,160' (322 miles)

*Six months, January 1, 2014 – June 30, 2014

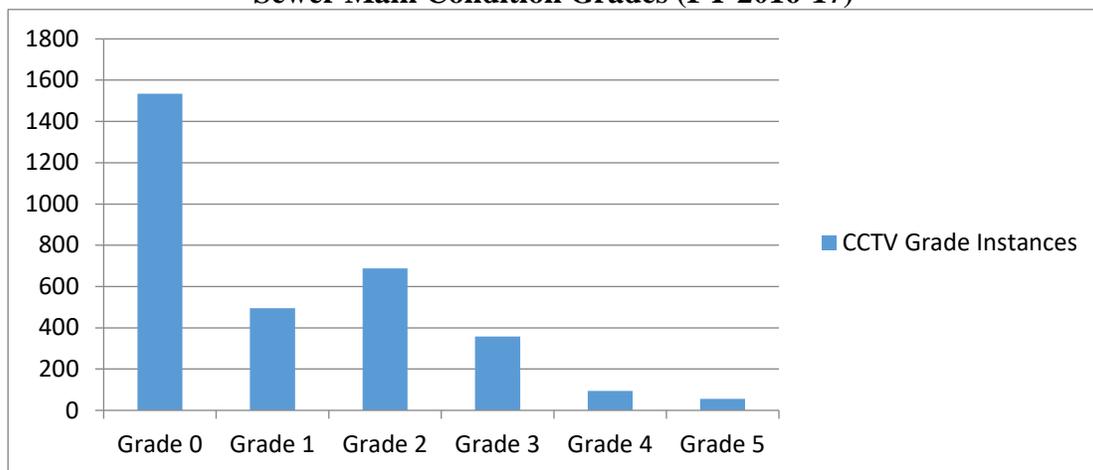
**Newly-unique feet assessed during the FY (feet that had no previous assessment between January 1, 2014 and the start of the FY)

***Cumulatively-unique feet starting January 1, 2014

****Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

Results of the inspections are summarized in Figure 4-1.

**Figure 4-1
Sewer Main Condition Grades (FY 2016-17)**



From a total of 3,224 pipe segments inspected, 1,534 segments were found to be in excellent structural condition (Grade 0), 495 segments were found to be in acceptable structural condition (Grade 1), 688 segments

were found to be in minimal collapse risk condition (Grade 2), 358 segments were in collapse unlikely in near future condition (Grade 3), 94 segments were found to be in collapse likely in foreseeable future condition (Grade 4), and 55 segments were found to be in danger of imminent collapse or were found to have unusually large pipe blockage (i.e., roots) (Grade 5).

Grade 5 pipe blockages are addressed immediately. Grade 5 structural defects are considered Acute Defects and are treated as described in Section 5-3.

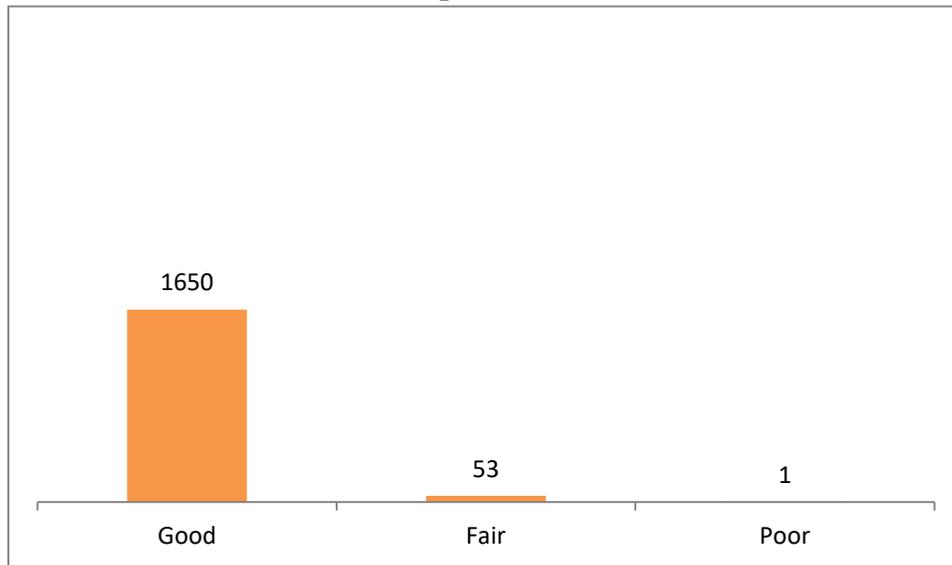
Maintenance Hole Inspection

Paragraph 83.c of the Consent Decree also requires:

“When the City inspects a Sewer Main, it shall also inspect all Maintenance Holes associated with that Sewer Main.”

Between July 1, 2016 and June 30, 2017, 1,704 maintenance-hole inspections were performed. Inspectors used a modified Manhole Assessment Certification Program (MACP) where field staff visually inspected the barrel of every maintenance hole and completed a computerized maintenance hole inspection form. Results of the inspections are summarized in Figure 4-2 below.

**Figure 4-2
Maintenance Hole Inspection Results (FY 2016-17)**



Of 1,704 Maintenance Hole inspections, 1,650 inspections found Maintenance Holes in good condition, 53 found Maintenance Holes in fair condition, and 1 found Maintenance Holes in poor condition. Table 4-8 contains a list of Maintenance Holes in poor condition.

**Table 4-8
Maintenance Holes in Poor Condition (FY 2016-17)**

Inspection ID#	WO#	Inspection Type	Location	Condition	MH#	Structure #
11444	810593	v2 Maintenance Hole Inspection	450 30th St	Poor	52-803-15	18356

1 maintenance hole was found to be in poor condition in FY 2016-17. This maintenance hole was replaced in December of 2016.

4.3 Development of Regional Standards

Paragraph 166.1.iii. of the Consent Decree requires the Annual Report to contain:

“Regional Standards: a description of the activities to develop...Regional Standards.”

Paragraph 83.d. further requires:

“The City shall work with other Defendants to create Regional Standards for sewer installation, Rehabilitation and Repair and participate in submitting a group report of the recommended standards for EPA’s review and approval by June 30, 2016, and for review, every five years thereafter.”

The City bases its construction plans and specifications on The “Greenbook”: Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry.

In this reporting period, the City has begun incorporating these Standards in the design of its capital projects. The Defendants have and will continue to discuss the Regional Standards, its effectiveness, and potential revisions and improvements at coordination meetings.

4.4 Sewer Lateral Inspection and Repair

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

“Sewer Laterals: a description of the activities taken and materials used to notify property owners of defective sewer Laterals...”

Regional Private Sewer Lateral (PSL) Program

Paragraph 84.c of the Consent Decree requires:

“The City, to satisfy the requirements of this subparagraph, shall document, in spreadsheet format, the building permits issued during the Fiscal Year, the certificates of occupancy issued, and whether a Compliance Certificate was submitted prior to issuance of the certificate(s) of occupancy.”

Oakland started its PSL program on January 16, 2012, in collaboration with the Regional PSL Program administered by the East Bay Municipal Utility District (EBMUD).

The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy.

Table 4-10 below shows the City's compliance with the CD requirement to have "...permittees to submit Compliance Certificates before being issued certificates of occupancy for construction or remodeling permits in excess of \$100,000." (Paragraph 84.c).

Table 4-10
Permits Finalized, with EBMUD Certificates of Compliance

Fiscal Year	# Permits Finalized	# with Compl Cert	# w/o Compl Cert
*FY 2015-16	257	257	0
FY 2016-17	318	318	0

*Numbers updated from last year's reporting.

In FY 2016-17, the City finalized 318 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000. All 318 building permits received Compliance Certificates issued by EBMUD which met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year. The City continues to share data with EBMUD and sends spreadsheets detailing Oakland's activities.

Other Privately Owned Defective Sewer Laterals

Paragraph 85.a. of the Consent Decree requires:

"Within 90 days of identifying a Sewer Lateral as defective the City of Oakland shall notify the owner in writing."

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

- "A. the number of sewer Laterals identified as defective;*
- B. the number of property owners notified that their Sewer Laterals are defective;*
- C. a copy of a representative notice that was sent to property owners notifying them that their Sewer Lateral is defective;*
- D. a description and the number of administrative enforcement actions taken against property owners for defective Sewer Laterals;"*

As shown in Table 4-11, during FY 2016-17 City crews identified 47 defective Sewer Laterals. 37 property owners have corrected their defective Sewer Laterals. 10 property owners have not corrected the defect.

The City sent defective lateral notices to properties in accordance with the requirement described on Paragraph 85a of the Consent Decree. The City aggregated all lateral related reports and complaints in one database. The City sent notices to property owners including those with lateral defects and those with only temporary blockages. 25 notices were sent within the 90-day requirement. 5 notices were sent beyond the 90-day requirement, one of which was repaired. 2 notices were not sent, two of which have been repaired.

**Table 4-11
Defective Sewer Laterals**

# of Defective Sewer Laterals Identified in Fiscal Year 2016-17	# of Defective Sewer Laterals Repaired	# of Defective Sewer Laterals Not Repaired	# Of Notices Sent Within 90 Days Or Repaired Within 90 Days	# Of Notices Sent Beyond 90 Days	# Of Notices Not Sent
47	37	10	40	*5	**2

*1 have been repaired

**2 have been repaired

Oakland-Owned Sewer Laterals

Paragraph 166.b.i.E requires the Annual Report to contain:

“...the number of Oakland-owned Sewer Laterals inspected and Repaired or Rehabilitated and the cumulative number of Oakland-owned Sewer Laterals inspected and Repaired or rehabilitated from the Effective Date;”

On June of 2016, the City awarded an on-call construction contracts with two Contractors to inspect and, where necessary, repair or rehabilitate defective City-owned Sewer Laterals of 95 City facilities identified in Appendix H-1 of the Consent Decree. In FY 2016-17, the City have inspected and completed 26 Sewer Laterals Rehabilitation locations as listed in Table 4-12 on **Appendix G**. The City expects to complete inspection and repair of City-owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree.

Defective Sewer Laterals Owned by Other Public Entities or Government Agencies

Paragraph 166.b.i.F. requires the Annual Report to contain:

“...the address and name of any property owned by a Public Entity, or the State or federal government, that has an identified defective Sewer Lateral, including a description of the defect;”

During FY 2016-17 and FY 2015-16, the city did not identify any defective Sewer Laterals owned by other Public Entities or the State or federal government.

Sewer Lateral Education and Outreach Program

Paragraph 166.b.i.G. requires the Annual Report to contain:

“... a summary of the City’s assistance to EBMUD in the development of a Sewer Lateral education and outreach program.”

The City will continue to work with EBMUD in implementation of the program.

Lower Sewer Laterals

Paragraph 166.b.i.G. requires the Annual Report to contain:

“Lower Sewer Laterals: the number of Sewer Laterals connected to the Rehabilitated Sewer Mains and the number of Lower Sewer Laterals Repaired or Rehabilitated.”

As shown in Table 4-2 and Table 4-4, as part of its Sewer Main Rehabilitation, the City reconnected all 1,227 encountered Sewer Lateral connections which included connections to laterals within easements. The City Repaired or Rehabilitated 882 Lower Sewer Laterals as part of the construction projects. Laterals within easements are within private properties and are not considered Lower Sewer Laterals.

4.5 Inflow and Rapid Infiltration Identification and Elimination

Paragraph 166.c.i. of the Consent Decree requires the Annual Report to contain:

“a description of the City’s cooperation with EBMUD’s implementation of the RTSP;...”

The City will continue to work with EBMUD in implementation of the program.

On September 29, 2016, EBMUD submitted to the City FY 2015-16 Annual Satellite Notification. The City provided a response on December 16, 2016. EBMUD did not find any linear and non-linear high priority sources. 24 private sources were found. Of those 24, the City has determined one to be a high priority source. The one location was abated within the required twenty-four months of making the designation.

Table 4-12 Inflow and Rapid Infiltration Identification

EBMUD Notification FY	High Priority Sources	Number of Locations Identified	# of Notices Sent Within 90 Days	# of Notices Sent Beyond 90 Days	# of Locations Abated Within Time Requirement	# of Locations Abated Beyond Time Requirement
FY 2015-16	Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Non-Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Private High Priority Sources	1	1	1	1	0
	Private Low Priority Sources	23	23	0	*TBA	N/A

*Status update will be provided in the next RTSP Notification Response report.

Section 5. SSO Reduction Work

Paragraph 167 of the Consent Decree requires:

“The City shall summarize its Work to reduce SSOs in its service area in the reporting Fiscal Year.”

A summary of the City’s work is described below.

5.1 Capacity Assurance

Paragraph 167.a. of the Consent Decree requires that the Annual Report contain:

“Capacity Assurance: a description of the activities performed in order to monitor the locations in Paragraph 89(a) during rain events...”

During FY 2016-17, the City monitored water levels in Maintenance Holes listed in Paragraph 89(a) of the Consent Decree. The high water level alarm sensors were installed 12” below the rim of the manhole cover. The low water level alarm sensors were installed 17” below the rim of the manhole cover. Table 5-1 provides information required in Paragraph 167a of the Consent Decree.

Paragraph 167ai requires the City to show the *“highest water level in relation to the Maintenance Hole observed in the reporting Fiscal Year”*.

Table 5-1 is a cumulative list of all locations that received high water level alarms in FY 2014-15, FY 2015-16, and FY 2016-17. In FY 2016-17 the City experienced a total of seven locations that reached within one foot of the Maintenance Hole rim. All flows were contained within the system and no SSO events have occurred at any of these six locations. One location were suspected to be capacity related. Six locations were non-capacity related.

Paragraph 167aii requires the City to identify any *“capacity-related SSO or instance of the water level reaching within one (1) foot of the Maintenance Holes rim due to a lack of capacity and whether the event(s) occurred during a rain event that was greater than the December 5, 1952 Storm”*.

As shown in Table 5-1, high water levels were experienced in six locations that were triggered by the December 11, 2014 storm event. Our analysis shows that the December 11, 2014 storm was a storm event have exceeded the December 5, 1952 storm. This event surpassed a 5-year classification with a full duration classification of a 10-year, 21-hour event. Despite this, and out of an abundance of caution, the City has begun design of upgrades at all locations where high water levels were triggered. A full detail of the City’s progress on the planned upgrades is provided below.

Paragraph 167aiii requires the City to provide *“a description of all activity the City performed to prevent an SSO from occurring at a location where the City had reason to believe a capacity-related SSO was likely to occur”*.

Table 5-1 includes a description of maintenance activities performed to prevent SSO’s for each location.

Paragraph 167aiv requires the City to provide “*a description of activities to address locations that do not have sufficient capacity*”.

Table 5-1 includes a description of maintenance activities performed to prevent SSO’s for each location. In addition, as stated above, the City is proceeding with preparing construction plans for capacity upgrades at all seven (7) locations. This work started FY 2014-15; however, due to the complexity of the project location and encountering physical challenges in the existing field conditions, our project has been delayed. The following is a summary progress report on all seven locations:

- San Pablo Avenue at 60th Street – Currently in Construction
- San Pablo Avenue at 62nd Street - Currently in Construction
- Grand Avenue and Harrison Street – Currently in Construction
- Park Blvd and Spruce Street - Design 95% Completed. Construction planned for Spring 2018.
- East 18th Avenue at 4th Avenue - Construction planned for Fall 2017.
- Maybelle Avenue and Masterson Street - Currently in Construction
- Trestle Glen Road at Creek Road – Design 95% Completed. Construction planned for Spring 2018.

Furthermore, in FY 2015-16, the City completed a large sewer rehabilitation project downstream of three triggered locations: 27th Avenue & Vernon Street, Grand Ave and Harrison St, and 19th Street and Jackson Street. That project rehabilitated approximately 1,079 linear feet of existing 60” conduit sewer pipes with Centrifugally Cast, Fiberglass-Reinforced, Polymer Mortar (CCFRPM) pipes and applied coating for approximately 342 linear feet of existing 3’x 4’-10” conduit sewer pipes. That project is expected to improve the hydraulic conditions of the sewer system in the downtown area and lower the overall hydraulic gradient line in sewer pipes upstream.

Paragraph 167av requires the City to provide “*a list of sewer segments improved pursuant to Paragraph 89(b) including the date the capacity was improved, and certification that any improved Sewer Main has sufficient capacity*”.

There are no activities to report.

Paragraph 167avi requires the City to provide “*identification of any capacity-related SSOs and the SSO date and location*”.

In FY 2016-17, no Sanitary Sewer Overflows occurred in any of the Maintenance Holes listed in Paragraph 89(a) of the Consent Decree.

**Table 5-1
Capacity Related High Level Alarms Triggered in FY 2016-17**

No. Listed from Consent Decree	Location	Event Occurrence			Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
		Date of Occurrence	Rain Event?	Exceeded 1952 Storm?			
i.	San Pablo Avenue at 60th Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 5-29-14, 2-18-15, 9-20-16	**Planned for Fall 2017 Construction.
		1/19/2016	Yes	No	Grease & Capacity	Cleaned: 2-18-15, 4-28-16, 9-20-16	
		3/5/2016	Yes	No	Grease & Capacity	On Hot Spots List	
ii.	San Pablo Avenue at 62 nd Street	9/23/2015	No	N/A	Maintenance staff triggered sensor	Televised: 4-29-14, 10-17-16 Cleaned: 9-23-15, 8-30-16 On Hot Spots List	**Planned for Fall 2017 Construction.
iii.	Stanford Avenue at Gaskill Street	9/23/2015	No	N/A	Maintenance staff triggered sensor	Televised: 8-20-14, 10-06-16. Cleaned: 10-06-15, 10-06-16.	Upsizing not needed.
		8/25/2016	No	N/A	Maintenance staff triggered sensor	Inspected and reset surcharge alarm unit 9-23-15.	
iv.	27th Avenue & Vernon Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 4-29-14, 12-16-14, 9-19-2016	Upsizing not needed. The current hydraulic model shows there is sufficient capacity. The location is placed on the High Frequency 6-month cleaning list.
		1/19/2016	Yes	No	Grease	Cleaned: 4-29-14, 6-2-14, 1-13-15, 7-27-15, 2-8-16, 8-10-16, 9-19-15, 2-14-17	
		12/15/2016	Yes	No	Grease	On High Frequency Cleaning List Every 6 Months	
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
v.	Grand Avenue and Harrison Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 4-28-14 Cleaned: 4/28/14, 5/27/2015, 6-8-16, 6/13/17	**Planned for Fall 2017 Construction. Downstream hydraulic condition was improved by a 54" slip line project in 2016.
		1/06/2016	Yes	No	Grease & Sag		
		1/17/2016	Yes	No	Grease & Sag	On High Frequency Cleaning List every 12 Months	
		1/19/2016	Yes	No	Grease & Sag		
		1/22/2016	Yes	No	Grease & Sag		

No.	Location	Event Occurrence			Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
		Date of Occurrence	Rain Event?	Exceeded 1952 Storm?			
		3/5/2016	Yes	No	Grease & Sag		
		12/10/2016	Yes	No	Grease & Sag		
		12/15/2016	Yes	No	Grease & Sag		
		1/9/2017	Yes	No	Grease & Sag		
		1/10/2017	Yes	No	Grease & Sag		
		1/18/2018	Yes	No	Grease & Sag		
		1/20/2017	Yes	No	Grease & Sag		
		1/22/2017	Yes	No	Grease & Sag		
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
		3/4/2017	Yes	No	Grease & Sag		
		4/7/2017	Yes	No	Grease & Sag		
vi.	19th Street and Jackson Street	† 12/13/2015	Yes	No	Downstream sewer construction by-pass and cleaning triggered sensor	Televised: 5-27-14, 10-3-16, 11-18-16, 5/15/2017 Cleaned: 11-21-14, 9-19-16, 11-16-16, 5/2/2017 Inspection every 6 months	Revised conclusion that the trigger was not capacity related. Additionally, a sewer relief line was constructed in 2010.
vii.	Park Blvd and Spruce Street	1/17/2016	Yes	No	Capacity	Televised: 11-14-14, 8-3-16	***Planned for Spring 2018 Construction. 95% Designed. Resolving utility/private improvements conflicts, utility poles, telecommunication conduits, etc.
		3/5/2016	Yes	No	Capacity	Cleaned: 1/23/14, 7-8-16	
		3/12/2016	Yes	No	Capacity	On High Frequency Cleaning List every 12 Months	

No.	Location	Event Occurrence			Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
		Date of Occurrence	Rain Event?	Exceeded 1952 Storm?			
viii.	East 18th Avenue at 4th Avenue	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 12-26-14, 8-14-15 Cleaned: 8-09-16 On High Frequency Cleaning list every 6 Months	**Planned for Fall 2017 Construction. Downstream hydraulic condition was improved by a 54" slip line project in 2016.
		12/13/2015	Yes	No	Capacity		
		12/21/2015	Yes	No	Capacity		
		1/06/2016	Yes	No	Capacity		
		1/17/2016 & 1/19/2016	Yes	No	Capacity		
		3/05/2016 & 3/10/2016	Yes	No	Capacity		
		12/10/2016 & 12/15/2016	Yes	No	Capacity		
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
ix.	††Maybelle Avenue and Masterson Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 1-2-15, 9-22-16, 1-10-17 Cleaned: 12-27-15, 3-15-16, 1-2-17	**Planned for 2018 Construction.
		1/17/2016 & 1/19/2016	Yes	No	Sag		
		3/5/2016 & 3/10/2016	Yes	No	Sag		
		3/13/2016 & 1/10/2017	Yes	No	Sag		
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
x.	†††Trestle Glen road and Creed Road	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 1-26-15 Cleaned: 5-6-15, 11-9-15, 5-10-16, 12-5-16, 6-6-17 Location on High Frequency Cleaning List Every 3 Months	***Sag will be corrected and 606 linear feet of pipe will be upsized in 2018.
		1/17/2016 & 1/19/2016	Yes	No	Debris & Sag		
		3/5/2016	Yes	No	Debris & Sag		
		12/10/2016 & 12/15/2016	Yes	No	Debris & Sag		

		1/10/2017	Yes	No	Debris & Sag	
		2/20/2017	Yes	Yes	Exceeded 1952 Storm	
xi.	76 th Avenue and Bancroft Avenue	8/25/2016	No	N/A	Maintenance staff triggered sensor	Televised: 12-18-14 Cleaned: 5-28-14,
		2/20/2017	Yes	Yes	Exceeded 1952 Storm	6-3-2015, 2-9-16, 6-22-16, 2-15-17 Location on High Frequency Cleaning List Every 12 Months

* Locations in which the water level reached within one foot of the Maintenance Hole rim during the December 11, 2014 rain event. Rain event exceeded 1952 Storm.

** Project 1001173

*** Project 1001173 Task #2 and Task #3

† The following information was not included in FY2015-16’s Annual Report, because of a recent finding. The City re-evaluated the 12/13/2015 trigger event and revised a conclusion that the trigger was not capacity related. The trigger was caused by construction activities on a sewer project downstream between December 7, 2015 and December 17, 2015. The construction activities included a sewer bypass, sewer pipe cleaning, and CIPP preparation setup for a 48" sewer line rehabilitation at San Pablo and West Grand Avenue. The bypass pump was set up between San Pablo Ave and West Grand Ave.

Additionally, a sewer relief line was constructed from City Project No. C59310 in 2010 to increase sewer capacity near the intersection of Jackson Street and 19th Street. The project split the sewer flows running north on Jackson Street; diverting a portion of the flow to continue north towards Lakeside Drive. Prior to the construction of these improvements, the sewer manhole 50-904-24 would experience high flow levels during high-intensity rain events. The constructed relief line added an alternative flow path from Jackson Street and 19th Street to the 60” trunk sewer line located on 20th Street to the north. The increased capacity provided by the new relief line have reduced the chance of a sanitary sewer overflow (SSO) at this location.

The City have undergone hydraulic analysis to determine the benefit the relief line provides. The City’s hydraulic model was run under two scenarios, (1) without improvements and (2) with the relief line constructed. In both instances a 5yr-7hr design storm was used to evaluate sewer performance during a rainfall event. Under scenario (1), the hydraulic grade line (HGL) rose above the rim elevation at manhole 50-904-24, indicating that a SSO would occur. Under scenario (2), with the relief line constructed, the HGL lowered from 8.38 to 7.63 and below the manhole rim.

†† To mitigate the capacity deficiencies in the sewer pipes between Maybell Avenue and Masterson Street, City is currently in construction to upsize the existing 10-inch VCP sewer pipe to 14-inch HDPE pipe along Maybelle Avenue between Masterson Street and MacArthur Boulevard. These improvements substantially reduce the risk of a sanitary sewer overflow during wet-weather.

††† To mitigate the capacity deficiencies and correct the sags in the trunk sewer along Trestle Glen Road, the City evaluated several capacity improvement options. Of the scenarios evaluated, the preferred option is to up-size pipes along Trestle Glen Road between Creek Road and Humphrey Place from a 12-inch to 16-inch diameter. Modeling results show these improvements are able contain local sewer flows within the system for the 5-year, 7-hour storm. These improvements substantially reduce the risk of a sanitary sewer overflow during wet-weather. The up-sized lines will allow sufficient relief upstream while not overwhelming the system downstream.

5.2 Post SSO Inspection

Paragraph 167.b. of the Consent Decree requires that the Annual Report contain:

“Inspections: a statement that Oakland completed CCTV inspections downstream of each SSO location.”

During FY 2016-17, the City completed CCTV inspections downstream of each SSO.

5.3 Acute Defects

Paragraph 167.c. of the Consent Decree requires that the Annual Report contain:

“Acute Defects: a description of the activities to Repair Acute Defects...”

Paragraph 91 further provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

Acute Defects are shown in Table 5-3 of **Appendix D**. Table 5-3 shows location of Acute Defect locations identified after the Consent Decree (July 1, 2014).

As shown in Table 5-3, the following is a list of activities related to acute defects.

- 27 New Acute Defects were found in FY 2016-17.
- 16 FY 2016-17 identified Acute Defects were repaired.
- 3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement.
- 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.
- No Sanitary Sewer Overflows occurred because of delays in Repair of Acute Defects.
- The status of each repair pertains to the FY initially identified. Outstanding repairs for each FY will be updated annually until repaired in which the record will be added to the associated repaired reporting.

Between July 1, 2016 and June 30, 2017, the median time to correct an Acute Defect was 105 days.

**Table 5-3a
Acute Defect Summary**

Fiscal Year	# Of Acute Defects Found	# Of Acute Defects Repaired Within One Year of Identification	# Of Acute Defects Repaired Not Within One Year of Identification		# Of Acute Defects Not Repaired	
			City Responsibility	Private Responsibility	City Responsibility	Private Responsibility
FY 2014-15	41	36	3	0	0	1
FY 2015-16	24	21	0	2	0	1
FY 2016-17	27	16	n/a	n/a	8	3

Minor Repairs Completed

In addition to the Sewer Main Rehabilitation described above, between July 1, 2016 and June 30, 2017, the City’s Sewer Maintenance Section performed 78 spot repair work orders. These spot repairs consisted of excavating damaged sewer lines and installing new segments of sewer line or repairing structures. The list of repair locations is shown in Table 4-5 of **Appendix B**. As of June 30, 2017, maintenance crews have 159 minor repairs to be completed.

**Table 5-2
Length of Additional Sewer Mains Rehabilitated from Minor Repairs**

Fiscal Year	Mains Rehabilitated
FY 2014-15	946’ (0.18 mile)
FY 2015-16	673’ (0.13 mile)
FY 2016-17	443’ (0.08 mile)

5.4 Sewer Main Cleaning

Paragraph 167.d. of the Consent Decree requires that the Annual Report contain:

“Sewer Main Line Cleaning: a description of activities conducted under its sewer cleaning program...”

Paragraph 92.a. further provides:

“The City of Oakland shall complete the cleaning of its entire Collection System program which began in 2010, by June 30, 2018. By June 30, 2014, the City shall have cleaned 1,900,800 feet of Sewer Mains. Beginning July 1, 2014, the City shall clean its remaining Sewer Mains at the rate of 739,200 feet per Fiscal Year on a cumulative basis (i.e., 2,640,000 feet by June 30, 2015; 3,379,200 feet by June 30, 2016; etc.).”

As shown in Table 5-4a, 4,402,534 unique feet (834 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 4,118,400 feet (780 miles).

**Table 5-4a
Feet of Sewer Main Cleaned (Unique Feet)**

Fiscal Year	Mains Cleaned*	Cumulative Total**	CD Requirement
FY 2013-14	544,051' (103 miles)	2,085,969' (395 miles)	1,900,800' (360 miles)
FY 2014-15	778,526' (147 miles)	2,864,495' (543 miles)	2,640,000' (500 miles)
FY 2015-16 ***	941,179' (178 miles)	3,777,533' (715 miles)	3,379,200' (640 miles)
FY 2016-17	625,001' (118 miles)	4,402,534' (834 miles)	4,118,400' (780 miles)
Since Effective Date (September 22, 2014)****	2,107,897' (399 miles)	n/a	n/a

*Newly-unique feet cleaned during the FY (feet that had no previous cleaning between January 1, 2010 and the start of the FY)

**Cumulatively-unique feet starting January 1, 2010

*** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

****Newly-unique feet cleaned starting September 22, 2014 (feet that had no previous cleaning between January 1, 2010 and September 21, 2014). Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16

Reference: Paragraph 92.a., Paragraph 167.d.i.

**Table 5-4b
Feet of Sewer Main Cleaned More Than Once**

Per Paragraph 167.d.ii., in this Table 5-4b, the length of a Sewer Main is counted once regardless of the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	379,663' (72 miles)	1,508,005' (286 miles)	n/a
FY 2015-16 **	411,287' (78 miles)	1,960,753' (371 miles)	n/a
FY 2016-17 **	325,672' (62 miles)	2,269,887' (430 miles)	n/a

*Starting January 1, 2010

** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data. The pipes that are cleaned more than once in a fiscal year may be the same or different in each fiscal year, and the calculation is specific to each fiscal year. For example, pipe A may have been cleaned twice in FY2014-15 and twice in 2015-16, so its footage are included in each fiscal year's calculation; whereas pipe B may have been cleaned once in FY 2014-15 and twice in FY2015-16, so its footage are only included in the FY 2015-16 calculation. The cumulative total would include pipe A only once and pipe B only once, which is why the current cumulative total cannot be calculated as the prior cumulative total plus the total for the current fiscal year.

Table 5-4c Feet of Sewer Main Cleaned, Including Repeat Cleanings

Per Paragraph 167.d.iii., in this Table 5-4c, the length of a Sewer Main is multiplied by the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	2,017,932' (382 miles)	6,486,856' (1,229 miles)	n/a
FY 2015-16 **	2,361,494' (447 miles)	8,799,050.32' (1,666 miles)	n/a
FY 2016-17 **	1,854,591 (351 miles)	10,656,915' (2,018 miles)	n/a

*Starting January 1, 2010

** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

A summary of the cleaning by Sub-Basin is shown in Figure 5-1 of **Appendix E**.

5.5 Root Cleaning (Foaming)

Paragraph 167.e. of the Consent Decree requires that the Annual Report contain:

“Root Cleaning: a description of the activities conducted under Oakland’s root control program, including the feet of Sewer Main treated for root control cumulatively and in each Fiscal Year beginning July 1, 2013.”

Paragraph 92.e. further provides:

“For the first three Fiscal Years, the City of Oakland shall treat a minimum of 264,000 feet of Sewer Mains per Fiscal Year on a cumulative basis (i.e., 264,000 feet by June 30, 2014; 528,000 feet by June 30, 2015; and 792,000 feet by June 30, 2016.)”

The City has been treating sanitary sewer mains to reduce instances of excessive root infiltration. The root-foaming program uses an herbicide which penetrates root cell walls and causes them to decay and die. This treatment destroys roots that have infiltrated sewer mains that can cause stoppages and damages.

From 2011 to 2015, the root-cleaning program selected pipes for treatment based on a non-targeted, basin-wide approach. Beginning in FY 2015-16, the City revised its pipe selection process to more efficiently target pipes and avoid treating pipes known to be clear of roots. Selection of pipes within the system treatment is based primarily on observation of roots from CCTV inspections. Other selection criteria include:

1. Priority is given to pipes within easements.
2. All pipes in a sub-basin are treated if a significant number of pipes are affected by root intrusion as indicated in CCTV inspections.
3. Pipes will not be selected for root foaming if the pipe has been rehabilitated within the last five years.
4. Pipes will not be selected for root foaming if the pipe will be rehabilitated within five years or the pipe resides in the hot spot list.

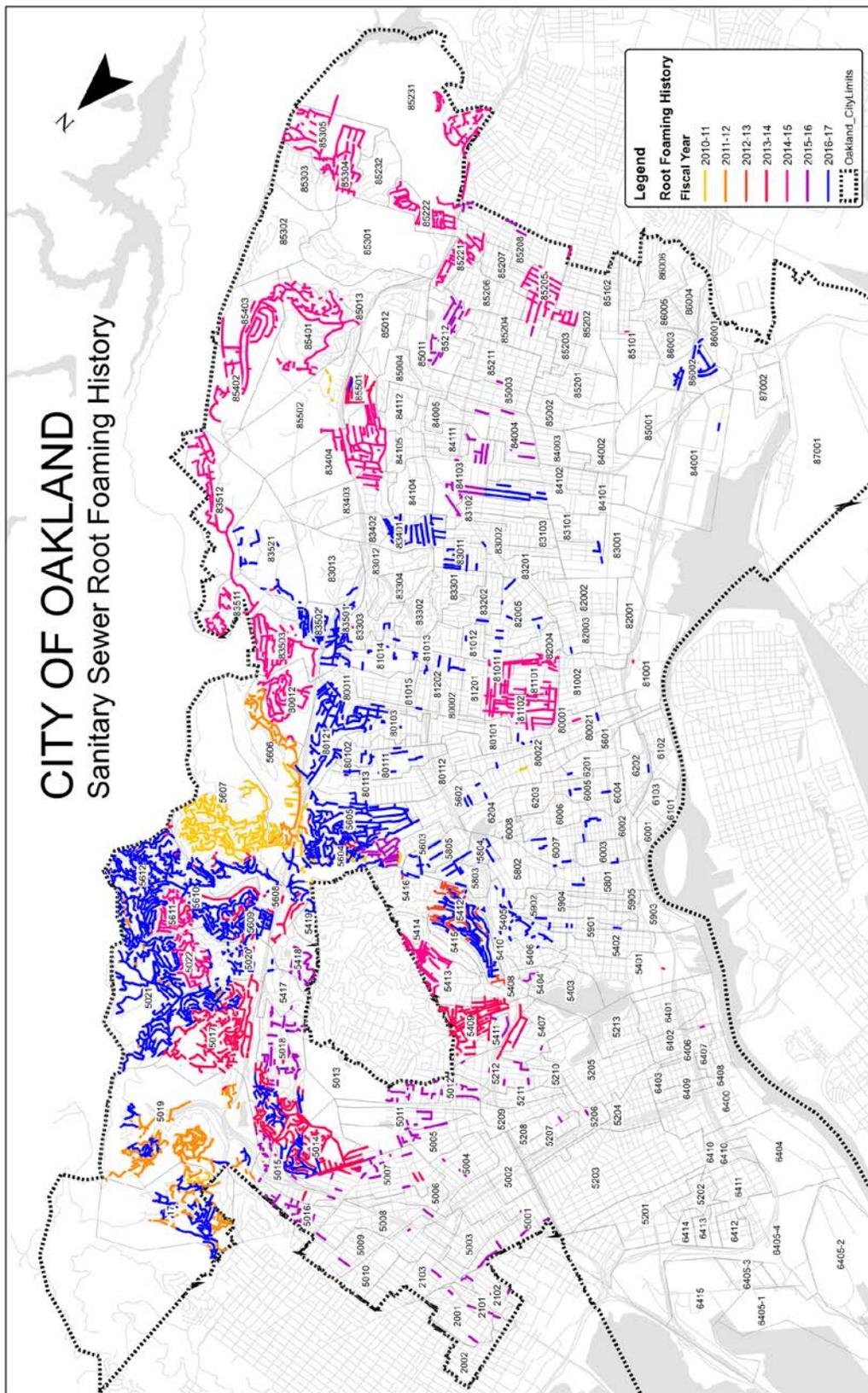
As of June 30, 2017, the City had root foamed 1,227,132 feet (232.4 miles) of Sewer Mains, which meets the Consent Decree cumulative requirement. Results of the City’s root-cleaning program are as follows:

Table 5-5 Root Control Program Implementation

Fiscal Year	Mains Assessed	Cumulative Total	CD Requirement
FY 2013-14	304,811’ (57.7 miles)	304,811’ (57.7 miles)	264,000’ (50 miles)
FY 2014-15	352,176’ (66.7 miles)	656,987’ (124.4 miles)	528,000’ (100 miles)
FY 2015-16	146,784’ (27.8 miles)	803,771’ (152.2 miles)	792,000’ (150 miles)
FY 2016-17	423,361’ (80.2 miles)	1,227,132’ (232.4 miles)	1,056,000’ (200 miles)

Figure 5-1 contains a location map showing sub-basins root-foamed from 2011 to June 30, 2017.

Figure 5-1 Root Foaming Areas



Paragraph 92.e. further provides:

“By December 31, 2016, the City shall submit an evaluation of its root control program to EPA for review and approval. The evaluation shall consider the need to treat additional or fewer Sewer Mains to address results from cleaning and CCTV. The evaluation shall propose refinements to the City’s root control program in order to ensure excessive roots in the Collection System are controlled.”

On December 9, 2016, the City submitted an evaluation report of the root control program to EPA for review and approval. On February 27, 2017, EPA rejected the City’s proposal to foam 23.4 miles of sewer mains per year and was directed to continue treating 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree. On February 28, 2017, the City requested for technical feedback and reconsideration since there was no substantial reasons provided. The City is waiting for the Water Board and EPA to provide a more substantial response and its reconsideration for a conditional approval. The root foam evaluation was data-driven in which 23.4 miles of pipe treatment was derived. It will not be the best use of the sewer service funds for the City to treat pipes that are not needed for the remainder of the Consent Decree.

5.6 Hot Spot Cleaning

Paragraph 167.f. of the Consent Decree requires that the Annual Report contain:

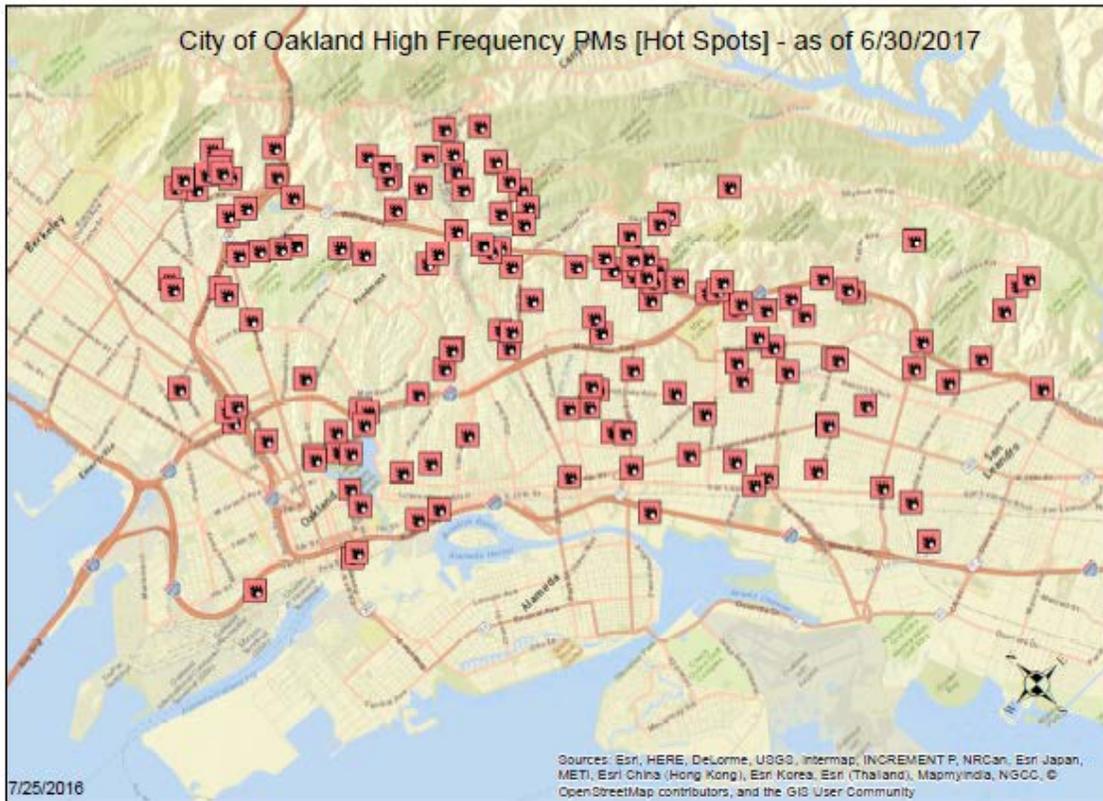
“Hot Spot Cleaning: description of activities conducted under its hot spot program, including feet of Sewer Main in the hot spot cleaning program and the range of cleaning frequencies for Sewer Main in the hot spot cleaning program;”

The Consent Decree changed both the definition of “Hot Spot” and the cleaning requirements. In anticipation of the CD, staff reviewed City records and created a new High Frequency Preventive Maintenance List (Hot Spots) containing both locations having more than one SSO in a three-year period (Hot Spots) and other locations identified by staff. The list now contains 155 locations. Each of these locations was cleaned at least once in FY 2016-17. Table 5-5 of Appendix F contains the new High Priority PM List (as of June 30, 2017). Figure 5-2 contains a map of these locations.

The City reviewed its data for risk factors such as pipe age, size, slope and materials of construction, and found no correlation between SSOs and those factors.

The hot spot cleaning program contains 116,741 feet (22.11 miles) of Sewer Mains which are cleaned every three (3) to twelve (12) months as shown. Between July 1, 2016 and June 30, 2017, the City’s sewer crews cleaned 340,406 feet (64 miles) of Sewer Mains as part of the hot spot sewer cleaning program.

Figure 5-2
High Frequency PM Locations, as of 6/30/2017



5.7 Fats, Oil and Grease (FOG) Control

Paragraph 167.g. of the Consent Decree requires that the Annual Report contain:

“FOG: a description of activities to control FOG in the Collection System; a list of any SSOs that were thought to be associated with FOG or excessive buildup of grease, a list of FOG locations referred to EBMUD for investigation, and any actions that were taken against food service establishments related to inadequate FOG controls.”

The City’s FOG Control Program is described in Section 3.3 of its AMIP. The City identifies and reports FOG problems to EBMUD. EBMUD investigates and inspects FOG sources and works with food service establishments (FSEs) to correct FOG problems. Non-compliant FSEs are referred to the City for enforcement action.

In FY 2016-17, 38 SSOs were thought to be associated with FOG as listed in Table 2-1. These locations were referred to EBMUD for investigation as shown in Table 5-6.

EBMUD has not referred any FSEs to the City for enforcement action.

Table 5-6

FOG-Related SSOs Reported to EBMUD With CIWQS #s.			
Address	Street	Date Reported to EBMUD	CIWQWS #
2221	Broadway	7/13/2016	824719
7345	Snake Road	9/20/2016	826486
	84th Av & G St	9/20/2016	826584
2705	Ritchie St	9/20/2016	827439
5726	International Blvd	9/20/2016	827624
8701	Hillside St	9/20/2016	827839
1418	84th Ave	9/20/2016	828104
10489	Royal Oak Rd	9/20/2016	828173
51	Stark Knoll Pl	9/20/2016	828204
	69th Ave & International BL	9/20/2016	828320
9915	Bernhardt Drive	10/21/2016	828443
2201	Valley Street	10/21/2016	829105
5500	International BLVD	10/21/2016	829123
4335	Virginia Ave	11/4/2016	829548
7101	Spencer St	11/22/2016	829782
2000	Oakview Dr	11/22/2016	829691
3500	Mountain Blvd	11/22/2016	829670
2450	E 20th St	11/22/2016	829762
1080	8th St	11/22/2016	829863
	37TH ST & MARTIN LUTHER KING JR WAY	11/22/2016	829974
1422	45th Ave	12/9/2016	829684
2258	41st Ave	12/9/2016	830141
3759	Brookdale Ave	12/9/2016	830288
	SEMINARY AV & MAURITANIA AV	12/16/2016	830971
601	Webster St	12/16/2016	830730
3511	International Blvd	12/22/2016	831396
1949	94th Ave	1/27/2017	831792
601	5th Ave	1/27/2017	831945
	HIGH ST & AQUA VISTA ST	1/27/2017	831994
1125	Fleet Rd	1/27/2017	832147
2350	26th Av	3/20/2017	832527
2171	Rosedale Ave	3/20/2017	839563
	MLK & W Macarthur BL	3/20/2017	833807
533	Kenmore Ave	6/30/2017	835069
8414	Holly St	6/30/2017	835080
3336	E. 16th St	6/30/2017	834738

Address	Street	Date Reported to EBMUD	CIWQWS #
8824	International BLVD	6/30/2017	834300
4740	Congress Ave	6/30/2017	833973

5.8 Pump Station Renovation

Paragraph 167.g of the Consent Decree requires that the Annual Report contain:

“Pump Stations: a description of pump station renovation and upgrades required by the Pump Station Reliability Plan during the previous Fiscal Year and a description of projects to be completed in the following Fiscal Year.”

Paragraph 94 further requires:

“The City shall complete improvements described in the Plan by October 15, 2022.”

The city's collection system has seven (7) small pump/lift stations:

- ❖ Denton Place
- ❖ Fallon Street
- ❖ Hegenberger Road
- ❖ Parkridge Drive
- ❖ Tidewater Avenue
- ❖ Shepherd Canyon Road
- ❖ Skyline Blvd

Work on the Tidewater Pump Station was completed in 2012.

Schaaf & Wheeler, the consultant has completed the design plans and specifications for improvements all pump/lift stations. One construction contract which consists of three pump stations (Fallon Street, Hegenberger Road, and Shepherd Canyon Road One) begun construction in November 2016 and planned for completion in December of 2017. Construction at locations Denton Place, Parkridge Drive, and Skyline Blvd are scheduled to begin in 2018.

The City is significantly ahead of schedule with its Pump Station Improvement Program, with completion planned for 2019, three years ahead of schedule.

Section 6. Deliverables

Date Submitted	Description	Comments Received
9/30/15	Annual Report FY14/15	N/A
10/02/15	Annual Report FY14/15 Amendment	7/18/16, Comments addressed on 9/19/16
6/30/16	Regional Standards	None
9/30/16	Annual Report FY15/16	8/29/17, Comments addressed as part of Annual Report FY16/17
12/9/16	Root Control Program Evaluation Report	2/28/17. Requests for a 2 nd Response
12/16/16	RTSP Notification Response (Non-Linear High Priority Source Plan)	None

On December 9, 2016, the City submitted an evaluation report of the root control program to EPA for review and approval. On February 27, 2017, EPA rejected the City’s proposal to foam 23.4 miles of sewer mains per year and directed to continue treating 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree. The City requests for a more substantial response and its reconsideration for a conditional approval.

On December 16, 2016, the City submitted the City of Oakland’s response to EBMUD’s 2015/2016 RTSP Annual Satellite Notification for the period of July 1, 2015 to June 30, 2016 to EPA and EBMUD. The response provides the Non-Linear High Priority Source Plan.

Section 7. Known Non-Compliance with Consent Decree

Paragraph 91 of the Consent Decree provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement. 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.

In the Consent Decree, the City is required to comply in accordance with the requirement described in Paragraph 85a of the Consent Decree in which *“Within 90 Days of identifying a Sewer Lateral as defective the City of Oakland shall notify the affected owner in writing.”*

5 notices were sent beyond the 90-day requirement, one of which was repaired. 2 notices were not sent, two of which have been repaired.

Section 8. Assessment of Stipulated Penalties

Paragraph 186 of the Consent Decree: For each SSO that reaches waters of the United States, a stipulated penalty may be assessed as follows, with “gallons” referring to the total size of the overflow, spill or release:

Penalty Per SSO for SSOs totaling:		
Less than 1,000 gallons	1,000 to 9,999 gallons	10,000 gallons or more
\$200	\$1,000	\$25,000

In FY 2016-17, the total volume reached surface water was 203,560 gallons from 16 SSO events. Table 2-1 provides the number of SSOs for SSOs totaling in each of the three categories of volume.

The total potential assessed stipulated penalty from FY 2014-17 for SSOs Reached Waters of United States is \$191,600 as detailed below.

Table 8-1 SSOs Reached Waters of United States

FY	# of SSOs for SSOs totaling Less than 1,000 gallons	# of SSOs for SSOs totaling 1,000 to 9,999 gallons	# of SSOs for SSOs totaling 10,000 gallons or more
FY 2014-15	6	7	2
FY 2015-16	3	0	0
FY 2016-17	4	7	5
Potential Assessed Stipulated Penalty	\$2,600	\$14,000	\$175,000
Total Potential Assessed Stipulated Penalty from FY 2014-17	\$191,600		

Paragraph 172 of the Consent Decree provides:

"If the Annual Report documents that any of the obligations subject to stipulated penalties may not have been complied with, and a Defendant takes the position that potentially applicable stipulated penalties should not be assessed, that Defendant may include in the Annual Report an explanation as to why Plaintiffs should forego collecting such penalties; ... "

The City believes that Stipulated Penalties should not be assessed for the SSO events that reached surface waters. The spills were caused by a variety of reasons such as grease deposits, root intrusion, debris, and heavy storms

and are considered non-point sources. The City has been meeting the cleaning and rehabilitation goals annually since FY 2014 and have responded quickly to SSOs. A penalty would impact the ability of the City to meet future goals as the rehabilitation costs have significantly increased due to market conditions. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Section 9. Recommended Changes to Required Work

The City proposed to foam 23.4 miles of sewer mains per year instead of the 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree.

Appendix Summary

Appendix	Table Name	Table Number
A	List of Sanitary Sewer Overflows (SSOs) in FY 2016-17	Table 2-1
B	Collection System Spot Repair Work (July 1, 2016 – June 30, 2017)	Table 4-5
C	Notice to Abate Sample Letter	Figure 4-3
D	Acute Defect Lists	Table 5-3
E	Cleaning by Sub-Basin	Figure 5-1
F	High Frequency PM Locations	Table 5-5
G	City-Owned Sewer Laterals	Table 4-12
H	Port of Oakland Sewer Collection System Annual Report for July 1, 2016 – June 30, 2017.	-

Appendix A

Table 2-1
List of Sanitary Sewer Overflows (SSOs) in FY 2016-17

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
826063	486071	936 Mountain Blvd Oakland CA, 94611	2016.07.06 09.00.00	2016.07.06 11.00.00	2016.07.08 00.00.00	120	120	0	Street/ Curb and Gutter	Debris-General	8 vcp main sewer overflowed into the curb and gutter area. Staff recovered 120 gallons of wastewater and returned to sanitary main sewer.
826486	584467	7345 Snake Rd. Oakland Ca 94611	2016.07.19 11.00.00	2016.07.19 14.30.00	2016.07.22 00.00.00	150	150	0	Buildin g or Structu re	Debris-General	8 VCP Main sewer backed up into building structure. Staff recovered all 150 gallons of waste water. They also returned waste water to the sanitary sewer collection system.
826550	579357	8009 Fontaine St. Oakland ca	2016.07.21 14.15.00	2016.07.21 14.47.00	2016.08.04 00.00.00	960	960	0	Street/ Curb and Gutter	Sand & Sediment being discharged from EBMUD Reservoir at 7707 Greenly Ave	Staff contained spilled at storm inlet at Fontaine St & Holmes Ave. Using Hydro Flusher they vacuumed sewage and returned it to our sanitary system. Staff cleaned & disinfected area.
826584	768143	84th Ave & G Street Oakland ca	2016.07.19 18.40.00	2016.07.19 20.02.00	2016.07.28 00.00.00	78	78	0	Paved Surfac e	Debris-General	null
826602	306300	400 Capistrano Drive Oakland Ca,94621	2016.07.18 16.45.00	2016.07.18 22.43.00	2016.07.27 00.00.00	249	249	0	Other (specif y below)	Debris-General	Sewage spilled onto the asphalt on a school yard.
826639	727756	4120 Patterson Ave Oakland ca	2016.07.20 16.00.00	2016.07.20 18.30.00	2016.07.27 00.00.00	20	5	0	Buildin g or Structu re	Root Intrusion	20 gallons spilled into bathroom and drained to basement.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
827132	622405	1968 Gouldin Rd. Oakland ca. 94611	2016.07.29 10.00.00	2016.07.29 19.00.00	2016.08.11 00.00.00	270	270	0	Drainage Channel	Root Intrusion	Final destination was a drainage channel. waste water was absorbed by leaves and eventually blocked by leaves.
827401	684547	345 Pershing Dr	2016.07.27 10.00.00	2016.07.27 17.00.00	2016.08.23 00.00.00	420	0	0	Unpaved surface	Root Intrusion	null
827439	178390	2705 Ritchie Street Oakland Ca. 94605	2016.08.19 20.15.00	2016.08.19 22.15.00	2016.08.24 00.00.00	600	600	0	Street/Curb and Gutter	Grease Deposition (FOG)	null
827624	464253	5726 International Blvd Oakland ca 94621	2016.08.26 21.30.00	2016.08.27 00.15.00	2016.09.01 00.00.00	412	412	0	Building or Structure	Debris-General	null
827839	549541	8701 Hillside St Oakland, CA, 94605	2016.08.30 11.00.00	2016.08.30 13.00.00	2016.09.01 00.00.00	240	240	0	Street/Curb and Gutter	Grease Deposition (FOG)	240 gallons overflowed from and 8 vcp sewer line into the curb and gutter area. Staff contained and recovered all 240 gallons,

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
828104	801577	1418 84th avenue, Oakland Ca,94621	2016.09.06 18.40.00	2016.09.06 21.35.00	2016.09.12 00.00.00	352	352	0	Drainage Channel	Grease Deposition (FOG)	Three hundred and fifty-two gallons overflowed from an 8 vitrified clay pipe in our sanitary sewer main. Three hundred and fifty-two gallons spilled into a storm drain near 1418 84th avenue. Grease was the cause the blockage. The grease blockage was cleared, the flow was restored back to normal in the sewer main. Three hundred and fifty-two gallons was recovered from the storm inlet were sewage entered the system.
828114	309042	5344 Golden Gate Ave. Oakland Ca,94621	2016.09.07 08.45.00	2016.09.07 10.30.00	2016.10.18 00.00.00	60	0	0	Unpaved surface	Debris-General	Sixty gallons overflowed from a vitrified clay pipe at this location. Sand and rock obstructed the line causing an overflow at this location. Sixty gallons soaked into the dirt, zero gallons were recovered. Blockage was cleared, the flow was returned back to normal. When staff arrived on site, the line was not overflowing.
828173	971410	10489 Royal Oak Dr Oakland Ca. 94605	2016.09.12 12.20.00	2016.09.12 18.00.00	2016.09.14 00.00.00	3200	1500	1500	Surface Water	Debris-General	Viejo Arroyo Creek.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
828204	735807	51 Stark Knoll Place	2016.09.14 12.30.00	2016.09.14 20.30.00	2016.09.16 00.00.00	56	56	0	Building or Structure	Root Intrusion	8 VCP sanitary main sewer plugged and overflowed into the bathroom due to root intrusion and pipe failure.
828274	789872	7736 Outlook Avenue Oakland Ca,94621	2016.09.18 17.00.00	2016.09.18 19.00.00	2016.09.22 00.00.00	240	240	0	Drainage Channel	Debris from Lateral	Two hundred and forty gallons overflowed from a six inch vitrified clay pipe at this location. A side sewer test plug was the cause the of the overflow. Two hundred and forty gallons spilled into a storm drain at this location. Storm line was back flushed, all two hundred and forty gallons was captured and returned back to collection system. The side sewer plug was removed from the line. The flow was returned to normal.
828320	224361	69th Ave and International Blvd	2016.09.16 07.50.00	2016.09.16 09.15.00	2016.09.21 00.00.00	85	85	0	Street/ Curb and Gutter	Grease Deposition (FOG)	8 VCP sanitary main sewer plugged due to grease and overflowed out of the manhole in the street and curb and gutter.
828443	913406	9915 bernhardt Dr Oakland ca	2016.09.21 19.00.00	2016.09.21 23.00.00	2016.09.26 00.00.00	960	960	0	Separate Storm Drain	Grease Deposition (FOG)	Sewage spilled on to gutter, Staff contained sewage at inlet using Mats & Sandbags while vacuuming sewage with Hydro Flusher.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
828915	550681	7415 Circle Hill Dr Oakland, CA 94605	2016.10.06 07.37.00	2016.10.06 09.30.00	2016.10.11 00.00.00	113	93	0	Street/Curb and Gutter	Root Intrusion	null
828953	857127	1980 Leimert Blvd. Oakland Ca. 94606	2016.10.10 07.52.00	2016.10.10 09.42.00	2016.10.12 00.00.00	330	230	0	Paved Surface	Fallen dust cover which was removed.	null
829105	499732	2201 Valley St	2016.10.15 09.00.00	2016.10.15 11.15.00	2016.10.24 00.00.00	135	135	0	Separate Storm Drain	Grease Deposition (FOG)	8 VCP sanitary main sewer plugged and overflowed out of the manhole in the middle of the street and flowed into the storm drain. Staff plugged off storm drain to contain the overflow. Staff flushed the main sewer to unplug stoppage and return the flow. Staff removed all portions of the overflow out of the storm line and returned back to the collection system. Staff cleaned all affected areas. Staff will CCTV the sanitary main sewer.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829123	997590	5500 International Blvd	2016.10.17 14.30.00	2016.10.17 18.00.00	2016.10.25 00.00.00	150	150	0	Other (specify below)	Grease Deposition (FOG)	10 VCP sanitary main sewer plugged and overflowed out of the manhole in the middle of the street into the storm inlet. Staff plugged off storm line to contain the sewage. Staff flushed the main sewer to unplug the stoppage and restore the flow. Staff removed all sewage from the storm drain and returned all portions of the overflow back to the collection system. Staff cleaned all portions of the overflow. Staff will CCTV the sanitary main sewer.
829134	408645	7380 Claremont Ave Oakland ca.	2016.10.08 13.00.00	2016.10.08 16.00.00	2016.10.18 00.00.00	360	0	0	Other (specify below)	Root Intrusion	360 gallons spilled at this location, none was recovered 360 gallons soaked into the ground.
829548	690999	4335 Virginia Ave Oakland, CA, 94619	2016.10.30 10.10.00	2016.10.30 12.50.00	2016.11.04 00.00.00	1280	380	900	Separate Storm Drain	Grease Deposition (FOG)	1,280 gallons spilled from a cleanout in front of the property. 380 gallons were captured and returned to the collection system. 900 gallons went down the storm drain to SF Bay.
829601	262790	3727 Coolidge Ave Oakland, CA 94602	2016.11.01 10.40.00	2016.11.01 13.00.00	2016.11.04 00.00.00	420	210	210	Combined Storm Drain (Combined CS only)	Debris-General	8 vcp sanitary main sewer overflowed due to debris in the line. 420 gallons overflowed. 210 gallons went into the storm drain.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829670	501559	3500 Mountain Blvd Oakland Ca 94619	2016.11.06 17.00.00	2016.11.06 18.44.00	2016.11.08 00.00.00	1040	1000	40	Drainage Channel	Root Intrusion	null
829684	596875	1422 45th avenue Oakland Ca,94621	2016.10.30 11.00.00	2016.10.30 16.50.00	2016.11.08 00.00.00	310	310	0	Building or Structure; Street/Curb and Gutter	Debris-General	Three and hundred and ten gallons overflowed from eight inch vitrified clay pipe at two locations in front of the property. The first location was inside of the home. The second location was from a manhole in close proximity of the property. Debris was the cause of the spill. Three hundred gallons spilled inside of the home. The home owners cleaned the home before our staff arrived. There were several wet spots on the carpet indicating the length and width of the spill. Pictures were taken. A claim packet was given to the citizen. The citizen stated the waste water was returned back to collection system. The sewer staff captured the ten gallons in the curb and gutter area and returned back in the collection system.
829687	874780	3416 Brunell Dr. Oakland ca 94602	2016.11.06 13.00.00	2016.11.06 16.00.00	2016.11.08 00.00.00	20	20	0	Unpaved surface	Root Intrusion	null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829691	120141	2000 Oakview Drive Oakland California	2016.10.23 12.00.00	2016.10.23 14.00.00	2016.11.08 00.00.00	50	0	0	Other (specify below)	Debris-General	Fifty gallons overflowed from an eight inch verified clay pipe on to the dirt at this location. A spot repair was made to return the normal flow. Site was cleaned and made safe.
829762	640843	2450 E 20th St Oakland, CA, 94601	2016.11.09 10.00.00	2016.11.09 13.00.00	2016.11.23 00.00.00	120	120	0	Street/Curb and Gutter	Grease Deposition (FOG)	120 gallons overflowed from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 120 gallons and returned it to the collection system.
829782	863401	7101 Spencer St Oakland, CA, 94621	2016.11.14 19.10.00	2016.11.14 21.10.00	2016.11.23 00.00.00	200	200	0	Street/Curb and Gutter	Grease Deposition (FOG)	20 gallons overflowed from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 200 gallons and returned it to the collection system.
829863	392190	1080 8th St Oakland ca	2016.11.12 11.50.00	2016.11.12 14.15.00	2016.11.23 00.00.00	725	725	0	Street/Curb and Gutter	Grease Deposition (FOG)	Staff contained spill at inlet using mats & sandbags, vacuumed spilled sewage and returned to sanitary system.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829974	202070	37th Martin Luther King Way, Oakland California	2016.11.20 16.40.00	2016.11.20 20.20.00	2017.07.14 00.00.00	100	30	100	Drainage Channel; Surface Water	Grease Deposition (FOG)	One hundred gallons overflowed from an 8 PVC sanitary sewer main. Grease and roots obstructed the pipe causing an overflow. Seventy gallons spilled into a storm inlet at thirty six and Martin Luther King. Thirty gallons was captured in the gutter and returned to the collection system. Sewer staff cleared the blockage and returned the normal flow.
830141	775254	2258 41 avenue	2016.11.24 11.12.00	2016.11.24 15.30.00	2016.12.01 00.00.00	50	50	0	Building or Structure	Debris-General	Fifty gallons overflowed from an eight inch vitrified clay pipe. Fifty gallons overflowed into the basement at this residence. Debris obstructed the pipe causing the overflow. Pipe was broken in several locations. A did tag was wrote to have the main repaired.
830244	241545	5733 Colton Blvd Oakland ca	2016.11.27 09.50.00	2016.11.27 13.20.00	2016.12.01 00.00.00	210	189	0	Paved Surface; Street/Curb and Gutter	Root Intrusion	210 gallons spilled at this location, 189 gallons were recovered and 11 gallons soaked into the ground. Staff contained spill and used Hydro Flusher to vacuum sewage and return to sanitary system.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
830288	647816	3759 Brookdale Ave Oakland, CA 94619	2016.11.29 09.05.00	2016.11.29 13.05.00	2016.12.15 00.00.00	240	240	0	Paved Surface	Grease Deposition (FOG)	240 gallons overflowed from an 8 vcp sewer line onto a paved surfaced area. Staff recovered all 240 gallons and returned it to the collection system.
830376	369239	12006 Broadway Terr. Oakland ca	2016.12.01 21.06.00	2016.12.01 23.23.00	2016.12.14 00.00.00	30	20	0	Unpaved surface	Debris-General	30 gallons spilled and 20 gallons were recovered, 10 gallons soaked into the ground.
830657	535203	3535 Pierson Street, Oakland Ca,94621	2016.12.11 11.45.00	2016.12.11 13.45.00	2016.12.14 00.00.00	6000	0	6000	Surface Water	Grease Deposition (FOG)	Six thousand gallons overflowed from an 8 Vitrified Clay Pipe in to a storm drain at this location. A grease blockage was the cause of the overflow.
830730	579543	601 Webster St Oakland, CA, 94607	2016.12.14 14.30.00	2016.12.14 19.30.00	2016.12.20 00.00.00	6732	6732	0	Building or Structure	Grease Deposition (FOG)	6,732 gallons overflowed from an 8 vcp line into the basement. Staff rodded and flushed main sewer. All 6,732 gallons of wastewater drained from a floor lateral back into the main sewer.
830735	449892	3822 Whittle Ave Oakland ca	2016.12.10 12.30.00	2016.12.10 14.27.00	2016.12.16 00.00.00	23	0	0	Street/Curb and Gutter	Root Intrusion	Null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
830918	497627	83 Castle Park Way Oakland, CA 94611	2016.12.14 10.00.00	2016.12.14 11.30.00	2016.12.22 00.00.00	180	0	0	Buildin g or Structu re	Debris- General	180 gallons overflowed from an 8' vcp line into the bathroom. This was caused a blockage in the main line causing a sub pump to not pump the sewage into the line. A restoration company was on scene and cleaned up the spill.
830971	453936	Seminary Ave & Mauritania Ave Oakland ca	2016.12.12 21.00.00	2016.12.12 23.30.00	2017.02.09 00.00.00	100	100	0	Street/ Curb and Gutter	Grease Deposition (FOG)	Staff used Hydro Flusher to vacuum sewage and return to sanitary system, contained sewage at inlet with sandbags.
831108	238458	6000 Rockridge Blvd Oakland, CA, 94618	2016.12.22 08.30.00	2016.12.22 10.30.00	2016.12.29 00.00.00	240	240	0	Separate Storm Drain	Root Intrusion	240 gallons overflowed from an 8 vcp sewer line into the storm line. Staff went down stream and recovered all 240 gallons.
831210	994213	6115 Snake Rd Oakland, CA, 94611	2016.12.27 11.00.00	2016.12.27 13.30.00	2016.12.29 00.00.00	750	750	0	Separate Storm Drain	Debris- General	null
831394	422169	5741 Elizabeth Street Oakland Ca 94621	2016.12.15 16.10.00	2016.12.15 20.10.00	2017.01.04 00.00.00	240	240	0	Buildin g or Structu re	Rainfall Exceeded Design, I and I (Separate CS Only)	null
831396	340779	3511 international Blvd. Oakland ca	2016.12.20 17.00.00	2016.12.20 18.40.00	2017.02.09 00.00.00	100	100	0	Street/ Curb and Gutter	Grease Deposition (FOG)	null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
831739	963410	73 Alvarado Rd Oakland, CA, 94605	2017.01.11 14.30.00	2017.01.11 16.20.00	2017.01.25 00.00.00	1650 0	3000	13500	Separate Storm Drain	Root Intrusion	null
831762	242493	885 69th Avenue Oakland Ca,94621	2017.01.10 14.56.00	2017.01.11 14.30.00	2017.01.25 00.00.00	4700 0	0	47000	Surface Water	Surcharged Pipe (Combined CS Only)	94,500 gallons overflowed from an eight inch vitrified clay pipe into several storm drains at this location. Severe rain fall was the cause of the overflow. The pipe could not accommodate the volume of water in the pipe. Surcharging occurred for four pm, until two thirty am the next day
831763	545589	819 35th Ave	2017.01.10 16.00.00	2017.01.10 22.15.00	2017.01.25 00.00.00	3900 0	0	39000	Drainage Channel; Street/ Curb and Gutter	Rainfall Exceeded Design, I and I (Separate CS Only)	8 VCP sanitary main sewer overflowed due to heavy rain causing the main sewer to surcharging. Sewage overflowed out of the manhole located in the street and into the storm inlet.
831764	706034	814 Mandana Blvd Oakland ca 94610	2017.01.10 14.54.00	2017.01.10 17.00.00	2017.01.25 00.00.00	3300	0	3300	Separate Storm Drain	Rainfall Exceeded Design, I and I (Separate CS Only)	Null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
831770	780600	5741 Harmond Street Oakland, Ca 94621	2017.01.10 14.06.00	2017.01.10 17.00.00	2017.01.25 00.00.00	6000	0	6000	Surface Water	Surcharged Pipe (Combined CS Only)	30,000 gallons overflowed from an eight inch VCP. The overflowed occurred due to pipe capacity. Surcharging was the cause of the overflow. 6,000 gallons overflowed into a storm drain at this location. Zero gallons was captured.
831789	494285	2289 Melvin Rd Oakland 94602	2017.01.14 12.46.00	2017.01.14 17.16.00	2017.01.25 00.00.00	255	0	0	Unpaved surface	Root Intrusion	255 gallons overflowed from an 8 vcp sewer line on an easement into the ground in the rear yard.
831792	817461	1949 94th Ave	2017.01.16 18.30.00	2017.01.16 20.45.00	2017.01.25 00.00.00	270	270	0	Street/Curb and Gutter	Debris-Rags	8 VCP sanitary main sewer plugged and overflowed out of the manhole on to the street, curb and gutter area. Staff contained all portions of the spill. Staff rodded and flushed the main sewer to unplug stoppage and return the flow. Staff returned all portions of the spill and cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
831893	452691	5900 Bagshotte Dr. Oakland Ca 94611	2017.01.15 16.30.00	2017.01.15 22.00.00	2017.01.25 00.00.00	6510	0	6510	Surface Water	Dirt from mudslides	Sausal Creek.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
831945	256832	601 5th Ave Oakland, CA, 94606	2017.01.19 10.48.00	2017.01.19 12.50.00	2017.01.25 00.00.00	610	410	0	Unpav ed surface	Grease Deposition (FOG)	610 gallons spilled from a 14 vcp main sewer onto an unpaved surface. 410 gallons were recovered. 200 gallons soaked into the ground.
831994	383336	High Street & Aqua Vista Avenue Oakland, Ca 94621	2017.01.22 08.00.00	2017.01.22 10.00.00	2017.07.14 00.00.00	90	90	0	Street/ Curb and Gutter	Grease Deposition (FOG)	Ninety gallons overflowed from an eight inch VCP sewer main on to the curb and gutter. The waste water overflowed due to a large grease obstruction in the pipe. Ninety gallons was captured and returned to collection system.
832147	740728	1125 Fleet Rd Oakland, CA 94610	2017.01.26 12.00.00	2017.01.26 14.00.00	2017.02.09 00.00.00	120	120	0	Street/ Curb and Gutter	Grease Deposition (FOG)	120 gallons spilled from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 120 gallons and returned it to the collection system.
832187	767659	5895 Bagshotte Dr Oakland Ca 94611	2017.01.27 11.00.00	2017.01.27 13.30.00	2017.02.09 00.00.00	1500	0	1500	Surfac e Water	Debris- General	Shepherd Creek.
832428	767968	200 Beauforest Dr Oakland, CA, 94611	2017.02.01 09.21.00	2017.02.01 12.00.00	2017.02.09 00.00.00	320	160	0	Buildin g or Structu re; Unpav ed surface	Root Intrusion	null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
832437	440267	6502 Broadway Terrace Oakland, Ca 94618	2017.01.31 14.00.00	2017.01.31 17.00.00	2017.02.15 00.00.00	4500	0	4500	Drainage Channel; Other (specify below)	Debris from Construction	24 VCP sanitary main sewer plugged and overflowed out of a square box structure on the easement into a storm drain that flows into Lake Temescal.
832527	448553	2350 26th Ave Oakland, CA, 94601	2017.02.06 22.00.00	2017.02.07 00.00.00	2017.02.09 00.00.00	240	240	0	Building or Structure	Grease Deposition (FOG)	240 gallons overflowed from an 8 vcp line into basement. Staff flushed main line. Staff recovered all 420 gallons.
832705	500925	6502 Broadway Terrace Oakland Ca,94621	2017.02.08 08.00.00	2017.02.08 22.00.00	2017.02.21 00.00.00	3600 0	0	36000	Surface Water	Surcharged Pipe (Combined CS Only)	null
832811	934075	4057 Mera Street Oakland Ca. 94601	2017.02.06 08.45.00	2017.02.06 10.28.00	2017.07.14 00.00.00	103	103	0	Paved Surface	Debris-General	null
833751	219045	9943 Lawlor Street Oakland Ca 94605	2017.03.15 09.52.00	2017.03.15 18.52.00	2017.07.14 00.00.00	270	0	0	Unpaved surface	Root Intrusion	Null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
833781	896422	6292 Clive Ave	2017.03.17 15.30.00	2017.03.17 19.00.00	2017.03.20 00.00.00	210	210	0	Street/ Curb and Gutter; Unpav ed surface	Root Intrusion	8 VCP sanitary main sewer plugged and overflowed out of the lamp-hole on the side of hill next to the road. Sewage went down the curb and gutter back into the sewer collection system at the downstream manhole located in the gutter area. Staff flushed and rodded to unplug stoppage and return the flow. Staff returned all portions of the overflow back to the sewer collection system. Staff cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
833807	599723	Martin Luther King Jr way & W. Macarthur Blvd Oakland ca	2017.03.18 18.30.00	2017.03.18 21.15.00	2017.04.11 00.00.00	825	825	0	Street/ Curb and Gutter	Grease Deposition (FOG)	Null
SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation

833823	329797	4100 Redwood Rd	2017.03.21 16.00.00	2017.03.21 20.00.00	2017.03.24 00.00.00	960	500	0	Other (specify below); Unpaved surface	Debris-Rags	8 sanitary main sewer plugged and discharged out of the manhole onto the ground. An estimated portion (460 Gallons) soaked into the ground on the easement. Staff recovered 500 gallons and returned to the sanitary sewer collection system. Staff removed the rags and debris in the manhole, serviced the main sewer, unplug the stoppage and return the flow. Staff cleaned the affected area of the discharge. Staff will CCVT the sanitary main sewer.
833857	936056	4349 Arden Pl. Oakland Ca,94621	2017.03.20 15.15.00	2017.03.20 21.30.00	2017.04.03 00.00.00	3750 0	0	37500	Surface Water	Debris-General	Thirty-seven thousand five hundred gallons overflowed from a ten inch vitrified clay pipe. General debris was the cause of the overflow. The sewage overflowed from a manhole down the hillside directly into Sausal creek.
833895	704895	4326 Arden Pl. Oakland ca	2017.03.23 15.30.00	2017.03.23 17.15.00	2017.04.03 00.00.00	525	525	0	Street/Curb and Gutter	Root Intrusion	Null
SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation

833973	928598	4740 Congress Ave Oakland, Ca 94601	2017.03.25 10.00.00	2017.03.25 13.00.00	2017.04.12 00.00.00	10	10	0	Other (specify below); Unpaved surface	Root Intrusion	6 VCP sanitary main sewer plugged and overflowed out of the ground onto the sidewalk and front lawn area. Staff flushed the main sewer to unplug stoppage and return the flow. Staff contained and returned all portions of the overflow. Staff cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
834300	698136	8824 International Blvd Oakland, CA, 94621	2017.04.05 09.15.00	2017.04.05 12.15.00	2017.06.01 00.00.00	360	0	0	Building or Structure; Unpaved surface	Debris-General	null
834559	823172	11 Ascot Pl Oakland, CA, 94611	2017.04.15 11.30.00	2017.04.15 16.30.00	2017.07.14 00.00.00	300	50	0	Unpaved surface	Root Intrusion	300 gallons spilled from an 8 vcp main sewer into the dirt on an easement. 50 gallons were recovered.
834738	376208	3336 E 16th St	2017.04.22 13.00.00	2017.04.22 17.00.00	2017.04.26 00.00.00	480	480	0	Building or Structure	Grease Deposition (FOG)	6 sanitary main sewer plugged due to grease and overflowed in to the garage and Drive way. Staff flushed the sanitary main sewer to unplug stoppage and return the flow. Sewage from overflow drained back into the collection system from floor drain. Staff will CCTV the sanitary main sewer.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
835069	866532	533 Kenmore Ave Oakland ca	2017.05.08 07.30.00	2017.05.08 10.30.00	2017.05.19 00.00.00	180	100	0	Street/ Curb and Gutter	Root Intrusion	Staff setup containment at inlet on Lakeshore Ave & Walavista using Hydro flusher to vacuum spilled sewage and return to sanitary system. 80 Gallons seeped into the ground in the rear yard.
835077	122582	5700 La Salle	2017.05.03 14.30.00	2017.05.03 19.30.00	2017.05.11 00.00.00	20	0	0	Unpaved surface	Pipe Structural Problem/Failure	8 VCP sanitary main sewer plugged on the easement and overflowed out of the pipe and soaked into the ground.
835080	878990	8414 Holly St	2017.05.06 12.00.00	2017.05.06 17.00.00	2017.05.11 00.00.00	300	300	0	Building or Structure	Grease Deposition (FOG)	8 sanitary main sewer plugged and overflowed into the building's basement.
835106	111930	9636 Bancroft Avenue Oakland Ca,954621	2017.05.11 15.30.00	2017.05.11 20.30.00	2017.07.14 00.00.00	300	0	0	Street/ Curb and Gutter	Debris-General	Three hundred gallons overflowed from an eight inch VCP sewer main. Sewer main was obstructed due general debris in the line. Three hundred gallons spilled on to the ground in the curb and gutter area. Three hundred gallons was captured and returned to the collection system.
835188	684851	1115 62nd Ave Oakland, CA 94621	2017.05.15 09.00.00	2017.05.15 12.00.00	2017.05.16 00.00.00	360	360	0	Street/ Curb and Gutter	Grease Deposition (FOG)	360 gallons overflowed from a cleanout into the curb and gutter area. Staff recovered all 360 gallons and returned it to the collection system.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
835360	814354	8701 Hillside St. Oakland Ca. 94605	2017.05.19 09.58.00	2017.05.19 11.30.00	2017.06.01 00.00.00	276	200	0	Unpaved surface	Pipe Structural Problem/Failure	null
835487	608769	14151 Skyline Bl. Oakland Ca. 94619	2017.05.24 14.30.00	2017.05.24 18.00.00	2017.06.01 00.00.00	300	0	0	Unpaved surface	Root Intrusion	null
835768	539925	8420 International Blvd Oakland, Ca. 94621	2017.05.19 08.00.00	2017.05.19 10.00.00	2017.07.19 00.00.00	120	120	0	Paved Surface	Debris-General	null
835770	662828	2154 Rosedale Ave Oakland Ca 94601	2017.06.02 08.00.00	2017.06.02 09.45.00	2017.07.17 00.00.00	100	100	0	Unpaved surface	Defect in 6' VCP	null
836373	219454	5841 MERRIEWOOD DR Oakland Ca 94611	2017.04.29 17.00.00	2017.06.29 20.00.00	2017.07.12 00.00.00	500	250	0	Other (specify below)	Sewer main broken by up-rooted tree. Volume estimate based on visual observations made from initial response.	Sewer spill captured in large void caused by up-rooted tree.

Appendix B

Table 4-5

Collection System Spot Repair Work (July 1, 2016 – June 30, 2017)

WorkOrderId	Description	Address	Linear Feet
776334	Sewer Spot Repair	5687 MERRIEWOOD DR	40
777264	Sewer Spot Repair	468 CREIGHTON WAY	1
777272	Sewer Spot Repair	5372 HILLTOP CRES	1
778266	Sewer Spot Repair	SKYLINE BLVD & CASTLE DR	4
778706	Sewer Spot Repair	468 CREIGHTON WAY	10
780315	Sewer Spot Repair	1035 GRAND VIEW DR	6
781210	Sewer Spot Repair	2363 LEIMERT BLVD	1
782525	Sewer Spot Repair	4800 WEBSTER ST	10
783222	Sewer Spot Repair	4839 WEBSTER ST	6
783456	Sewer Spot Repair	10814 BREED AV	1
784088	Sewer Spot Repair	418 49TH ST	1
785084	Sewer Spot Repair	10806 BREED AV	1
785639	Sewer Spot Repair	418 49TH ST	6
788264	Sewer Spot Repair	6 DORTHY PLACE	0
789337	Sewer Spot Repair	21ST ST & HARRISON ST	1
790216	Sewer Spot Repair	6 DOROTHY PL	1
791357	Sewer Spot Repair	3410 SALISBURY ST	31
791978	Sewer Spot Repair	5679 MERRIEWOOD DR	6
793157	Sewer Spot Repair	55 AGNES ST	6
794658	Sewer Spot Repair	21ST ST & HARRISON ST	1
796532	Sewer Spot Repair	3718 SANTA RITA ST	10
797502	Sewer Spot Repair	422 44TH ST	3
797942	Sewer Spot Repair	383 44TH ST	10
798090	Sewer Spot Repair	4238 BROADWAY	10
798987	Sewer Spot Repair	34TH ST & MARKET ST	1
800515	Sewer Spot Repair	1400 39TH AV	1
800519	Sewer Spot Repair	8909 SAGE RD	30
800860	Sewer Spot Repair	101ST AV & BIRCH ST	1
802832	Sewer Spot Repair	1400 39TH AV	1
803085	Sewer Spot Repair	8909 SAGE RD	1
803602	Sewer Spot Repair	2000 OAKVIEW DR	1
804282	Sewer Spot Repair	2000 OAKVIEW DR	1
805554	Sewer Spot Repair	101ST AV & BIRCH ST	1
806188	Sewer Spot Repair	39TH AVE & INTERNATIONAL	24
807113	Sewer Spot Repair	4362 WHITTLE AV	1
807188	Sewer Spot Repair	1400 39TH AVE	1
807389	Sewer Spot Repair	4362 WHITTLE AV	1
809808	Sewer Spot Repair	2228 41ST AV	10
810770	Sewer Spot Repair	2216 41ST AV	8
811377	Sewer Spot Repair	15 STARK KNOLL PL	1
812399	Sewer Spot Repair	25 STARK KNOLL PL	14
814288	Sewer Spot Repair	614 E 15TH ST	6
814555	Sewer Spot Repair	616 E 15TH ST	10
815423	Sewer Spot Repair	1100 34TH ST	1

WorkOrderId	Description	Address	Linear Feet
820007	Sewer Spot Repair	3152 HIGH ST	1
820010	Sewer Spot Repair	3152 HIGH ST	8
821360	Sewer Spot Repair	5219 MACARTHUR BLVD	12
822935	Sewer Spot Repair	505 34TH ST	6
825077	Sewer Spot Repair	1829 94TH AV	1
827617	Sewer Spot Repair	5881 ESCHER DR	10
828343	Sewer Spot Repair	66 MACARTHUR BLVD	6
829494	Sewer Spot Repair	1819 94TH AV	1
830756	Sewer Spot Repair	4367 ALLENDALE AV	6
831429	Sewer Spot Repair	658 HILLGIRT CIR	1
832051	Sewer Spot Repair	658 HILLGIRT CIR	10
833442	Sewer Spot Repair	621 MACARTHUR BLVD	1
833643	Sewer Spot Repair	3501 CALAFIA AV	1
834395	Sewer Spot Repair	3501 CALAFIA AV	1
834397	Sewer Spot Repair	22ND AV & E 31ST ST	1
834702	Sewer Spot Repair	6447 CHABOT RD	1
834703	Sewer Spot Repair	1724 89TH AV	1
835009	Sewer Spot Repair	1809 89TH AV	3
835369	Sewer Spot Repair	5506 THORNHILL DR	6
836060	Sewer Spot Repair	875 PARAMOUNT RD	1
837293	Sewer Spot Repair	1809 LINDEN ST	1
837760	Sewer Spot Repair	1827 89TH AV	1
837764	Sewer Spot Repair	295 STONEWALL RD	1
839011	Sewer Spot Repair	1382 EL CENTRO AV	1
839221	Sewer Spot Repair	1805 89TH AV	7
839437	Sewer Spot Repair	4338 ALLENDALE AV	1
841946	Sewer Spot Repair	2818 BELLAIRE PL	1
845316	Sewer Spot Repair	8701 HILLSIDE ST	16
846421	Sewer Spot Repair	2615 MONTICELLO AV	12
847170	Sewer Spot Repair	800 FILBERT ST	6
847920	Sewer Spot Repair	2175 41ST AV	6
848325	Sewer Spot Repair	5700 LA SALLE AV	4
850724	Sewer Spot Repair	84TH AV & INTERNATIONAL	16
852886	Sewer Spot Repair	5939 MARDEN LANE	10

Appendix C

Figure 4-3 14 Day Notice to Abate



Oakland Public Works • Design, Engineering and Construction • Right of Way Management

Sewer & Sidewalk Division • 250 Frank H. Ogawa Plaza, Suite # 4314 • Oakland, California 94612 • (510)238-3651

14 Day Notice to Abate

Date

Name

Address

Oakland, CA 94607-2225

Re: Sewer Lateral at Address, Oakland

Dear Property Owner,

You are hereby notified that under the provisions of Section 13.08.540 of the Oakland Municipal Code¹ and in the opinion of the Director of Public Works Agency, the public health, safety, and welfare require repairs to your building sewer lateral.

The dye test conducted on **date** from the caved in area of the street at **address** by the City's Sewer Maintenance Division noted that the dye did appear in the City sewer main which indicates that the private sewer lateral servicing your home is in need of repair. This is a public health hazard and must be corrected. You are required to repair or replace your building's private sewer lateral no later than **date**.

The completed repairs must restore the subject-building sewer to a watertight condition, free of breaks or separations and constructed to proper grade and alignment. An inspection must be performed by the Construction Inspector to assure that the repairs meet the code requirements.

Prior to repairing or replacing a sewer lateral, you must have a Building Sewer Inspection Permit and/or a Street Excavation Permit if the repairs are to be completed in the public right-of-way.

If you have already made the repairs please provide proof of the repairs, you may fax it to 510-238-6632.

Questions concerning this matter should be directed to Fred Loeser, Construction Inspection Supervisor, at (510) 238-6348 or email floeser@oaklandnet.com.

Sincerely,

Fred Loeser,
Supervisor, Construction Inspection

/ts

SEC. 13.08.540 EMERGENCY WORK BY CITY, NOTICE, LIABILITY FOR COST OF WORK

Whenever, in the opinion of the Director of Public Works Agency, the Public Health, safety, or welfare shall require that repairs or protective measures to a building sewer be made or instituted immediately, the Director is hereby authorized to proceed with all necessary work to abate the condition and may enter upon private property for such purposes. The City may erect and maintain all necessary barricades, warning lights, and the protective devices upon public or private property. The City will give the owner of the premises upon which the repairs are to be made, or the protective measures to be instituted, such notice, if any, and by such means as the circumstances shall permit.

The owner of the property upon which the condition exists and the person creating such condition shall be jointly and severally liable to the City of Oakland for all costs incurred by it in abating said emergency condition and erecting and maintaining said protective devices.

The cost of abating such condition shall constitute a special assessment against the real property on which said condition was abated. The special assessment shall be made in the manner set forth in Section 13.08.280 of the Oakland Municipal Code using the Notice of Lien as found in Section 13.08.330.

(As added by Ordinance No. 10877 C.M.S., passed June 23, 1987)

Appendix D

**Table 5-3
Acute Defect List - Identified Fiscal Year 2016-17**

Asset ID	Date Identified	Bureau Responsible	Date Completed	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPI19458	6/27/17	PRIVATE	no repair	80	-		25TH ST NEAR TELEGRAPH		BVV, Broken void visible
SEPI19453	6/26/17	BDC	no repair	81	-		BROADWAY - 26TH TO 27TH		BVV, Broken void visible
SEPI21318	6/23/17	BDC	no repair	84	-	814	29TH STREET		BVV, CONCRETE PIPE DETERIORATED
SEPI25768	6/22/17	BIO	no repair	85	-		52ND ST - SHATUCK TO TELEGRAPH		BVV, Broken void visible
SEPI29206	6/21/17	BIO	no repair	86	-		AYALA - MARTIN TO FOREST		BVV, Broken void visible
SEPI5743	6/19/17	BIO	no repair	88	-		SEQUOYAH RD NEAR HEAFEY		HSV, Hole punched through pipe
SEPI20162	6/5/17	BIO	no repair	102	-	534	WELDON		FH4, Broken pipe and lamphole
SEPI20176	6/5/17	BIO	8/18/17	-	74		WELDON & WARFIELD	864609	BVV, Broken void visible
SEPI29729	6/2/17	BIO	no repair	105	-		WARREN BLVD NEAR BROADWAY		B, Broken pipe
SEPI22902	5/22/17	BIO	7/25/17	-	64		LINDA AVE. & GLEN	859000	BVV, Broken void visible
SEPI3243	5/19/17	BIO	5/20/17	-	1	8701	HILLSIDE STREET	845316	BVV, Broken void visible
SEPI27664	5/15/17	BIO	no repair	123	-		5630 MARGARIDO DR		XP, Collapsed Pipe Sewer
SEPI31316	3/22/17	BIO	5/16/17	-	55		STONEWALL & CLAREMONT AVE		BVV, Broken void visible
SEPI10414	1/31/17	PRIVATE	12/16/17	-	319	3759	BROOKDALE AVE		TBI, Protruding Tap
SEPI8986	1/31/17	BIO	2/11/17	-	11	4066	MERA BETWEEN 41ST & ROSEDALE	824318	Void near manhole
SEPI15841	1/20/17	BIO	8/9/17	-	201		FOREST HILL AVE	862605	BVV, Broken void visible
SEPI18573	1/19/17	PRIVATE	no repair	239	-		CLEMENS ROAD	859538	BVV/TPI, Void broken pipe & Protruding Tap
SEPI6437	1/4/17	PRIVATE	7/28/17	-	205	6651	BANCROFT		TBI, Tap break intruding
SEPI9404	11/28/16	BIO	1/28/17	-	61	5219	MACARTHUR BLVD	821360	BVV, Broken Void Visible
SEPI8321	10/20/16	PRIVATE	12/15/16	-	56	6864, 6865	SUNNYMERE		TBI, Tap break intruding

Asset ID	Date Identified	Bureau Responsible	Date Completed	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPI1456	10/19/16	PRIVATE	no repair	331	-		98TH AVE & E STREET		
SEPI7416	10/17/16	BIO	11/10/16	-	24		39TH AVE & INTERNATIONAL		BVV, Broken Void Visible
SEPI8398	10/14/16	PRIVATE	no repair	336	-		BURCKHALTER		
SEPI25919	9/15/16	BIO	12/12/16	-	88	51	STARK KNOLL PL	812399	HVS, SOIL VISIBLE
SEPI22527	8/11/16	BIO	2/14/17	-	187	1100	34TH STREET	824686	BVV, Broken Void Visible
SEPI29134	7/20/16	BIO	10/12/16	-	84		COLBY STREET		BSV, SOIL VISIBLE
SEPI25645	7/1/16	BIO	8/23/16	-	53	322	49TH STREET	787767	OFFSET, HVV SOIL VISIBLE
UNKNOWN	6/9/16	PRIVATE	11/8/16	-	152	861	37TH STREET		TBI, Tap break intruding
SEPI2292	5/21/16	BIO	7/7/16	-	47	2045	98TH AV	775994	
SEPI22619	5/13/16	PRIVATE	no repair	490	-	3655	WEST ST		TBI, Tap break intruding
SEPI15291	5/9/16	PRIVATE	7/25/17	-	442	2339	PARK BLVD IVY DR		TBI, Tap break intruding
SEPI14359	5/3/16	BIO	7/17/16	-	75		CREIGHTON WY		
SEPI25847	4/12/16	BIO	5/19/16	-	37		GLENDALE AV	764665	BSV, Broken Soil Visible
SEPI10156	3/21/16	BDC	1/6/17	-	291	1921	26TH AV		B, Broken
SEPI26119	3/15/16	PRIVATE	9/20/16	-	189	5523	ESTATES DR		TBI, Tap Break In-truding
SEPI26117	3/15/16	BIO	6/1/16	-	78	5566	ESTATES DR	767329	BSV, Broken Soil Visible
SEPI8007	3/7/16	BIO	5/24/16	-	78		BRANN ST	765595	BVV, Broken Void Visible
SEPI23085	2/19/16	BDC	1/5/17	-	321	155	PERSHING DR		LFZ Lining Failure Other
SEPI1558	2/3/16	PRIVATE	8/9/17	-	553	1818	103RD AV		TBI, Tap Break In-truding
SEPI8003	1/8/16	BIO	5/12/16	-	125		57TH AV	763372	BVV, Broken Void Visible
SEPI27692	12/22/15	BDC	11/8/16	-	322	74	BEECHWOOD DR		XP, Collapsed Pipe Sewer
SEPI26690	11/23/15	BDC	10/6/16	-	318	6861	SARONI DR		BVV, Broken Void Visible
SEPI2961	11/23/15	BDC	9/16/16	-	298	728	73RD AV		BVV, Broken Void Visible
SEPI26159	11/20/15	BDC	9/8/16	-	293	250	CAPRICORN AV		D, Deformed
SEPI3335	11/18/15	BDC	4/26/16	-	160		CHEROKEE AV		BVV, Broken Void Visible
SEPI14169	11/3/15	PRIVATE	8/25/16	-	296	3667	ATLAS AV REDWOOD		TRI, Tap Rehabilitated Intruding

Asset ID	Date Identified	Bureau Responsible	Date Completed	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi12206	10/28/15	BDC	8/15/16	-	292	4320	ADELAIDE ST		XP, Collapsed Pipe Sewer
SEPi29482	10/1/15	BDC	9/26/16	-	361	5552	GOLDEN GATE AV		XP, Collapsed Pipe Sewer
SEPi31918	8/17/15	BDC	6/27/16	-	315		Grand AV		BSV, Broken Soil Visible
SEPi14124	8/3/15	BIO	5/10/16	-	281		VICTOR AV	762556	BSV, Broken Soil Visible
SEPi10734	7/8/15	BDC	6/9/16	-	337		FAIR AV		XP, Collapsed Pipe Sewer

Appendix E

Figure 5-1
Cleaning by Sub-Basin, through June 30, 2017

Through 6/30/17

Data Date: 7/12/17

Effective 6/2/16: Reflects GIS data updated 5/14/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

Sewer Subbasin

Cleaning Tracking

Unique feet cleaned starting 1/1/10 (Paragraph 167.d.i and 92.a)

Zone	Subbasin	Feet Sewer	Mb In	Feet Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1	5607	64,003		64,003	100%										
2	80002	6,414		6,414	100%										
2	5402	18,488		18,488	100%										
2	5803	15,293		15,293	100%										
2	6005	15,774		15,774	100%										
2	6007	17,398		17,398	100%										
2	81201	17,213		17,213	100%										
2	83402	7,513		7,513	100%										
3	84004	31,412		31,412	100%										
3	85004	19,768		19,768	100%										
3	85303	16,026		16,026	100%										
3	85305	22,110		22,110	100%										
3	85401	28,867		28,867	100%										
1	5009	46,599		46,599	100%										
1	5015	11,850		11,850	100%										
1	5207	14,668		14,668	100%										
2	6003	11,500		11,500	100%										
2	6006	18,928		18,928	100%										
1	6413	4,336		4,336	100%										
2	80022	16,591		16,591	100%										
2	80102	5,662		5,662	100%										
3	83201	17,987		17,987	100%										
2	83303	16,121		16,121	100%										
3	84003	15,122		15,122	100%										
3	85205	30,287		30,287	100%										
3	85212	24,246		24,246	100%										
3	85302	17,087		17,087	100%										
1	2101	10,384		10,384	100%										
1	5208	5,347		5,347	100%										
2	5406	14,628		14,628	100%										
2	5411	5,690		5,690	100%										
2	5904	7,062		7,062	100%										
2	5905	9,930		9,930	100%										
2	6008	3,238		3,238	100%										
2	6101	1,761		1,761	100%										
1	6402	15,420		15,420	100%										
1	6406	2,902		2,902	100%										
2	80103	18,282		18,282	100%										
3	81013	19,200		19,200	100%										
3	82005	38,019		38,019	100%										
3	83012	11,515		11,515	100%										
3	83304	9,320		9,320	100%										
3	84102	25,008		25,008	100%										
3	84105	14,372		14,372	100%										

Sewer Subbasin

CCTV Tracking

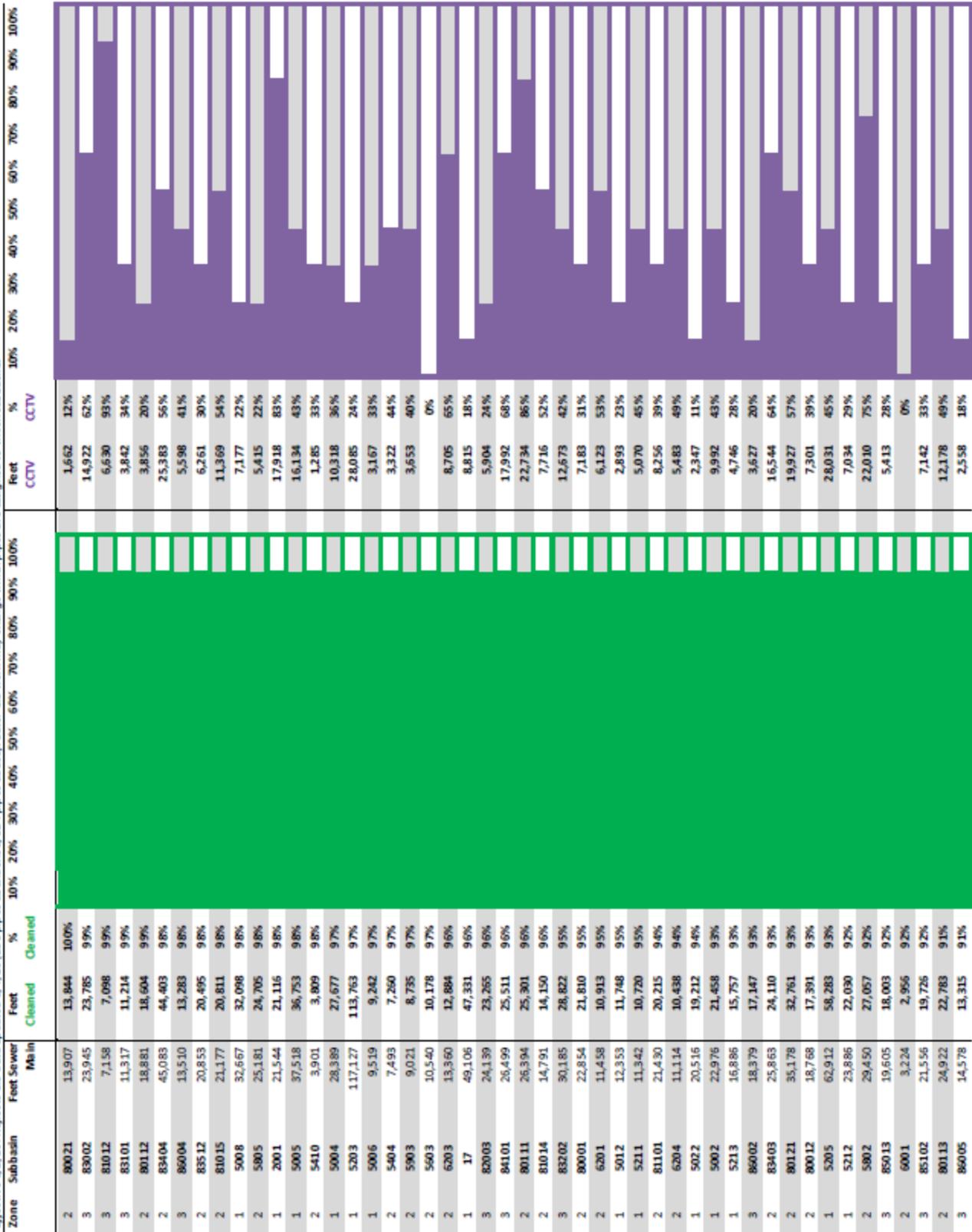
Unique feet televised starting 1/1/14 (Paragraph 83.c)

Feet	%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
32,328	51%										
255	4%										
10,357	56%										
5,528	36%										
4,766	30%										
8,828	51%										
16,942	98%										
7,357	98%										
17,586	56%										
17,764	90%										
13,002	81%										
9,050	41%										
7,156	25%										
11,616	25%										
8,191	69%										
6,209	42%										
6,533	57%										
17,218	91%										
566	13%										
15,769	95%										
3,878	68%										
17,656	98%										
7,107	44%										
14,482	96%										
10,344	34%										
8,473	35%										
13,801	81%										
7,099	68%										
886	17%										
8,209	56%										
1,586	28%										
4,169	59%										
5,188	52%										
2,344	72%										
479	27%										
3,311	21%										
485	17%										
16,500	90%										
9,401	49%										
22,592	59%										
11,515	100%										
5,206	56%										
14,913	60%										
5,703	40%										

Effective 6/2/16: Reflects GIS data updated 5/4/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasin.

Zone	Subbasin	Feet Sewer Main	Cleaned						Feet CCTV	CCTV %	
			Feet	%	10%	20%	30%	40%			50%
3	85003	20,002	20,002	100%					12,122	61%	
3	85203	13,679	13,679	100%					4,500	33%	
3	85211	33,969	33,969	100%					24,760	73%	
3	85221	16,895	16,895	100%					6,509	39%	
3	85301	24,097	24,097	100%					10,089	42%	
2	85403	11,965	11,965	100%					8,537	71%	
1	2103	24,417	24,417	100%					19,579	80%	
2	5904	8,000	8,000	100%					6,448	81%	
2	5901	11,193	11,193	100%					4,471	40%	
2	81202	22,720	22,720	100%					14,271	63%	
2	83502	14,433	14,433	100%					14,373	100%	
3	84005	12,766	12,766	100%					8,831	69%	
3	84112	16,041	16,041	100%					9,831	61%	
3	85204	30,809	30,809	100%					10,935	35%	
3	85206	31,839	31,839	100%					13,522	42%	
1	2102	15,415	15,415	100%					6,659	43%	
1	5010	10,643	10,643	100%					4,010	38%	
1	6414	4,444	4,444	100%					0	0%	
2	81102	26,740	26,740	100%					8,166	31%	
3	83103	19,573	19,573	100%					19,573	100%	
3	83401	17,062	17,062	100%					14,908	87%	
2	83501	15,219	15,219	100%					15,183	100%	
3	84111	16,835	16,835	100%					8,965	53%	
3	85501	15,316	15,316	100%					3,141	21%	
1	2002	14,497	14,497	100%					11,114	77%	
3	82004	14,116	14,116	100%					7,474	53%	
2	83013	14,585	14,585	100%					14,585	100%	
3	83102	14,635	14,635	100%					10,490	72%	
3	84103	38,445	38,445	100%					18,721	49%	
3	85304	11,617	11,617	100%					1,937	17%	
2	80101	16,630	16,630	100%					15,439	93%	
2	83503	25,548	25,548	100%					25,548	100%	
3	84104	26,726	26,726	100%					14,913	56%	
3	85207	17,284	17,284	100%					9,138	53%	
3	85208	32,940	32,940	100%					18,761	57%	
2	5407	21,312	21,312	100%					11,305	53%	
2	5902	18,010	18,010	100%					10,633	59%	
3	83301	20,395	20,395	100%					16,917	83%	
3	85202	23,617	23,617	100%					10,389	44%	
3	85012	19,879	19,879	100%					9,618	48%	
1	5003	20,012	20,012	100%					11,018	55%	
1	5007	60,204	60,134	100%					22,172	37%	
3	82002	23,772	23,732	100%					11,142	47%	
3	83011	28,862	28,800	100%					19,924	69%	
3	85201	22,184	22,135	100%					5,736	26%	
2	5606	33,425	33,319	100%					32,422	97%	
1	5209	17,856	17,790	100%					12,088	68%	
1	5011	11,341	11,299	100%					10,681	94%	

Effective 6/2/16 - Reflects GIS data updated 5/4/16 (258 pipes abandoned, 324 pipes added). Later GIS work may change which pipes are assigned to which subbasins.



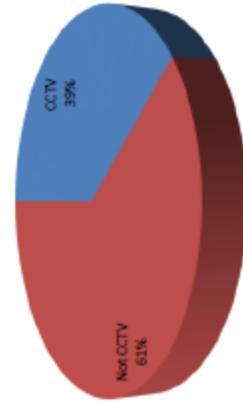
Effective 6/2/16: Reflects GIS data updated 5/14/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasin.

Zone	Subbasin	Feet Sewer Mn In	Feet Cleaned	% Cleaned	Feet CCTV	% CCTV
2	5605	39,714	36,222	91%	15,687	40%
2	80011	17,510	15,930	91%	12,947	74%
2	5405	34,864	31,700	91%	18,058	52%
3	83302	20,314	18,365	90%	6,320	31%
3	85101	32,469	29,205	90%	18,972	58%
1	6412	10,286	9,191	89%	2,153	21%
1	6409	9,534	8,484	89%	2,378	25%
1	5013	14,783	13,149	89%	2,742	19%
1	5210	6,039	5,365	89%	2,082	34%
2	81011	15,210	13,505	89%	2,793	18%
3	85011	16,302	14,310	88%	6,173	38%
3	85002	21,468	18,730	87%	9,169	43%
1	6401	27,012	23,354	86%	7,672	28%
1	5014	49,009	42,368	86%	8,575	17%
3	84001	21,006	18,141	86%	10,241	49%
3	86003	15,539	13,377	86%	6,822	44%
2	5409	49,356	42,413	86%	12,983	26%
1	5202	16,370	14,063	86%	108	1%
2	5602	58,217	49,713	85%	12,059	21%
2	81002	30,796	26,294	85%	4,247	14%
2	85402	20,300	17,313	85%	13,960	69%
1	5001	74,961	63,738	85%	20,493	27%
1	6403	10,316	8,739	85%	354	3%
3	85222	16,166	13,687	85%	5,709	35%
1	6411	24,779	20,926	84%	3,951	16%
2	6002	17,168	14,496	84%	7,331	43%
3	85231	30,172	25,395	84%	4,168	14%
2	5416	37,867	31,603	83%	3,614	10%
2	5413	41,334	34,272	83%	5,060	12%
1	5610	40,349	33,195	82%	1,532	4%
2	5414	26,408	21,534	82%	4,631	18%
2	5412	43,391	35,327	81%	3,326	8%
3	82001	8,354	6,791	81%	2,112	25%
2	5612	52,366	42,528	81%	3,697	7%
2	5801	34,363	27,686	81%	25,293	74%
1	5609	22,187	17,825	80%	737	3%
3	86001	11,021	8,853	80%	0	0%
3	86006	23,305	18,698	80%	17,345	74%
2	6004	11,286	9,021	80%	10,931	97%
1	6408	3,399	2,712	80%	0	0%
3	87002	9,148	7,289	80%	118	1%
2	5415	11,664	9,292	80%	1,353	12%
1	5016	25,041	19,914	80%	2,752	11%
2	6102	17,633	13,962	79%	6,649	38%
1	64	42,066	33,347	79%	5,539	13%
1	5019	67,078	53,147	79%	16,366	24%
2	5604	47,464	37,588	79%	9,146	19%
1	5204	36,317	28,698	79%	4,086	11%

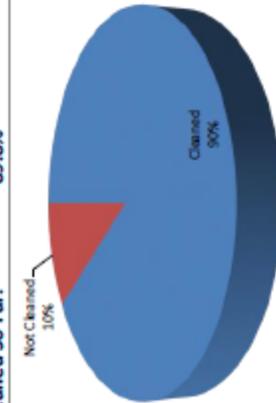
Effective 6/2/16: Reflects GIS data updated 5/14/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasin.

Zone	Subbasin	Feet Sewer M/in	Cleaned		CCTV	
			Feet	%	Feet	%
1	5017	98,136	75,662	77%	16,006	16%
1	5018	40,858	31,449	77%	6,573	16%
1	6407	5,605	4,284	76%	0%	0%
	(blank)	41,059	31,253	76%	5,991	15%
2	81001	24,815	18,660	75%	2,911	12%
3	85232	19,818	14,779	75%	6,782	34%
2	85502	24,069	17,866	74%	11,154	46%
1	5608	27,363	20,182	74%	2,727	10%
1	5611	15,201	11,199	74%	919	6%
2	5408	20,442	14,742	72%	3,595	18%
2	6202	21,250	15,295	72%	8,402	40%
1	6410	8,187	5,852	71%	1,108	14%
1	5021	63,593	44,909	71%	5,034	8%
1	5020	36,457	25,602	70%	2,483	7%
1	5417	16,162	11,218	69%	5,108	32%
3	85001	13,066	8,976	69%	6,048	46%
2	83511	19,432	13,253	68%	5,403	28%
1	5206	8,401	5,717	68%	940	11%
2	83521	16,894	11,240	67%	5,227	31%
1	6404	16,353	10,857	66%	549	3%
2	5601	14,195	9,372	66%	2,037	14%
2	5401	48,711	31,966	66%	7,245	15%
2	61	3,186	2,057	65%	0%	0%
3	83001	30,827	19,719	64%	10,078	33%
1	5201	30,845	19,171	62%	4,482	15%
3	84002	15,294	9,476	62%	2,323	15%
3	87001	2,294	1,395	61%	0%	0%
1	5418	16,985	9,840	58%	2,129	13%
2	5403	16,451	7,764	47%	4,538	28%
1	6415	2,412	937	39%	0%	0%
1	647	30,526	7,534	25%	1,069	4%
1	6405-1	5,323	0%	0%	1,911,581	36.0%
220		4,903,672	4,402,534	89.8%	362	0%
Miles:		929	834			

CCTV So Far: 39.0%



Cleaned So Far: 89.8%



Appendix F

**Table 5-5
High Frequency PM Locations [155]**

WO#	Description	Pipe ID #	Address	Feet
682147	Hi-Freq 6 Month	20983	2598 MONTEREY BLVD	63
668202	Hi-Freq 3 Month	6883, 6884, 6886, 6162	8100 FONTAINE ST	644
608237	Hi-Freq 12 Month	30724, 30721, 30722, 30725, 30723	81 ALVARADO RD	875
669030	Hi-Freq 3 Month	24802, 24803, 24804, 24805, 24801, 24800, 24799	1957 ASILOMAR DR	934
608358	Hi-Freq 12 Month	31394, 31373, 31374	25 DARTMOUTH DR	227
669825	Hi-Freq 3 Month	17964, 17987, 15469, 17989	1125 FLEET RD	699
670151	Hi-Freq 3 Month	25870, 25805, 25844, 25779, 22174, 25810	5200 BROADWAY	1250
649191	Hi-Freq 6 Month	6566	7018 MACARTHUR BLVD	163
669922	Hi-Freq 3 Month	12163, 12162, 12161, 12166, 12149, 12148	4330 MOUNTAIN BLVD	674
669965	Hi-Freq 3 Month	5740, 5739, 5746	4550 SEQUOYAH RD	601
670935	Hi-Freq 3 Month	3087	110 GRAVATT DR	424
663647	Hi-Freq 6 Month	2843, 2838, 2837	11212 MONAN ST	273
650656	Hi-Freq 6 Month	12002, 11995, 12003, 11994	3624 LOMA VISTA	1465
655325	Hi-Freq 6 Month	19704, 19724, 17359, 17413	500 LAKE PARK AV	746
673363	Hi-Freq 3 Month	6837, 6830, 6833, 6831, 6897, 6898, 6899	7844 MOUNTAIN BLVD	745
652259	Hi-Freq 3 Month	4249, 4251, 4250	83RD AV & IRIS ST	511
652389	Hi-Freq 6 Month	19580, 19583, 19581, 19566, 19565, 19564	2336 HARRISON ST	770
653419	Hi-Freq 6 Month	14671, 32340, 14670, 14651, 14668, 14667	339 UNION ST	899
653715	Hi-Freq 6 Month	20992, 20989, 20991, 20990	6260 CASTLE DR	187
678393	Hi-Freq 3 Month	14137, 14138, 14283, 14157, 14139	4300 ATLAS AV	647
678268	Hi-Freq 3 Month	20744, 20743, 20751, 20734, 20733, 21058, 32481, 20720, 20717, 31548, 20747	2600 LEIMERT BLVD	2180
683060	Hi-Freq 12 Month	26574	6020 ASPINWALL RD	217

WO#	Description	Pipe ID #	Address	Feet
683064	Hi-Freq 12 Month	23736, 23824, 23822, 23735	6730 LONGWALK DR	426
683077	Hi-Freq 12 Month	9563, 9533, 9532	6167 OVERDALE AV	505
661213	Hi-Freq 6 Month	5740, 5741	SEQUOYAH RD & MCGURRIN RD	315
668336	Hi-Freq 6 Month	30942, 30958, 30688, 30686	1200 WESTVIEW DR	639
669192	Hi-Freq 6 Month	17297, 17296, 17295	290 GRAND AV	951
666647	Hi-Freq 6 Month	9570	6288 SUNNYMERE AV	83
663677	Hi-Freq 6 Month	4236, 4197, 4239, 4241, 4235, 4198	82ND AV & IRIS ST	1373
688780	Hi-Freq 3 Month	17429, 17441, 31918, 17427, 17428	600 GRAND AV	941
688789	Hi-Freq 3 Month	30446, 30447, 30440, 30445	6929 CHABOT RD	340
689447	Hi-Freq 3 Month	8149, 8134, 8132, 8133, 8152, 8153, 8155, 8151	3914 EDGEMOOR PL	1370
667300	Hi-Freq 6 Month	11019, 12850, 12849, 11021, 11020, 11022, 12853	220 ALICE ST	1190
690899	Hi-Freq 3 Month	15954, 16014, 16013, 15958	4122 LAGUNA AVE	502
690903	Hi-Freq 6 Month	25257	6245 WESTOVER DR	71
667324	Hi-Freq 6 Month	22039, 22038, 22036, 22037, 22035	6000 ASCOT DR	453
668264	Hi-Freq 3 Month	31496, 31493, 31494, 31497, 31498	1520 LAKESIDE DR	1022
668449	Hi-Freq 3 Month	22607, 22606, 22605	36TH ST & MLK JR WY	770
668261	Hi-Freq 6 Month	30842, 30844, 31131, 30845, 30841, 30840, 31057, 30843, 31133	1801 TUNNEL RD	601
692123	Hi-Freq 3 Month	2718, 2717, 2720, 2719, 2716, 2695, 2694, 1924, 1923	11110 KERRIGAN DR	1542
693428	Hi-Freq 3 Month	26947, 26946, 26910, 26823, 26822, 26896, 26945	7295 SARONI DR	620
693456	Hi-Freq 3 Month	2982, 2986	72ND AV & HAWLEY ST	765
693514	Hi-Freq 3 Month	28577, 28573, 28572, 28576, 28574, 28563, 28513, 28623, 28512, 28627, 28626, 28514, 28578	6330 PINEHAVEN RD	1739
674212	Hi-Freq 6 Month	27809, 27866	1 MORRILL CT	194

WO#	Description	Pipe ID #	Address	Feet
674160	Hi-Freq 12 Month	5518, 5517	8251 FONTAINE ST	597
662167	Hi-Freq 6 Month	25182, 25183	7280 WOODROW DR	279
678147	Hi-Freq 6 Month	25918, 25921, 25919, 25920, 25917, 25922	25 STARK KNOLL PL	597
678414	Hi-Freq 6 Month	26568	1731 GOULDIN RD	71
679624	Hi-Freq 6 Month	10836, 10835	5425 LEONA ST	208
639210	Hi-Freq 12 Month	11129, 11059, 11097, 11095, 11088, 11098	740 E 8TH ST	959
680157	Hi-Freq 3 Month	17963, 17962, 18001, 17998, 18000, 17961, 17956, 17955, 18055	800 CREED RD	1065
683084	Hi-Freq 12 Month	9596, 9595, 9593, 9592, 9591, 9589	5815 LEONA ST	684
680520	Hi-Freq 6 Month	30251, 30223, 30252, 30220, 30253	439 ALCATRAZ AV	856
682002	Hi-Freq 6 Month	27511, 27525, 27523, 27522, 27512, 27529, 27526, 27530	COLLEGE AV & TAFT AV	2430
683091	Hi-Freq 6 Month	10791, 10792, 10790, 10794, 10793	4210 KNOLL AV	594
641763	Hi-Freq 12 Month	18025, 18026, 18028, 18030, 18029, 18027	1301 HOLMAN RD	755
642824	Hi-Freq 12 Month	4239, 4235, 4241	8301 IRIS ST	835
685103	Hi-Freq 6 Month	29751, 29752, 29755, 29756, 29754, 29753	451 MOUNTAIN BLVD	572
686563	Hi-Freq 6 Month	2444, 2446, 2439, 2438, 2442, 2431, 2568, 2443, 2440, 2561	98TH AV & BURR ST	1441
677946	Hi-Freq 12 Month	13226, 13225	9TH AV & E 20TH ST	349
686572	Hi-Freq 6 Month	13373, 13436, 13374, 13381, 13385, 13435, 13383, 13384, 13386, 13434	2524 14TH AV	1791
643548	Hi-Freq 12 Month	12124, 12126, 12125	4515 ELINORA AV	292
643776	Hi-Freq 12 Month	1044, 881, 1054, 1056, 800	823 105TH AV	1203
687286	Hi-Freq 6 Month	30625, 30624, 30632, 30626, 31179, 31178, 30855, 30854, 30495, 31128, 31127, 31126, 31081, 30617, 30623, 30622, 30621	200 CALDECOTT LN	2518

WO#	Description	Pipe ID #	Address	Feet
687750	Hi-Freq 12 Month	12451, 12452, 12465, 12466, 12467, 12468, 12471, 12469, 12472, 12473, 12474	12580 BROOKPARK RD	1783
689162	Hi-Freq 6 Month	22665, 22666, 24078, 24118, 22587, 24079, 22672, 22673, 22669, 22668, 24080, 24081, 24075	37TH ST & W MACARTHUR BLVD	2911
690494	Hi-Freq 6 Month	8986, 7376, 7375, 8988, 8987, 8841, 8840, 8838, 8853, 8852, 8883, 8877	2058 ROSEDALE AV	2466
690602	Hi-Freq 3 Month	27692, 27693, 27697	74 BEECHWOOD DR	574
690880	Hi-Freq 6 Month	8772, 8770, 8771	1479 FRUITVALE AV	608
690890	Hi-Freq 6 Month	2968, 2971	69TH AV & SNELL ST	487
693491	Hi-Freq 6 Month	14292, 14291, 14461, 14479, 14478, 14290	5707 REDWOOD RD	1108
693521	Hi-Freq 6 Month	27518	5600 COLLEGE AVE	129
650089	Hi-Freq 12 Month	7508, 9072	4216 CARRINGTON ST	1258
660363	Hi-Freq 12 Month	10425, 10419, 10424	2633 ABBEY ST	705
666667	Hi-Freq 12 Month	9576, 9562, 9533, 9541, 9534, 9560	4228 MOUNTAIN VIEW AV	1002
665716	Hi-Freq 12 Month	14133, 14368, 14370, 14369, 32471, 32408, 31614, 14132, 14399, 14398, 14371, 14374, 16219, 16403, 16402, 14372, 14129	353 CRESTMONT DR	2357
667100	Hi-Freq 3 Month	8269, 8268, 8267, 8270	6636 LAIRD AV	546
667899	Hi-Freq 12 Month	14339, 14340, 14338, 14341, 14348, 14349, 14351, 14347, 14346, 14344, 14343, 14342, 14387, 14378, 14375, 16388, 14373, 16218, 16364, 16284	297 RISHELL DR	2737
668188	Hi-Freq 12 Month	22955, 22954, 22953, 22952	642 EL DORADO AV	1228
669044	Hi-Freq 12 Month	25433, 25344, 25343, 25307, 25431, 27009, 25338	7047 EXETER DR	649
681051	Hi-Freq 12 Month	11242, 11252, 11174, 11175	745 11TH AVE	703

WO#	Description	Pipe ID #	Address	Feet
680414	Hi-Freq 12 Month	29175, 29176, 29172, 30192, 30197, 30191, 29134, 29223, 29226	469 63RD ST	3034
680868	Hi-Freq 12 Month	29274, 29275, 29273, 29596, 29272, 29271, 29276	6098 ROCKRIDGE BLVD	1478
682827	Hi-Freq 12 Month	1729, 1703, 1704, 1726, 1721, 1705, 1702, 1730, 1697, 1701	10306 FOOTHILL BLVD	1891
683122	Hi-Freq 12 Month	19647, 19660, 19648, 19646, 19541, 17313, 17311, 19644	347 PERKINS ST	1625
684121	Hi-Freq 12 Month	4847, 6109, 6132, 6131, 4853	55TH AV & INTERNATIONAL BLVD	1679
683771	Hi-Freq 12 Month	6318, 6461, 6319, 7982, 7976	6334 CAMDEN ST	1371
684868	Hi-Freq 12 Month	19608, 19609, 19613, 17345, 19614, 19615, 19610, 19606, 19611, 17357	GRAND AVE & HARRISON ST	1884
686360	Hi-Freq 12 Month	4696, 4697	488 LESSER ST	522
688750	Hi-Freq 12 Month	3519, 3465	9777 GOLF LINKS RD	409
690592	Hi-Freq 12 Month	7769, 7764	2646 COLE ST	401
693414	Hi-Freq 12 Month	10285, 11913	2300 HUMBOLDT AV	556
695601	Hi-Freq 12 Month	23634, 23635	5959 WESTOVER DR	49
695612	Hi-Freq 12 Month	31552, 23790, 23791	2922 HOLYROOD DR	273
697187	Hi-Freq 6 Month	2790, 2789	11177 ELVESSA ST	690
697185	Hi-Freq 6 Month	12107, 12105, 12106, 12104	4445 SHEPHERD ST	528
697201	Hi-Freq 12 Month	24578, 24577	5692 CABOT DR	222
698182	Hi-Freq 12 Month	20983	1480 WESTVIEW DR	63
699228	Hi-Freq 3 Month	17342, 17340, 17339, 17341, 17325	BELLEVUE AVE & PERKINS ST	942
713181	Hi-Freq 6 Month	17738, 17739, 17740, 17741, 17742, 17721	1021 BROOKWOOD RD	600
713182	Hi-Freq 12 Month	5905, 5906	4332 INTERNATIONAL BLVD	270
713187	Hi-Freq 6 Month	13164	411 E 18TH ST	196
713191	Hi-Freq 6 Month	6417, 6418, 6420, 6423	6502 BANCROFT AV	983
719317	Hi-Freq 12 Month	21966	2477 MONTEREY BLVD	287
719315	Hi-Freq 12 Month	25585	895 47th ST.	356

WO#	Description	Pipe ID #	Address	Feet
719294	Hi-Freq 12 Month	13902, 11946, 12021, 12061	3770 35TH AV	948
719289	Hi-Freq 6 Month	14229	4020 REINHARDT DR	257
719285	Hi-Freq 12 Month	12111, 12110, 12109	4425 CARSON ST	361
719281	Hi-Freq 12 Month	12242, 12241, 12240, 12266, 12243	HUNTINGTON ST & FAIR AV	852
732054	Hi-Freq 6 Month	27835	4308 HARBORD DR	139
798033	Hi-Freq 3 Month	19776	SANTA CLARA AV & GRAND AV	277
738319	Hi-Freq 3 Month	23085	102 CREST	30
738339	Hi-Freq 12 Month	5244, 5243	BANCROFT AV AND 74TH AV	504
741625	Hi-Freq 12 Month	12819, 13107,15114, 15112,15098,31497,31498,31494,31496	1225 FALLON ST	2177
739991	Hi-Freq 12 Month	28737, 32368, 28735, 28736, 28727, 28728, 28726, 26545	6205 WESTWOOD WY	936
739994	Hi-Freq 12 Month	30480, 30415	171 ROBLE RD	196
739996	Hi-Freq 12 Month	31209, 31208, 31311	7351 Claremont	533
739999	Hi-Freq 6 Month	3199, 3198, 2168	1902 90th Av	1110
743184	Hi-Freq 12 Month	12912, 12926, 12925, 12762, 12920, 12936, 11027, 11010, 11011, 12778	308 Jackson	1950
747480	Hi-Freq 6 Month	26690	6861 SARONI	50
747490	Hi-Freq 6 Month	16131, 16138	3228 GUIDO ST	213
751442	Hi-Freq 3 Month	15828, 15827, 15724	3826 LYMAN	683
751862	Hi-Freq 3 Month	23188	2345 SCOUT RD	282
766859	Hi-Freq 6 Month	22335	3105 HOLYROOD DR	62
764714	Hi-Freq 12 Month	15729, 15728	3577 FRUITVALE AVE	616
764673	Hi-Freq 6 Month	14244, 14245, 14238, 14239, 14246	4120 MOUNTAIN BLVD	642
764446	Hi-Freq 6 Month	6675, 6676	7575 SUNKIST DR	208
764444	Hi-Freq 3 Month	14408, 14418, 12356, 12325, 12326	REDWOOD RD & TERRABELLA	592
759125	Hi-Freq 6 Month	24396, 24395, 24529, 26145, 25850, 25897, 26146	5527 MORAGA AVE	1107

WO#	Description	Pipe ID #	Address	Feet
759150	Hi-Freq 6 Month	1864, 1863	2960 PERALTA OAKS CT	166
759449	Hi-Freq 6 Month	10237, 9368	2344 HARRINGTON AV	356
763261	Hi-Freq 12 Month	30673, 30685, 30674	GRAND VIEW DR & VICENTE RD	769
763314	Hi-Freq 6 Month	606	3115 MIDDLETON	158
771527	Hi-Freq 6 Month	3854, 3852, 3851	EASTLAWN ST & 65TH AV	708
792642	Hi-Freq 6 Month	3165	1418 84TH AVE	260
793277	Hi-Freq 12 Month	30678	1035 GRAND VEIW DRIVE	165
807398	Hi-Freq 6 Month	16341, 16340	3500 MOUNTAIN	260
810193	Hi-Freq 3 Month	21369, 21376, 21374, 21375, 36112, 36345	30TH & TELEGRAPH	900
812874	Hi-Freq 3 Month	10465, 10635	4335 VIRGINA	1000
819564	Hi-Freq 6 Month	10414	3745 BROOKDALE	115
819570	Hi-Freq 12 Month	124	400 CAPISTRANO DR	230
819591	Hi-Freq 6 Month	15829	3822 WHITTLE AV	265
819603	Hi-Freq 6 Month	20980, 18651, 18650	2289 MELVIN RD	480
819609	Hi-Freq 6 Month	2077	84TH AV & G ST	230
819628	Hi-Freq 6 Month	21002, 21001, 21005, 21003, 21004, 21006	83 CASTLE PARK WAY	625
819641	Hi-Freq 12 Month	21865	345 PERSHING DR	150
819819	Hi-Freq 12 Month	8336	7415 CIRCLE HILL DR	150
819821	Hi-Freq 6 Month	6205	5741 ELIZABETH ST	320
836765	Hi-Freq 6 Month	23816	6751 CLIVE AV	129
841355	Hi-Freq 6 Month	24078	MARTIN LUTHER KING JR WAY & W MACARTHUR BLVD	351
841348	Hi-Freq 6 Month	23816	6292 CLIVE AV	130
841353	Hi-Freq 6 Month	31301, 31189, 31325, 31192, 31315, 31188, 31191, 31321, 31190, 31318, 31319, 31317	STONEWALL RD & CLAREMONT AV	1320
851365	Hi-Freq 6 Month	14243	4100 REDWOOD ROAD	227
851392	Hi-Freq 12 Month	3148	8432 INTERNATIONAL BLVD	324
851742	Hi-Freq 3 Month	937, 940, 941, 939, 984	MEDFORD AV & 98TH AV	1001

Appendix G
Table 4-12
Appendix H1 of Consent Decree
Oakland-Owned Facilities
For Sewer Lateral Rehabilitation

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
1	Sanborn (Carmen Flores) Recreation Center	1637 Fruitvale Ave	5601	25-722-26			
2	Dimond Branch Library	3565 Fruitvale Ave 94602	5602	29A-1302-14			
3	Fire Station #14	3459 Champion St	5602	28-905-13-2			
4	Fire Station #14 Storage Building	3460 Champion St	5603	28-905-13-3			
5	Fire Station #25	2795 Butters Dr	5606	29-1161-25			
6	Fire Station #25 Exercise Building	2795 Butters Dr	5606	29-1161-25			
7	Joaquin Miller Park-The Abbey	3082 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	No Sewer Lateral
8	Joaquin Miller Park-Fire Circle Restroom	3540 Joaquin Miller Rd	5606	29-1200-6-3	371	5/9/2017	C329152-Task Order 1
9	Joaquin Miller Park-Sanctuary to Memory	3540 Joaquin Miller Rd	5606	29-1200-6-3	213	5/9/2017	C329152-Task Order 1
10	Joaquin Miller Community Center	3594 Sanborn Dr	5606	29-1200-6-3	216.5	5/9/2017	C329152-Task Order 1
11	Joaquin Miller Park-415 Society Trailer	3540 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	No Sewer Lateral
12	Joaquin Miller Park-Meadow Restroom	3540 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	Cesspool-Not connected to the City sewer system

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
13	Joaquin Miller Park-Shipping Container (2)	3540 Joaquin Miller Rd	5606	29-1200-6-3	363	5/9/2017	C329152-Task Order 1
14	Joaquin Miller Park-Storage	3540 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	No Sewer Lateral
15	Joaquin Miller Park-Storage Barn	3540 Joaquin Miller Rd	5606	29-1200-6-3	50	5/9/2017	C329152-Task Order 1
16	Ranger Station	3590 Sanborn Dr	5606	29-1200-6-3	166	5/9/2017	C329152-Task Order 1
17	Sequoyah Lodge	2666 Mountain Blvd	5606	29-1200-6-3			
18	Joaquin Miller Park-Woodminster Cascades	Joaquin Miller Park, 3300 Joaquin Miller Road 94602	5606	29-1200-6-3	251	5/9/2017	C329152-Task Order 1
19	Woodminster Theater	3300 Joaquin Miller Park 94603	5606	29-1200-6-3	251	5/9/2017	C329152-Task Order 1
20	Woodminster Theater-Concession Booth	Joaquin Miller Park 94603	5607	29-1200-6-3		5/9/2017	No Sewer Lateral
21	Woodminster Theater - Restroom	3300 Joaquin Miller Rd	5606	29-1200-6-3	251	5/9/2017	C329152-Task Order 1
22	Joaquin Miller Park-PAL Cabin 1	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
23	Joaquin Miller Park-PAL Cabin 2	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
24	Joaquin Miller Park-PAL Cabin 3	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
25	Joaquin Miller Park-PAL Cabin 4	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
26	Joaquin Miller Park-PAL Cabin 5	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
27	Joaquin Miller Park-PAL Cabin 6	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
28	Joaquin Miller Park-Redwood Glen Restroom	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
29	Joaquin Miller Park-Rotary	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
30	Joaquin Miller Park-Metropolitan Horseman's Association Clubhouse	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
31	Joaquin Miller Park-Rotary Day	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
32	Joaquin Miller Park-Rotary Day Camp	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
33	Joaquin Miller Park-Sequoia Arena Restroom	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
34	Joaquin Miller Park-Siniwak Cabin	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
35	San Antonio Park Head Start Center	1701 East 19th St	6003	20-295-1			
36	San Antonio Recreation Center	1701 East 19th St	6003	20-295-1			
37	Manzanita Head Start Center	2701 – 22nd Ave	6008	22-364-21			
38	Manzanita Head Recreation Center	2701 – 22nd Ave	6008	22-364-21			
39	Union Point - South Parking Lot (haz mat under pavement)	2311 Embarcadero	6103	18-505-1			
40	Union Point - Union Hill (haz mat under hill)	2311 Embarcadero	6103	18-505-1			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
41	Animal Shelter (new)	1101 – 29th Ave	6202	25-880-1-6			
42	Peralta House	2465 – 34th Ave	8002 2	27-878-2			
43	Coolidge House	2496 Coolidge Ave	8002 2	27-878-1			
44	Peralta Hacienda Park-Community Center	2500 - 34th Ave 94601	8002 2	27-878-2			
45	Peralta Hacienda Park-Restroom	2465 34th Ave	8010 1	27-899-1			
46	Peralta Hacienda Park-Restroom	2465 34th Ave	8010 1	27-899-1			
47	55th Avenue Head Start Center	1800 55th Ave	8200 4	38-3228-5-1			
48	Fremont Pool and Building	4550 Foothill Blvd 94601	8200 4	35-2401-2			
49	Fremont Pool - Locker Rooms & Mechanical Room	4550 Foothill Blvd 94601	8200 4	35-2401-2			
50	Melrose Branch	4805 Foothill Blvd 94601	8200 4	35-2384-1			
51	Fire Station #18	1700 – 50th Ave	8200 5	35-2386-18			
52	Rainbow Teen Center	5818 International Blvd	8300 2	38-3234-12-3			
53	Rainbow Recreation Center	5800 International Blvd 94621	8320 1	38-3234-7-1			
54	Burckhalter Park-Restroom	4060 Edwards Ave	8340 4	40A-3441-36-5			
55	McCrea Park Residence and Restroom	4460 Shepherd St	8350 1	37-2605-87			
56	McCrea Park-Fly Casting Pools	4460 Shepherd St 94619	8350 1	37-2605-87			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
57	Redwood Heights Rec Center	3883 Aliso Ave 94619	8350 1	30-1869-58-3			
58	Leona Lodge	4444 Mountain Blvd	8350 2	37-2605-90			
59	81st Avenue Branch Library	1021 81st Ave	8400 3	41-4211-1-3			
60	Carter Gilmore Park - New Restroom	1390 – 66th Ave	8419 1	41-4132-15-3			
61	Fire Station #29	1016 – 66th Ave	8410 1	41-4062-12			
62	Fire Station #29 Garage	1016 – 66th Ave	8410 1	41-4062-12			
63	Martin Luther King Branch Library	6833 International Blvd 94621	8410 1	41-4132-15-1			
64	Officer Willie Wilkins Park - Restroom	9710 C Street	8520 2	44-4981-9			
65	Fire Station #20	1401 – 98th Ave	8520 5	46-5424-26			
66	Elmhurst Branch Library	1427 – 88th Ave 94621	8521 1	43-4580-8			
67	Dunsmuir House-Barn	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
68	Dunsmuir House-Carriage House	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
69	Dunsmuir House-Chauffeur's house	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
70	Dunsmuir House-Chicken Coop	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
71	Dunsmuir House-Dinkelspiel House	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
72	Dunsmuir House-	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
	Gardener's House						
73	Dunsmuir House-Mansion	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
74	Dunsmuir House-Milk House	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
75	Dunsmuir House -Pavilion	2958 Peralta Oaks Ct	8523 1	48-5658-3-2			
76	Dunsmuir House-Restroom	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
77	Dunsmuir House-Ticket Boot	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
78	Lake Chabot-Clubhouse	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
79	Lake Chabot-Fromer Cartaker's Mobile Home	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
80	Lake Chabot-Maintenance Building A	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
81	Lake Chabot-Maintenance Building B	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
82	Lake Chabot-Maintenance Building C	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
83	Lake Chabot-Maintenance Building D	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
84	Lake Chabot-Maintenance Building E	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
85	Lake Chabot-Maintenance Building F	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
86	Lake Chabot-Restroom #1	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
87	Lake Chabot-Restroom #2	near 11450 Golf Links Rd	8523 1	48-5813-3-4			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
88	Lake Chabot- Restroom #3	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
89	Lake Chabot- Sewer Pump Station	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
90	Lake Chabot- Snack Bar	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
91	Sheffield Village Rec Center	247 Marlow Dr 94605	8523 1	48-6140-1			
92	Columbian Gardens Tot Lot	Heskett Rd & Empire Rd	8600 1	45-5322-30			
93	Ira Jinkins (Brookfield) Rec Center	9175 Edes Ave 94603	8600 2	44-5053-1-6			
94	East Oakland Sports Center Complex	9175 Edes Ave	8600 2	44-5053-1-6			
95	Spunkmeyer Field Restroom	Harbor Bay Pkwy & Doolittle Dr	8700 1	42-4404-11-2			

Appendix H

Port of Oakland Sewer Collection System Annual Report for July 1, 2016 – June 30, 2017



Port of Oakland
Sanitary Sewer Collection System
Annual Report

September 2017

Table of Contents

Section 1.	Introduction
Section 2.	Annual Report of Sanitary Sewer Overflows (SSOs)
Section 3.	Asset Management Implementation Plan
Section 4.	Infiltration and Inflow Reduction Work
	4.1 Sewer Main and Lateral Repair, Rehabilitation and Replacement
	4.2 Sewer Main Inspection
Section 5.	SSO Reduction Work
	5.1 Capacity Assurance
	5.2 Sewer Main Cleaning
	5.3 Pump Station Renovation and Upgrade

Section 1. Introduction

The Port of Oakland (“Port”), established under the City Charter in 1927, is an autonomous department of the City of Oakland (“City”) under the governance of a seven-member Board of Port Commissioners appointed by the mayor of Oakland. The Port manages a container seaport, a passenger/cargo/general aviation airport, and waterfront properties for commercial and recreational purposes.

The Port owns, operates and maintains a sanitary sewer collection system which consists of lateral pipes, trunk lines, manholes, lift and ejector stations, triturators, and other sewer appurtenances that delivers sewage to the City’s wastewater collection system and to East Bay Municipal Utility District (“EBMUD”) wastewater interceptors and treatment facilities.

The Fiscal Year 2016-17 Sanitary Sewer Collection System Annual Report was prepared at the request of the City of Oakland Public Works Department. The following sections in this report present information pertaining to the following sanitary sewer programs for FY 2016-17 (July 1, 2016 to June 30, 2017):

- Annual Report of Sanitary Sewer Overflows (SSOs)
- Asset Management Implementation Plan
- Infiltration and Inflow Reduction Work
- SSO Reduction Work

Section 2. Annual Report of Sanitary Sewer Overflows

Number and Size of Sanitary Sewer Overflows (“SSOs”)

For the reporting period from July 1, 2016 to June 30, 2017, the Port’s sanitary sewer collection system had four (4) SSO events, all of which were reported to California Integrated Water Quality System (CIWQS). Two SSOs were associated with construction activities at the former Oakland Army Base on City’s properties but were reported by the Port. The other two SSOs were located at the Oakland International Airport. The size of the SSO is summarized in **Table 1**.

Table 1. Number of SSOs

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	2	50%
From 100 to 999	0	0%
From 10 to 99	2	50%
Less than 10	0	0%
Total	4	100%

The total volume released is estimated to be approximately 9,535 gallons. The volume of spills contained and returned to the sewer system as well as the volume reaching waters of the State is shown in **Table 2**.

Table 2. Volume of SSOs

	Volume (gallons)	Percent of Total
Total volume contained and returned to sewer system for treatment	0	0%
Total volume reaching waters of the State	0	0%
Total volume not contained but not reaching waters of the State (everything else)	9,535	100%
Total	9,535	100%

This report may not include all SSOs that occurred from private sewer service laterals within the Port areas that were caused by privately owned and maintained sewer laterals.

Causes of SSOs

The causes of SSOs during the reporting period were due to infrastructure failures and construction damage. The distribution of SSOs by cause is shown in **Table 3**.

Table 3. Causes of SSOs

Cause of SSO	Number	Percent of Total
Blockage:	0	0
Roots	0	0
Grease	0	0
Debris	0	0
Debris from Laterals	1	25%
Vandalism	0	0
Animal Carcass	0	0
Construction Debris	0	0
Multiple Causes	0	0
Subtotal for Blockage	1	25%
Infrastructure Failure	3	75%
Inflow & Infiltration	0	0
Electrical Power Failure	0	0
Flow Capacity Deficiency	0	0
Natural Disaster	0	0
Bypass	0	0
Construction Damage	0	0
Cause Unknown	0	0
Total	4	100%

Location of SSOs and Measures to Prevent Future Spills

During the reporting period there were two SSOs occurred in the Maritime area and two SSOs occurred at the Oakland International Airport.

Table 4. Locations of SSOs

SSO Event ID	Location	SSO Volume (gallons)	Causes	Measures to Prevent Future SSO
826859	At former Oakland Army Base construction site on City of Oakland land, Maritime Street & E. Burma Road	2,000	Pump failure at Lift Station 18P	Old LS 18P was decommissioned and replaced with new Lift Stations No. 1 and No. 2 on E. Burma Road and Maritime Street respectively
828387	At former Oakland Army Base construction site on City of Oakland land, Maritime Street & E. Burma Road	7,500	Power failure to Lift Station 18P	Old LS 18P was decommissioned and replaced with new Lift Stations No. 1 and No. 2 on E. Burma Road and Maritime Street respectively
834465	Oakland International Airport, Terminal 1 Gate 6	15	Check valve not functioned at LS AP06P	Repair valve and adjust preventive maintenance schedule
835633	Oakland International Airport, Terminal 1 Gate 6	20	Pump impeller damage due to excessive amount of rags, towels, and other materials from Terminal 1 restrooms above	Repair pumps and adjust preventive maintenance schedule

SSO Trends

The number of SSOs reduced from five (5) incidents in FY 2014-15 to four (4) incidents for the same period in FY 2016-17. However, the sewage overflow volume increased from **3,530** gallons in FY 2015-16 to **9,535** gallons in FY 2016-17. None of the SSOs reached the surface water body. It is anticipated that the SSOs associated with sewer lift stations would be significantly reduced when the upgrades and improvements at these lift stations are completed in FY 2017-18.

Section 3. Asset Management Implementation Plan

The Port prepared and submitted the Asset Management Implementation Plan (“AMIP”) in 2012. Many programs set forth in the AMIP to reduce SSOs and infiltration/inflow (“I/I”) are very similar to the required elements in the Sewer System Management Plan (“SSMP”), which was updated in July 2015. The SSMP can be found on the Port of Oakland’s website at: <http://www.portofoakland.com/community/environmental-stewardship/programs/>

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Lateral Repair, Rehabilitation and Replacement

FY 2016-17 Sanitary Sewer Pipeline Projects Completed

- Completed construction of new gravity and force mains on Maritime Street and Burma Road as part of the former Oakland Army Base redevelopment.
- Minor spot repairs and lateral replacements throughout the Port areas.

FY 2017-18 Sanitary Sewer Pipeline Projects Proposed

- Continue with the sewer main and lateral repair and replacements as part of the Airport Development Plan (e.g., the new International Arrival Building) and in conjunction with tenant improvements and/or new development projects (e.g., Cool Port development).

4.2 Sewer Main Inspection

The Port utilized outside contractors to perform CCTV inspection of sanitary sewer lines within the Port areas. For the reporting period from July 1, 2016 to June 30, 2017, approximately 1.5 miles of sewer mains and laterals at the former Oakland Army Base in the Maritime area were inspected.

Section 5. SSO Reduction Work

5.1 Capacity Assurance

No capacity improvement is necessary at this time since sewer pipelines within the Port appears to contain sufficient capacity to accommodate existing design flows without exceeding the established capacity criteria. Future development at the Port will be subject to engineering review and evaluation to determine if capacity enhancement is necessary.

5.2 Sewer Main Cleaning

The Port utilized outside contractors to clean sanitary sewer lines within the Port areas. For the reporting period, approximately 1.5 miles of sewer line was flushed and/or jetted to remove grease

buildups and to prevent potential blockages. In addition, preventive maintenance activities at sewer lift stations and grease interceptors were performed on a routine schedule.

5.3 Pump Station Renovation and Upgrade

FY 2016-17 Lift Station Improvement Projects Completed

MARITIME

- Completed pump repairs at lift stations R18P, R80P.
- Replaced hardware and level probe at lift station D06P.
- Completed installation of RACO remote alarm monitoring and manual transfer switches for emergency generators at lift stations C07P and C08P.

AVIATION

- Completed rehabilitation of lift station AP01P.
- Replaced compressor at lift station AP02P.

FY 2017-18 Lift Station Improvement Projects Proposed

MARITIME

- Design and construction – Rehabilitation of D09P as part of the construction of the Cool Port development project and rehabilitation of former Oakland Army Base sewer lift station R63P as part of the Shipper Transport Express Phase 2 Improvement.

AVIATION

- Design – Rehabilitation of lift station AP02P at the Airport.
- Upgrade pumps and control systems at lift station AP06P.